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Santa Fe National Forest Land Management Plan

Final Environmental Impact Statement

Volume 4. Appendices O and P

Rio Arriba, San Miguel, Sandoval, Santa Fe, Mora, and Los Alamos Counties, New Mexico



Cover photo: Historic photo of snow-covered mountains in the Santa Fe National Forest

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**Santa Fe National Forest
Land Management Plan
Final Environmental Impact Statement, Volume 4**

**Rio Arriba, San Miguel, Sandoval, Santa Fe, Mora,
and Los Alamos Counties, New Mexico**

Lead Agency:	USDA Forest Service
Cooperating Agencies:	East Rio Arriba Soil and Water Conservation District; La Jara Ditch Association; Nacimiento Community Ditch Association; New Mexico Department of Agriculture; New Mexico Economic Development Department; New Mexico Environment Department; New Mexico Forest and Watershed Restoration Institute; New Mexico Department of Game and Fish; New Mexico Energy, Minerals, and Natural Resources Department, State Forestry Division, Las Vegas District and Botany Programs; New Mexico Land Grant Council; Santa Fe – Pojoaque Soil and Water Conservation District, Tierra y Montes Soil and Water Conservation District; and Tesuque Pueblo.
Responsible Official:	Debbie Cress, Forest Supervisor 11 Forest Lane Santa Fe, NM 87508
For Information Contact:	Jennifer Cramer, Strategic Planning and Engagement Staff Officer 11 Forest Lane Santa Fe, NM 87508 Phone: (505) 437-5442

Abstract: To comply with the National Forest Management Act and address changes that have occurred during the past 30 years, the Santa Fe National Forest proposed to revise the current Land and Resource Management Plan (1987 Forest Plan). This programmatic environmental impact statement documents analysis of impacts of four alternatives developed for programmatic management of the 1.6 million acres administered by the Santa Fe National Forest. The analysis displays anticipated progress toward desired conditions as well as potential environmental and social consequences of implementing each alternative. Alternative 1 is the no-action alternative, which is the 1987 Forest Plan, as amended. Alternative 2 is the Forest Plan and is reflected in the accompanying Land Management Plan for the Santa Fe National Forest. This alternative addresses new information that has become available since the 1987 Forest Plan was published and it meets objectives of Federal laws, regulations, and policies. It provides for restoration and diverse ecosystem services. Alternative 3 maximizes natural processes, reducing human uses. Alternative 4 maximizes human uses through timber utilization, access, and facilities maintenance.

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Appendix O: Response to Comments

This appendix includes responses to the comments the Santa Fe NF received on the draft Land Management Plan (draft Plan) and the draft Environmental Impact Statement (DEIS) during the 90-day comment period from August into November 2019. The draft Plan and DEIS, along with supporting documents, were made available on the Santa Fe National Forest's (NF) website in July 2019. A notice of availability for the DEIS was posted by the Environmental Protection Agency in the Federal Register on August 9, 2019. This notice initiated the comment period, which ended November 7, 2019. The Forest Service received comment letters or emails from individuals, organizations, and agencies; these comments were received by email, in person, and via the U.S. Post Office. A total of 13,655 comment letters, of which 604 contained unique and substantially different comments. In addition, there were 13,051 form letters received. These form letters were duplicates of 25 unique comment letters. The original comments are included in the project record.

Content Analysis Process

The comment content analysis followed a systematic process of reading, coding, and summarizing all the comments that were submitted.

Comments within letters were coded by their primary subject or topic and each given a unique code consisting of the letter number and then the comment number. For example, 75-79 would be comment number 79 of letter number 75. Each concern statement includes reference to relevant codes and all comments and a tracking spreadsheet of how they are addressed are available in the project record.

Similar or identical comments were summarized into a single concern statement. Concern statements are meant to capture the predominant thoughts, ideas, or issues of the associated comments. They can represent the view of many respondents or may be derived from just one person's input. Concern statements are intended to aid the planning team in characterizing the issues to be analyzed in subsequent stages of the planning process. They also provide the framework for preparing responses to public comment. All concern statements and Santa Fe NF responses are listed in this appendix.

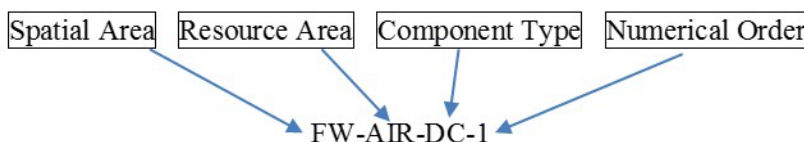
The interdisciplinary planning team prepared responses for each concern statement based on its merits, regardless of the source or whether expressed by many people or by one person. This appendix documents the Santa Fe National Forest's responses to substantive comments, which are addressed as prescribed in 40 CFR § 1503.4 in the following ways:

- Modifying the proposed plan (alternative 2) and alternatives;
- Developing or analyzing alternatives not given detailed consideration in the Draft Environmental Impact Statement;
- Supplementing, improving, or modifying the analysis that the Draft Environmental Impact Statement documented;
- Making factual corrections; and/or
- Explaining why the comments need no further agency response.

When the response to comments references plan components, it uses a unique coding system. The codes follow the pattern: AA-BBB-CCC-NN. The series of letters before the first dash references the spatial area either Forestwide (FW), DA (Designated Area), MA (Management Area), or GA (Geographic Area). The second series of letters references the resource area, management area, or geographic area names (e.g., RANGE references the Sustainable Rangelands and Grazing section, RWE references the Riparian

and Wetland Ecosystems section, etc.). The third series of letters references the type of plan components (DC for Desired Condition, O for Objective, S for Standard, G for Guideline) and MA for management approaches. The number (##) is the sequential order of each plan component within that resource area.

So, the unique coding for Forestwide (FW) Air Resource (AIR) Desired Conditions (DC) number one (1) is FW-AIR-DC-1.



List of Commenters

This table includes those who submitted comments, organized by last name (if name was provided with the comment). To find a response to a specific comment, search the appendix for the number appearing in the “Letter Number” column.

Last Name	First Name	Organization Name	Letter Number
Anderson	Carol		8826
Anderson	Gertrude		4517
Anderson	J. Robert	Calf Canyon Owners Association	23
Andrews	Kelly		12301
	Anon1		13500
Archuleta	Arturo	New Mexico Land Grant Council	12528
Arenberg	Diane		484
Arterburn	Jeffrey	Trout Unlimited	4174
Asparro	Janet		12745
Azizova	Dawn		12860
Bardwell	Avelina		480
Barger	Walter		12567
Barton	Alan	New Mexico Forest & Watershed Restoration Institute, NM Highlands University	12520
Bawol	Robert		12748
Beard	Theresa		5495
Begil	Albert		4171
Beidleman	Carol		19
Bell	Janet		3227
Bell	Michael		499
Bender	Kae		4685
Benson	Carol		12136
Beste	Carolyn		12511
Birnbaum	David		12249
Black	Jennifer		13502

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Last Name	First Name	Organization Name	Letter Number
Black	Reverend Andrew	EarthKeepers 360	13659
Blackmore	Jenny		4
Blanco	Arturo J	United States EPA-Office of Communities, Tribes and Environmental Assessment	13496
Blanco	Dee		12259
Blose	Tim		12433
Blose	Tim		12744
Blose	Tim	Native Earth Landscaping	13281
Bohn	Peter		8329
Bollman	Brooks	Friends of Santa Fe National Forest	12651
Bonds	Kirk		4204
Booth	Doug		12643
Borison-Rodriguez	Susan		5187
Boyd	Andrew		434
Boyer	Jan		13262
Brass	Timothy	Backcountry Hunters & Anglers	12499
Bridgeforth	Corinne		12695
Brookins	Lura		12352
Brookins	Lura		12427
Brooks	Lucas		12746
Brown	Cary		13436
Brown	Jeb		343
Bruce	William		12590
Brush	Sina		12669
Buchser	John		12540
Buchser	Linda		12930
Buschena	Cindy		8371
Byrd	Sarah		12950
Carlyn Jervis	Tom	Sangre de Cristo Audubon Society	12575
Castagna	Victor		178
Castiano	Judith		1563
Castle	Stuart		12579
Chapman	Mike	Broken Spoke	12724
Chase-Trujillo	Margaret		12602
Chavez	Maria		12667
Chavez	Maria		12689
Choyt	Marc		13007
Cimaglia	Joyce		4176
Clifford	Susan		4230
Clough	Christian		12942
Conahan	Jared		12531

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Last Name	First Name	Organization Name	Letter Number
Conn	Rachel	Amigos Bravos	12702
Connaughton	Theresa		13540
NMLGC		New Mexico Land Grant Consejo	12698
Corcoran	JC		1502
Cornell	John		3
Cornell	John	Theodore Roosevelt Conservation Partnership	12720
Cotter	Lu		4075
Councell	Sarah		13023
Crockett	Laurel		5250
Crowley	Noelle	University of Colorado at Boulder	12681
Darr	Margaret	Santa Fe County	12688
David	Peter		12715
Davidson	Mary		13386
Davis	Christine		12742
Dax	Michael		12508
DellaSala	Dominik		197
Devendorf	Fritz		12739
Dors	Kristen	National Nuclear Security Administration US Department of Energy	12606
Douglas	James Kenneth		772
Dunn	Ann		8859
Duran	Rueben	San Felipe Pueblo Department of Natural Resources	12498
Eagle	Maj-Britt		12569
Eckman	Vonny		11806
Edde	Patricia		9433
Evaldson	John		12541
Farmer	John		12489
		Farmers' Market, Los Alamos	4152
Farrington	Sue		12816
Ferguson	Gary		11982
Filemyr	Kathryn		12783
Fisher	Kristina		30
Fix	Barbara		12673
Fix	Barbara		12749
Foreback	Terence		10
Fortune	Debbie		493
Fortune	Ross		492
Fowler	Tim	Velo New Mexico, Inc.	12500
Frey	Brenda		11494
Friedman	Jerry		13367
Frishman	Andrew		13018

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Last Name	First Name	Organization Name	Letter Number
Gable	Carl		12542
Gandt	Tamara		4349
Garcia	Danny J	Rio Arriba Board of County Commissioners	12468
Gates	Christopher		10569
Gefvert	Cynthia		10551
Genaze	Matthew		4102
Gibson	Bill		411
Gilroy	John	The Pew Charitable Trusts	12501
Glaserapp	Logan	New Mexico Wilderness Alliance	12694
Glass	Jonathan		12526
Goeller	Loretta		12482
Gonzales	Vidal		12519
Gonzales	Vidal		12738
Goodrich	D'Arcy		3943
Gordon-Brown	Deborah		5457
Gorham	Elaine		436
Gottesman	Marsha		2488
Grafe	David		12703
Grant	David		4106
Green	Benjamin		12497
Green	Champe	Santa Fe Pojoaque Soil and Water Conservation Districts	12246
Greene	Mary	National Wildlife Federation	12515
Gregory	Probyn		5221
Griffin	Jeremiah	St. Chad's Episcopal Church	12563
Griffin	Susan		12480
Guida	Marilyn		12679
Haas	Samuel		11
Hagaman	Tim		12165
Hayduke	Jeff		12534
Henning	Blake	Rocky Mountain Elk Foundation	12503
Hicks	Josh	The Wilderness Society	12494
Hield	Steve		12721
Hinton	Kevin		12616
Hitt	Sam	Wild Watershed	12128
Hitt	Sam	Wild Watershed	12140
Hitt	Sam	Santa Fe Forest Coalition Founder, Wild Watershed	12685
Hokin	Samuel		12697
Holt	Chris		12488
Holvey	Joseph	University of Colorado Law School	12397

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Last Name	First Name	Organization Name	Letter Number
Holvey	Joseph	University of Colorado Law School	12684
Howell	Mary		396
Hraber	Peter		12591
Huber	Eric	Sierra Club	11980
Hudson	Hillary		12190
Hunsaker	Barry		497
Hurteau	Matthew	University of New Mexico	3266
Hyden	Sarah		12717
Johnson	Carol		12648
Johnson	Carol J.		12577
Johnson	Charla		12750
Johnson	Katherine		11109
Jolly	Craig		13416
Jones	Tammy		4189
Judy	Paul		2336
Kalenian	Cathy		4156
Keefe	Joey		4151
Kelly	Danis		13
Kermit	Donna		1161
Kessel	Sherry		9387
King	Joshua	University of Colorado	4136
King-Flaherty	Miya	Sierra Club: Rio Grande Chapter	12638
King-Flaherty	Miya	Sierra Club Rio Grande Chapter	12725
Kirsch	Satya Deborah		12288
Klain	Kimberly		12683
Klain	Kyle		12609
Kohn	Ellen		12004
Koobs	Cynthia		2590
Koponen	Emmy		12492
Korshak	Yvonne		10063
Kyrala	Michaelene	New Mexico Environment Department	12627
Lamson	Alberta		13485
Langfield	Joshua		4244
Lanman Jr	Henry		12716
Larson	Dave	Bicycle Technologies International	12682
Lewis	Beata		12792
Lin	James		12362
Lockridge	Ross		12704
Lund	Urszula		3728
Lushing	Ronald		8698
Macpherson	Melissa and Angus		12516

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Last Name	First Name	Organization Name	Letter Number
Mann	Christopher		12601
Mann	Pat		12512
Marek	Annemarie		4112
Marshall	Pamela		271
Martin	Preston	Bicycle Technologies International	12734
Martinez	Mark		12272
Martinez	Mark	Nacimiento Community Ditch Association	12690
McCain	Lauren	Defenders Of Wildlife	12522
McC Campbell	Ann	MCS Task Force of NM	12525
McFerrin	Lela	Upper Pecos Watershed Association	12607
McGavran	Lauren		12028
McGrath	James		12111
McKelvey	Sue		12709
McKenna	Lawrence		12763
McNeil	Carrie		24
Mermier	Christine		4246
Michaels	Patricia		488
Miller	Gary	Ecologic LLC	481
Mirivis	Philip		13476
Montibon	Roy	The Montibon Company	12596
Morris	Meg	National Wildlife Federation	12729
Mroz	Nancy		482
Muniz	Frances	Mora County	12487
Myers	Pete		12574
Neely	Pamella		12364
Nelson	Tim		12696
Newhall	Stephen		12582
Nixon	Mary		483
Nixon	Paula		12699
North	Todd		12349
Norton	Diana		458
Norton	Don		479
Norton	Jeb		456
Norton	Jim		12941
Norton	Karen		89
O'Shea	Jerry		13497
Oldenburg	Dyan		12030
Oliver	Debra		12680
Orlicz	Gregory		12524
Otto	Nigel	Santa Fe Fat Tire Society	12747
Padilla	Rudy		565

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Last Name	First Name	Organization Name	Letter Number
Pahl	Matt		12708
Parry	Ronald		4165
Parson	William S		12047
Patorni	Francois-Marie		13108
Paul	Debra		494
Percy	Larry	Department of Art and Design	13611
Peterson	Kristen		12617
Poole	Kathleen		12444
Potter	Sarah		13593
Pregenzer	Arian		12235
Prescott	David		12
Price	Tom		6732
Prukop	Joanna		13437
Pugh	Gabriel	National Nuclear Security Administration, Department of Energy-Los Alamos Field Office	13658
Raish	Carol		12490
Reindle	Robin		12634
Reiter	Joann		4147
Reynolds	Rebecca		10905
Rhazi	Carolyn		7970
Richardson	Gail		9215
Rissien	Adam	Wildearth Guardians	12509
Robbins	Ruthie		12358
Robinson	D		9686
Rockwell	David		12485
Roebuck	Susan		10185
Rolfe	Andrew		485
Rolfe	Cynthia		491
Rollow	Nina		9400
Romero	Enrique	New Mexico Acequia Association	12677
Romero	Francisco		1048
Romero	Kerrie	NM Council of Outfitters and Guides	12496
Romero	Leroy		12502
Roper	Dan	Trout Unlimited	12752
Roth	Bill		12743
Roth	Daniela	Energy, Minerals, and Natural Resources Department - Forestry Division	12543
Rowe	Dennis		459
Ruiz	Frances		12483
Ruiz-Wood	Frances		12486
Salazar	Carlos	Northern New Mexico Stockman's Association	498
Salazar	Eddie	Rito Encino Acequia	13537

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Salazar	Jacqueline	Office of the County Manager	12652
Salman	Ava		12620
Sanchez	David	Northern New Mexico Supplier Alliance and National Latino Farmers and Ranchers Trade Association	496
Saunders	Andrew		753
Savage	Melissa		12722
Schwichtenberg	Erik		12753
Scott	Sara	Los Alamos County	13662
Seamster	Teresa	Rio Grande Chapter- Sierra Club	12647
Shabbott	Mary		8367
Shane	Jackie	Santa Fe Fat Tire Society	12655
Sharma	Andrei		13353
Shotwell	Judith		12484
Siglin	Pat	Comexico LLC's	12713
Siglin	Patrick	Comexico LLC	12514
Silva	Nanette		7880
Silver	Marcee		2631
Simon	Camilla	Hispanics Enjoying Camping, Hunting, and the Outdoors	12504
Sinclair	Fiona		12521
Small	Sue		11981
Small	Sue		12319
Smith	Brian		12723
smith	steve		11988
smith	steve		12077
Smith	Steve		12326
Smith	Steve	American Rivers	12646
Spradley	Casey	Cuba Soil and Water Conservation District	12507
Sprague	Jennifer		12495
Stenman	Broc		9
Steslicki	Lou		4222
Stevens	Judith		12382
Stevens-Bollen	Anson		12537
Stewart	Thomas	Native Plant Society of New Mexico	12527
Strauss	Jane		490
Strip	David		67
Strip	David		12099
Strip	David		12112
Strip	David		12286
Strip	David		12300

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Last Name	First Name	Organization Name	Letter Number
Strip	David		12312
Strip	David		12339
Stuemke	Roberta		3876
Stumpff	Linda		6
Styles	Lisa	Styles Landscape & Design	12518
Swartz	Martha		2227
Szopinski	Joshua		12239
Taledo	Joseph		13475
Temple	Deborah		4673
Teutsch	Carol		20
Thomas	Cathy		12493
Thomee	Emmy		8485
Tolar	Deborah		13286
Torrez	Ernest R		13499
Trask	Charlie		85
Trujillo	Harold	Acequia de La Isla	13614
Tuell	Cyndi	Western Watersheds Project	12727
Tumblety	Julie		12572
	Anon2		12551
Ussery	John		12517
Valencia	Richard	Acequia de los Vecinos de los Vallecitos West	12510
Valerie	Gremillion		12670
Van Winkle	Michael		4215
Vatter	Sherry		7861
Vaughan	Jan		6989
Vigil	Frank		4265
Vigil	Ralph	New Mexico Acequia Commission	12555
Villard	Sean		9836
Wacher Hansen	Lars		12629
Walker	Christie		3773
Warren	Greg		11984
Warren	Shelley		12481
Watson	Mark	Division of Ecological and Environmental Planning NM Department of Game and Fish	12665
Watson-Jones	John		12523
Weihe	Orion		12367
Weinstein	Stan		486
Werkmeister	Mark R	New Mexico Off Highway Vehicle Alliance	12472
Wheelock	Amanda	Continental Divide Trail Coalition	12513
Wilkins	Chris		12754
Wilson	Donald J		13501

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Wilson	Marshal		12640
Winchester	Monika		8223
Wingard	Mark		13532
Wirth	Arthur		1718
Wise	Tom		489
Wolf	Emily		193
Wood	Matthew		12353
Yeatts	George		4095

Common Acronyms Used

ALP - alpine and tundra

BMP - best management practices

DC - desired condition

EIS - environmental impact statement (may either be referencing D-draft or F-final EIS)

ERU - ecological response unit

MCD - dry mixed conifer forest

MCW - wet mixed conifer, with aspen

NF - National Forest

NRV - natural range of variability

Plan - Land Management Plan (also abbreviated as LMP)

PPF - ponderosa pine forest

SCC - species of conservation concern (listed federally as threatened or endangered; and regionally/locally at-risk species)

SFF - spruce-fir forest

TEUI - Terrestrial Ecosystems Unit Inventory

“we” is synonymous with the Santa Fe National Forest

General

Alternatives

ALT1001: There is support for alternative 1.

Associated Comments: #753-3

Changes made to Plan or EIS: None

ALT1001 Response: The conditions, trends, and sustainability of ecological, social, and economic resources on the Santa Fe NF were published in 2015, as part of the assessment required by the 2012 Planning Rule (36 CFR 219). This assessment helped identify portions of the 1987 Forest Plan that were working well and meeting desired management objectives, and those that were not. The areas that were not working well informed “Need for Change” statements and provided focus for developing the revised plan. These statements can be found in the Plan under the section “Need for Changing the 1987 Forest Plan.”

All views were carefully considered during development and evaluation of the alternatives in the forest plan revision process. The effects of the combination of plan components for each alternative are analyzed in the FEIS. A summary of effects can be found in table 2 of the FEIS. Rationale for our decision to select alternative 2 as the final Plan is found in the record of decision (ROD).

See response to Alt2001 and AltN001 for more on our choice of proposed action and alternative analysis.

ALT2001/002: There is both support for and opposition to the proposed action (alternative 2). Some commenters supported a modified alternative 2 with more stringent protections for wildlife, riparian areas, and wilderness areas. Some commenters are also interested in more protections against motorized use of the forest, and a reduced road network. Other commenters are interested in adding more recommended wilderness acreage to the proposed action, or increased restoration objectives such as those seen in alternative 3. Some concern was expressed that alternative 2 objectives are based on inaccurate data (e.g., LandFire data that has known inaccuracies and tree-ring studies which also contain biases towards shorter fire rotations).

Associated Comments: #11-1, #13-2, #496-10, #753-7, #6732-3, #9836-1, #12490-3, #12492-5, #12511-1, #12683-1, #12717-24, #12638-6, #12643-6, #12665-102, #12717-30, #9-3, #10-1, #12503-17, #12503-19

Changes made to Plan or EIS: Plan and EIS

ALT2001/002 Response: All views were carefully considered during development and evaluation of the alternatives in the forest plan revision process. Alternative 2 has been selected for the final Forest Plan. Alternative 2 is described in chapter 2 of the final EIS (FEIS), and the effects of the combination of plan components for each alternative are analyzed in chapter 3 (a summary of can be found in table 2 of the FEIS).

In response to all the public comments received, several adjustments were made to this alternative. Some of the adjustments include:

- modification of plan components for clarity or precision;

- removal of redundant plan components and direction already covered by law, regulation, and policy; and
- addition of plan components or management approaches based on public comment.

Changes made between the draft Plan and final Plan can be found in the project record, or a summary can be found in appendix A of the FEIS.

The rationale for the selection of alternative 2 as the final Plan is described in the record of decision document (ROD). See responses to specific resource areas for more in-depth responses concerning resource topics (e.g., increased protections for riparian areas is a concern that is addressed in the Water, Riparian, and Soil section, the Wetland Jewels Management Area is addressed under Management Areas, etc.).

See also: Veg014, Veg015, and Veg016 for more on vegetation models (including LANDFIRE), and Fire015 for more on tree ring data.

ALT3001/002: There is support for alternative 3 both as a whole and for parts of it to be included in a modified version of the proposed action. Particular aspects of alternative 3 that commenters supported included:

- the Wetland Jewels Management Area,
- higher acreage of recommended wilderness,
- higher restoration objectives, and
- a focus on conservation and fire moderation

Associated Comments: #12494-3, #12492-1, #12596-1, #12638-13, #12717-31, #12484-2, #12490-2, #12717-30, #12725-11

Changes made to Plan or EIS: None

ALT3001/002 Response: All views were carefully considered during development and evaluation of the alternatives in the forest plan process. Alternative 2 has been selected as the preferred alternative.

The effects of the combination of plan components for each alternative are analyzed in the FEIS. A summary of effects can be found in table 2 of the FEIS. Rationale for our decision to select alternative 2 as the final Plan is found in the record of decision (ROD).

See responses to specific resource areas for more in-depth responses concerning resource topics (e.g., increased protections for riparian areas is a concern that is addressed in the Water, Riparian, and Soil section).

See also: AltN002 for more on our choice of proposed action and alternative analysis.

ALT4001: There is support for alternative 4. Some commenters are supportive of a modified alternative 4, with some of the mixed treatments of alternative 2.

Associated Comments: #12472-1, #12606-6, #12640-13, #13658-10

Changes made to Plan or EIS: None

ALT4001 Response: All views were carefully considered during development and evaluation of the alternatives in the forest plan revision process. Alternative 2 has been selected as the preferred alternative.

The effects of the combination of plan components for each alternative are analyzed in the FEIS. A summary of effects can be found in table 2 of the FEIS. Rationale for our decision to select alternative 2 as the final Plan is found in the record of decision (ROD).

See responses to specific resource areas for more in-depth responses concerning resource topics (e.g., increased protections for riparian areas is a concern that is addressed in the Water, Riparian, and Soil section).

See also: AltN002 for more on our choice of proposed action and alternative analysis.

ALTN001: As part of the EIS, the Forest should analyze a utility corridor management area that would be "linear areas approximately 1,000 feet wide to accommodate existing utility facilities and related access for maintenance and repair, and to accommodate co-location of new utilities."

Associated Comments: #12606-3, #13658-8

Changes made to Plan or EIS: None

ALTN001 Response: Based on previous public comment, this alternative was included in section 2.3 of the EIS, "Alternatives Considered but Eliminated from Detailed Study." The final Plan has desired conditions for all utility infrastructure to have minimal impact on natural resources. Authorizations of standardized and very large utility corridors are unlikely to meet these requirements for a large portion of the Santa Fe NF. Additionally, project- and site-specific needs for utility corridor widths are analyzed and determined as part of the permitting process, which is outside the scope of the Forest Plan.

ALTN002/005: The Draft Environmental Impact Statement's consideration of only four main alternatives for the Forest Plan does not substantially comply with the requirement to "rigorously explore...all reasonable alternatives." 40 CFR § 1502.14(a). The Forest Service should devote more resources toward the rigorous exploration of all reasonable alternatives, given the wide variety of resources within the Santa Fe NF and the diverse opinions that the public has on how to manage those resources. Some commenters wanted the following matters addressed:

- An addition of at least two alternative options in the Draft Management Plan and the Draft EIS.
- For alternative 3 and alternative 4 to involve less severe action regarding human involvement. The language within the alternatives shall not include either total elimination of human intervention within the Santa Fe NF, or a full involvement of human intervention in the forest. Instead, the alternatives shall allow for some human intervention in each (alternative 3 and alternative 4), while differentiating the involvement from the proposed action outlined in the Draft Management Plan.
- Analysis of a Conservation Alternative that limits thinning and prescribed burns, protects riparian areas, focuses on wildlife when looking at habitat needs, identifies ecological baselines for

improved monitoring, protects roadless areas and reduces unessential roads, manages water flows using natural processes and structures, and works to improve air quality and fire safety for communities.

- Analysis of an alternative with reduced or eliminated grazing

Associated Comments: #12681-3, #12684-5, #197-12, #12717-25, #12684-20, #197-37

Changes made to Plan or EIS: None

ALTN002/005 Response: 36 CFR (220.5(e)) states “The environmental impact statement shall document the examination of reasonable alternatives to the proposed action. An alternative should meet the purpose and need and address one or more significant issues related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or prescribed.” Within the Santa Fe NF’s final EIS a no-action and three action alternatives were analyzed in detail, and 11 additional alternatives were considered but eliminated from detailed study (FEIS, Ch. 2, section 2.3). Some of these alternatives are outside the scope of revising the forest plan; already decided by higher law, regulation or policy; duplicative of the alternatives considered in detail, or determined to have components that would cause unnecessary environmental harm.

There were several iterations of content from the draft plan that were available and adjusted based on public feedback, including a set of initial plan components. Many suggestions for management have been incorporated into the final Plan over the course of this forest plan revision effort instead of developing a new alternative. 36 CFR 220.5(e) states “The responsible official may modify the proposed action and alternative(s) under consideration prior to issuing a draft EIS. In such cases, the responsible official may consider the incremental changes as alternatives considered. The documentation of these incremental changes to a proposed action or alternatives shall be included or incorporated by reference in accord with 40 CFR 1502.21.” As discussed in the FEIS, 15 alternatives that address public input and the issues identified (FEIS, volume 1, chapter 1, Issues), the FEIS complies with NEPA requirements for a full range of alternatives.

The purpose and need for the revised plan were developed based on the Assessments and resulting need for change. Public comment was sought and considered in the development of the final need for change resulting in the development of the purpose and need for the final environmental impact statement (see FEIS, volume 1, chapter 1, Purpose of and Need for Revising the Forest Plans).

Some elements that are common to all the alternatives were considered in detail. These elements are identified in the Elements Common to All Alternatives section in chapter 2 of the FEIS (section 2.2.1). There are also measurable differences between the action alternatives in regard to plan components (desired conditions, objectives, standards, and guidelines), areas recommended as future wilderness, management areas, and suitability determinations on timber, recreation, and transportation. These differences include a range of environmental consequences. Table 2 at the end of chapter 2 of the FEIS summarizes the differences and similarities between the effects of each alternatives.

ALTN006: There should be a new alternative that is based on education, engineering and enforcement. Instead of widespread fuel treatments out in the forest away from the WUI, it recommends the more effective and conservationist steps of educating the public about maintaining a safety zone around WUI structures and campfire safety, engineering to protect communities and values from post-fire flooding in key areas, maintaining power lines, etc. and increased law enforcement to reduce unsafe fire behavior in the forest.

Associated Comments: #12717-32, #12717-25

Changes made to Plan or EIS: None

ALTN006 Response: Throughout the final Plan, suggestions on how managers might approach educational opportunities for the public are emphasized in FW-PARTNER-DC-1 as well as in many resources' Management Approaches. We also encourage partnership and collaborative opportunities through the Partnerships' Desired Conditions as well as the Management Approaches for every resource.

Enforcement of uses on public lands is regulated through specific forest orders, or other laws, regulations, or policies. These address illegal activities on Federal lands and Federal lands adjacent to private property. The plan does not need to include management direction for these illegal uses because of this other direction. The level of Forest Service law enforcement is likewise not controlled or managed by the forest plan, but instead is dependent on staffing. Annual appropriations to the Forest Service, which support staffing, are approved by Congress.

Management of the WUI is covered in Desired Conditions in the WUI section of the Plan. FW-FIRE-MA-16 specifically suggests providing educational resources and outreach so that residents living within and adjacent to the forest are knowledgeable about wildfire protection of their homes and property, including providing for defensible space.

For more on our alternative analysis see: See Alt2001 and AltN002 responses.

ALTN012: The DEIS acknowledges the effectiveness of combined “thin-burn” treatments but then presents alternatives that fail to accomplish this objective. An alternative that identified and prioritized the “dense, high risk stands” that should be targeted for thin-burn actions is missing, but based on the plan's own science, warranted.

Associated Comments: #12522-78 (a)

Changes made to Plan or EIS: None

ALTN012 Response: The current conditions of many areas of dry mixed conifer (MCD) and ponderosa pine (PPF) on the Forest are “dense, high-risk stands” – this is the reason that they are highly departed from reference conditions and have specific objectives in the plan for treatment. The commenter's concern that there is not an alternative to treat dense, high-risk stands is misinformed. In each of the three new alternatives, the priority for treatment is within these types of stands in order to reduce uncharacteristic fire risk and restore proper composition, function, and processes. The alternatives differ in amounts of different treatments to accomplish this goal (and treatments can be combined as needed). It should also be noted that the ranges for treatments are targets, not hard lines drawn in the sand. We are able to treat more based on funding availability and capacity.

ALTN013: The differences between the alternative 2 and alternative 3 burning acres are significant, and it would be suboptimal for the forest to deny prescribed burning actions that may be effective at restoring ecological conditions. It thus appears that the Forest missed an opportunity to craft an alternative that employs strategic and prioritized mechanical treatments combined with prescribed and managed wildfire to most benefit ecological conditions. Such an alternative could be built to mitigate the concerns regarding the use of prescribed fire in highly departed frequent-fire systems (MCD and PPF).

Associated Comments: #12522-79 (a)

Changes made to Plan or EIS: None

ALTN013 Response: The predominant difference in fire acres between alternatives 2 and 3 is that alternative 3 uses more acres of naturally ignited wildfires for resource benefit, as well as a higher number of prescribed burns. In all alternatives, mechanical and fire treatments are able to be implemented within the same area, but this (and the strategic placement of treatments) is part of project development. In order to maintain on-the-ground flexibility and encourage adaptive management, the Forest Plan does not specify where treatments should occur on the Forest.

Analysis

ANLYS001: Major proposed works on public lands, including mechanical vegetation treatments and controlled burns, should require an EIS and public meetings where concerns are addressed.

Associated Comments: #12249-2, #12352-1, #12382-9, #12427-1, #13108-1, #13593-3

Changes made to Plan or EIS: None

ANLYS001 Response: This concern is outside the scope the Forest Plan; the Forest Plan is programmatic and does not determine specific actions taken at the project level, such as individual mechanical vegetation treatments or controlled burns. Under the NEPA, the level of public involvement for a specific project can vary. This is because the methods and degree of the public engagement effort undertaken for a given project vary depending on scope and complexity of the project (see the CEQ scoping guidance).

See also: CMT001/NFMA002 for more on the public engagement process that occurred during the Forest Plan Revision process.

ANLYS002: There is support for using an EA, rather than an EIS, for assessing the potential impact of a fuels reduction program.

Associated Comments: #13436-4

Changes made to Plan or EIS: None

ANLYS002 Response: This concern is outside the scope the Forest Plan; the Forest Plan is programmatic and does not determine specific actions taken at the project level, such as whether to use an EA or an EIS to assess potential impacts for individual projects.

Process

CMT001/ NFMA002: There is concern the planning process has not allowed for sufficient time for public comment or involvement, which goes against the direction of the 2012 Planning Rule. Some commenters are particularly concerned with the length of the comment period given that three different forests had their comment period at the same time.

Associated Comments: #12748-1, #12684-4, #12680-1, #12684-3, #12694-3, #12748-1, #12397-1, #12727-11, #12494-2, #12673-6, #12685-1

Changes made to Plan or EIS: None

CMT001/ NFMA002 Response: The Santa Fe NF has had over 250 public participation and outreach events; government-to-government tribal consultation; and cooperating agency meetings that influenced the development of the draft Plan and DEIS for the 5 years leading up to the release of these draft documents. This public participation and outreach included public meetings, most with a workshop format; technical meetings for collaborative content creation and discussion; meetings specific to the wilderness process; field trips; and open houses (see appendix H in the FEIS).

As per NEPA requirements, scoping was initiated when the notice of intent (NOI) to publish an environmental impact statement was published in the Federal Register on June 30, 2016. The NOI was subsequently published in the journal of record, the *Albuquerque Journal*. On August 9, 2019, a notice of availability (NOA), published in the Federal Register on August 9, 2019 initiated the formal 90-day comment period on the draft EIS and draft forest plan as required by Forest Service National Forest Management Act (NFMA) regulations at 36 CFR 219. Notice was also published in the *Albuquerque Journal*. The comment period closed on November 7, 2019.

The draft Plan and DEIS were also posted online over a month before the start of the official comment period (August 2019), allowing more time for the public to review the documents. Additionally, preceding the official 90-day comment period and extending well into the comment period, the Santa Fe NF held or attended 30 meetings with Tribes and Pueblos, cooperating agencies, local Government officials and community groups, non-profit organizations, and the public to discuss multiple methods for delivering and drafting official comment responses and an overview of draft plan content and the associated draft EIS. Three Tri-Forest meetings were also held collaboratively with the Carson and Cibola NFs, with one for Tribes and Pueblos, one for the general public, and one for Government officials. The Santa Fe NF planning team attended a public meeting individually hosted by each of the other Forests and attended an information session for formal commenting held by two local non-profit groups as well. Several of the public, open-house style meetings and other more formal consultation meetings held during this period are included in table H-1 of appendix H of the FEIS.

In addition to these required comment periods, we held extra comment periods throughout the plan revision process. These included a pre-Assessment comment period; a comment period on the draft Assessment to help us craft the Need for Change statements; three comment periods on the inventory and evaluation steps of the recommended wilderness process; a comment period on the initial plan components; and a comment period on the alternative themes, management areas, and wild and scenic river characteristics.

Given extensive public participation prior to the release of the drafts as well as making the documents available in advance of the public comment period, we believe the comment period was more than sufficient to satisfy public participation requirements not only under law, regulation, and policy (e.g., NEPA), but also under the intent of the 2012 Planning Rule's "early and often" public participation direction.

CMT002: The Forest Service should consider offering other forums of public engagement besides the "open house" format, as an open house may not be the most effective method at eliciting meaningful public participation. The Forest Service should consider and encourage alternative forums of public such as a "town-hall style" meeting or "workshop." In alternative settings, the Forest Service may be able to impress upon the commenter the importance of seeking the public interest, rather than the individual's personal interests.

Associated Comments: #12681-2, #12684-4

Changes made to Plan or EIS: None

CMT002 Response: Throughout the planning effort, multiple types of public participation were used. Later meetings were more "open house" style, however meetings earlier on in the plan revision process included listening sessions to gauge public interest and concerns and more "workshop" style meetings. Workshops were used extensively as we were developing the documents including during the Assessment phase, Need for Change, Initial Plan Components, Alternatives and Management Areas, and Wilderness Process. For all of these, content that came

out of the workshops was used to inform the Draft Plan and DEIS. We also had field trips during fall 2016 in response to public request for this type of participation. Technical meetings were used to get more in-depth input from a cross section of natural resource professionals, the general public, and forest managers to collaboratively work on plan revision in multi-disciplinary way. See Appendix H for more on our public participation, including monthly open houses, elementary school visits, and more.

CMT003/005/NEPA003: There is concern that the planning documents are too complex and too long for the public to meaningfully engage with them and that the Santa Fe NF should have an executive summary of the draft plan and use social media postings and comments.

Associated Comments: #12684-1, #12684-4, #12607-1, #13476-2, #12681-1

Changes made to Plan or EIS: None

CMT003/005/NEPA003 Response: The documents created as a result of the analysis are large; they contain years of information and analysis that will be used to guide the Forest for many years. The large documents were broken into chapters and appendices - complete with a table of contents and an index. Within the FEIS, table 2 summarizes the effects of each alternative across multiple resources.

Throughout the plan revision process, we have created extensive communication products. These include posters that summarize the draft Plan and FEIS by resource, a 1-page infographic summarizing the draft plan (which was posted on our social media), and we used social media to advertise our public meetings. All of our communication products are posted on our website.

CMT006: Some commenters felt that their comments throughout the process have not been listened to or incorporated in the draft documents. One group of commenters is particularly concerned about what they perceive is an unwillingness on the part of the Forest Service to address and incorporate key and vital comments with regard to “plan components” that would secure the sustainability of the social and economic welfare of rural communities.

Associated Comments: #496-1

Changes made to Plan or EIS: None

CMT006 Response: There is documentation available in the project record showing the development of plan documents, including how early comments were taken into account. In addition to this, there was a great deal of collaborative development of language, including in the Traditional Communities and Uses section and the Sustainable Rangelands and Grazing section. Public outreach regarding public meetings and the plan revision process was done to both communities in general and interest groups surrounding specific forest uses (e.g., grazing). These public meetings included casual conversations, taking note of comments, keeping communities updated on our progress, and requesting feedback (please see appendix H of the EIS for a full list of all public meetings). Although all feedback and comments were noted, it was not possible to incorporate all public comments. The Forest Service must follow all established law, regulation, and policy—including the Multiple-Use Sustained Yield Act (MUSYA), which requires us to balance multiple resource needs with our management—and considers the professional knowledge and expertise of Forest Service specialists on how to best manage each resource.

See also: The response to AltN011/Other010/Other011 for more on multiple uses on the forest.

CMT007: Some commenters were dissatisfied with the public outreach and meetings throughout the planning process, feeling that meetings were not within a reasonable distance to potentially affected neighborhoods and that meetings were not well advertised.

Associated Comments: #12680-6, #12607-1

Changes made to Plan or EIS: None

CMT007 Response: Meetings were held in both urban and rural areas across the forest including Abiquiu, Mora, Cuba, Santa Fe, Albuquerque, and many others. Please see appendix H of the EIS for a full list of meetings and where they were held. Our goal was to locate our meetings in places where the most people could attend at least one, but it is not possible to have every meeting in a location that is convenient for everyone. Meetings were advertised through a variety of methods, including newspapers, social media, our mailing list, radio.

CMT008/009: Some commenters found the comment process and the instructions for how to write a comment confusing; in some cases, commenters were unable to use the CARA system.

Associated Comments: #4106-2, #12673-1

Changes made to Plan or EIS: None

CMT008/009 Response: We are always striving to improve our communication with the public about the NEPA process. The letter we sent out to announce the posting of our Draft Plan and DEIS on our website (a month before our 90-day comment period, which started in August 2019) listed a number of different methods by which a comment could be submitted. CARA was one, but mail, personal drop-off, and email were also presented as available methods to submit a comment.

Editorial

EDIT003: The glossary should include a definition of local government, acknowledging the unique local government structures of New Mexico (e.g., soil and water conservation districts).

Associated Comments: #12640-3

Changes made to Plan or EIS: Plan

EDIT003 Response: We added a definition for Soil and Water Conservation Districts to the Plan glossary that clarifies these aspects of local government are unique to New Mexico. "Acequia/community ditch" and "Land-grant/merced" are already defined in the glossary.

EDIT004: The Forest should not use subjective metrics, such as public sentiment, in its plan components. All language that is similar to the phrase "valued by the public" should be removed from the document.

Associated Comments: #12640-4

Changes made to Plan or EIS: Plan

EDIT004 Response: A comprehensive review of the plan for this phrase was made and some changes were made to language about public value. In particular, language referencing public value of the resource was removed from the Designated and Recommended Wilderness sections of the final Plan.

EDIT005: On page 21 of the draft Plan, Best Available Scientific Information Applied in Developing the Forest Plan, the first sentence should be corrected to state, "We used the best available scientific information to inform the planning process."

Associated Comments: #12665-5

Changes made to Plan or EIS: Plan

EDIT005 Response: This has been corrected in the final Plan.

EDIT006: Page 152, Solid Minerals Guidelines. Guideline 1 is an incomplete sentence.

Associated Comments: #12665-87

Changes made to Plan or EIS: Plan

EDIT006 Response: This has been corrected in the final Plan.

EDIT007: In the DEIS, Threats to At-Risk Species Related to Forest Activities (p. 360), there are multiple instances of misused and/or inconsistent species taxonomy and nomenclature. For example, the document mentions "German brown trout," which is not a formal species name. The Santa Fe NF should use the American Fisheries Society standard nomenclature throughout the final Plan and FEIS for consistency of taxonomic reference.

Associated Comments: #12665-111

Changes made to Plan or EIS: EIS

EDIT007 Response: We changed "German brown trout" to "brown trout" in the At-Risk Species section of the FEIS.

Health and Safety

HS001: There is concern about how Forest Service employees are being protected during fire operations, particularly in terms of smoke inhalation.

Associated Comments: #12526-2

Changes made to Plan or EIS: None

HS001 Response: Part of the Santa Fe NF's Vision is to restore fire resiliency to the landscape. A major part of this is focusing on the health and safety of fire employees. As stated in chapter 1 of the Plan, we aim to "Excel as a wildland fire organization, responding appropriately to fire with firefighter and public safety as our top priority." In addition to this vision, plan direction in the Fire and Fuels section of the Plan emphasizes the importance of safety and prioritizing life (FW-FIRE-S-1, S-2, and S-3). Managing smoke impacts from fire is addressed in FW-AIR-G-2 and FW-AIR-MA-2. Beyond this broad direction, fire safety is dictated by a multitude of documents. For example, fire actions have a burn plan, part of which is a complexity analysis that talks about safety. Burn plans also address smoke safety. Additionally, there is a Risk Assessment/Job Hazard Analysis that is completed for prescribed burning that directly addresses health and safety of firefighters. These analyses are project-specific and outside the scope of the Forest Plan Revision process.

HS002: The final Plan should include requirements for enforcement.

Associated Comments: #24-7

Changes made to Plan or EIS: None

HS002 Response: Enforcement is not included in the final Plan as a forest plan component. It is a requirement of the Forest Service, regardless of the land management plan in effect. The level of law enforcement on a forest is dependent on staffing, which reflects the budget Congress allocates to the Forest Service.

Use of Best Available Science

INVT001: For the Santa Fe NF to make the management decisions outlined in the final Plan, more scientific biologic and water quality studies need to be performed and more endangered species need to be documented.

Associated Comments: #6-2

Changes made to Plan or EIS: None

INVT001 Response: As described in the Land Management Planning Handbook (FSH 1909.12 Zero Code, 07.12), “The [planning] rule does not require that planning develop additional scientific information, but that planning should be based on scientific information that is already available. New studies or the development of new information is not required for planning unless required by other laws or regulation. In the context of the best available scientific information, “available” means that the information currently exists in a form useful for the planning process without further data collection, modification, or validation.”

The final Plan’s Monitoring Plan (final Plan, chapter 5) provides information that will enable the responsible official to determine if a change in plan components or other plan content that guides management of resources on the plan area may be needed, forming a basis for continual improvement and adaptive management. Monitoring provides feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Direction for the monitoring and evaluation of forest plans is found under the 2012 Planning Rule at 36 CFR 219.12.

The current state of the planning area was reviewed during the Assessment phase of the forest plan revision process. Water resources were assessed in chapter 2 of volume 1 of the Assessment, and the Monitoring Plan includes a section on watersheds that addresses the ongoing need to monitor for water quality impacts on the forest. Endangered species are recognized through the Endangered Species Act (ESA) (16 U.S.C. Sec. 1531-1544), which is administered by the Department of the Interior, U.S. Fish and Wildlife Service (USFWS). Currently, the Santa Fe has one federally threatened and three federally endangered species; there are no known Federal candidate species, Federal proposed species, or Federal candidate species on the forest. Chapter 3, volume 1 of the Assessment discusses identifying and assessing at-risk species (which include federally endangered species) in the planning area, and the Monitoring Plan contains questions for ongoing monitoring of terrestrial and aquatic habitats, as well as habitat connectivity.

The FEIS and final Plan do not—and are not intended to—describe in detail every scientific perspective about a topic in the plan area. For many of the issues addressed in the FEIS and final Plan there is a clear scientific consensus obtained through research and represented by the literature cited in the FEIS. As science is an iterative process where each study can reveal a new detail about natural interactions, scientific consensus on some issues is still evolving because there is not much research on the topic or existing research has yielded confounding results. In

some cases, conflicting scientific information is not included as best available scientific information based on the methodology or its context with other research it is not believed to be accurate and reliable, or because it is not considered relevant to the plan area, such as research based on the wet forests of the Pacific Northwest. The basis for the process the responsible official uses to make the determination of best available scientific information is described in the Land Management Planning Handbook (FSH 1909.12 Zero Code, 07.12).

Sources of best available scientific information can range from peer-reviewed articles (which are often considered the most accurate and reliable, given the scientific rigor involved in the publication process), to grey literature (for instance, publications produced outside of traditional or academic channels), to unpublished data or expert opinion when peer-reviewed or other published sources are lacking or less relevant for a particular scientific subject.

While the best available scientific information is an important component of the plan decision, it does not dictate what the decision must be and other relevant factors to managing multiple uses in a natural resource context are considered in the decision-making process. Other relevant factors can include budget, legal authorities, traditional ecological knowledge, agency policies, public input, and the professional experience of land managers (Forest Service Handbook 1909.12 Zero Code, 07.1).

OTHER001: The term “consider” is used too much in the draft Plan and gives managers too much discretion and flexibility in implementing the plan, which should be based in science.

Associated Comments: #23-4, #24-4

Changes made to Plan or EIS: None

OTHER001 Response: The word “consider” is used exclusively for management approaches, which are not plan components and instead may be used to inform future proposed and possible actions. These techniques and actions provide options for plan implementation, and represent possibilities, preferences, or opportunities, rather than obligatory actions. They may illustrate suggestions as to how desired conditions or objectives could be met, convey a sense of priority among objectives, or indicate possible future course of change to a program. Because management approaches do not dictate obligatory actions, asking managers to “consider” the suggested actions is appropriate.

SCI001: Multiple commenters were concerned that Santa Fe NF failed to meet the best available scientific information requirements of the 2012 Planning Rule. Some commenters believed the science used by the Forest is biased due to political influence. Others were of the opinion that the DEIS failed to adequately consider cumulative impacts, such as those from livestock or habitat fragmentation, and climate change disruptions. In some cases, arbitrary determinations were made in the analysis. For example, decisions regarding closed canopy mature forests led to an over emphasis on mechanical treatments to achieve open forest canopy conditions at the expense of vital plant and wildlife diversity. Concerns were also expressed that the science used in the DEIS was based on unproven science, studies with substantial flaws or invalid conclusions, science that is not sufficiently cutting-edge, or simply that the swath of science used to make determinations was not broad enough or did not cover scientific controversy around a topic. Legally, the Santa Fe NF must consider all relevant data or information available for the forest planning process, whether or not it is in a usable format or still needs to be obtained (36 C.F.R. § 219.3).

Associated Comments: #197-7, #197-13, #197-39, #12030-2, #12349-11, #12480-2, #12492-2, #12717-7, #12717-14, #12717-21, #12748-2, #13262-8, #13532-1, #12492-4, #12522-90, #12685-2, #12685-7, #12685-4

Changes made to Plan or EIS: None

SCI001 Response: The 2012 Planning Rule requires that the responsible official use the best available scientific information to inform the planning process and plan decisions. Our interdisciplinary team of resource professionals compiled and evaluated the relevant information for the assessment of the Santa Fe NF (USDA Forest Service 2016a; USDA Forest Service 2016b), the DEIS, and the FEIS, including the best available scientific information and analyses therein. These materials include the publications listed in the reference sections of the Santa Fe's assessment and EIS. Ultimately, a determination is made by the responsible official that the best scientific information was used based on accuracy, reliability, and relevance.

While the use of best available scientific information is integral and foundational for the planning process, it is not the sole influence on planning. Other sources of information, such as public comments, local and Tribal knowledge, the expertise of agency professionals, and monitoring data, were also considered throughout the planning process to inform the formulation of the final plan and final environmental impact statement. The plan components were developed with the expertise of Forest Service professionals who have both education and experience related to their disciplines (see volume 2, chapter 4 of the EIS) as well as the collective experience managing and implementing the 1987 Forest Plan.

Additionally, in the 2012 Planning Rule, best available scientific information must inform the planning process, plan components, and other plan content, but neither dictates what the decisions must be nor claims to cover all scientific controversy around a subject. "There may be competing scientific perspectives and uncertainty in the available science. Plan decisions also reflect other relevant factors such as budget, legal authorities, traditional ecological knowledge, agency policies, public input, and the experience of land managers" (FSH 1909.12, zero code, section 07).

It is the commenter's responsibility to provide cited documents, not just bibliographic information, to be considered for review (36 CFR § 218.24). We evaluated the literature provided in this manner during the 90-day comment period. The project record contains copies of literature cited and reviews of literature submitted. When available, we included URL addresses or the doi (digital object identifiers, which are unique alphanumeric strings used to provide a permanent link to a document's location on the Internet) with our citation list.

Refer to the Plan (Contents of the Forest Plan, Best Available Scientific Information Applied in Developing the Forest Plan), planning record, and final record of decision (ROD) for additional discussion of the use of best available scientific information.

For more in-depth responses to resource-specific concerns (e.g., livestock, habitat connectivity, or climate change), please see the concern and response statements in those resource sections.

Law, Regulation, and Policy

LAW001: The Forest Service has selectively chosen which laws, policies, and regulations to implement.

Associated Comments: #496-5

Changes made to Plan or EIS: None

LAW001 Response: Forest projects and activities are to be consistent with the direction in the final Plan and compliant with all current law, regulation, and policy as is stated in the final Plan (final Plan, chapter 1, Introduction, Purpose of the Forest Plan). The final Plan does not reiterate higher-level direction; instead, it includes a partial list of applicable laws, regulations, executive orders, and policy for reference in appendix E.

LAW002: The Public Rangeland Improvement Act (PRIA) of 1978 gave ranchers equal footing when grazing decisions were to be made by Federal entities in formulating allotment management plans (AMPs) and allotment operating instructions (AOIs) etc. This section was left out of the section Federal Laws and in the text of the Plan.

Associated Comments: #498-22,

Changes made to Plan or EIS: None

LAW002 Response: The Public Rangelands Improvement Act was included in appendix E: Relevant Laws, Regulations, and Policy, of the draft Plan. This appendix is carried forward into the final Plan. The act does not need to be quoted in full. The Forest Plan and all forest projects and activities are to be compliant with all current law, regulation, and policy as is stated in the final Plan (final Plan, chapter 1, Introduction, Purpose of the Forest Plan).

NFMA and NEPA Compliance

LAW003: In the draft Plan, the 1976 National Forest Management Act is not quoted in full. In particular, the phrase, “any revision in present or future permit contracts, and other instruments made pursuant to this act shall be subject to valid existing rights.” Failure to include this phrase in the description of the Act fails to highlight how the Act supports the valid existing rights of northern New Mexican families that predate the creation of the Forest Service.

Associated Comments: #498-23

Changes made to Plan or EIS: None

LAW003 Response: The National Forest Management Act is included in appendix E: Relevant Laws, Regulations, and Policy, of the final Plan. The act does not need to be quoted in full. The Forest Plan and all forest projects and activities are to be compliant with all current law, regulation, and policy as is stated in the final Plan (final Plan, chapter 1, Introduction, Purpose of the Forest Plan).

OTHER002: The plan is not specific enough in protections needed to ensure the health of the forest and watershed and—consequently—the value of properties in this area and tourism value.

Associated Comments: #24-10

Changes made to Plan or EIS: None

OTHER002 Response: The Forest Plan contains a number of plan components that support forest landscapes that are healthy, resilient, structurally and compositionally diverse, and

supportive of a broad array of habitats for wildlife and plant species. Collectively, these plan components sustain forest ecosystems and the local communities dependent on them. Recreation on the Santa Fe NF is an important economic contribution to local economies that is highlighted in the Recreation and Socioeconomic section of the FEIS. The Recreation section of the Forest Plan also includes desired conditions that focus on supporting sustainable recreation (FW-REC-DC-3 and DC-6).

NFMA001: The DEIS does not sufficiently meet the conservation or ecological integrity requirements of the 2012 Planning Rule. The rule defines “conservation” as, *“The protection, preservation, management, or restoration of natural environments, ecological communities, and species. Conserve. For purposes of subpart A, § 219.9, to protect, preserve, manage, or restore natural environments and ecological communities to potentially avoid federally listing of proposed and candidate species.”*

Additionally, section 219.8 of the Planning Rule dictates that plans must aim for “ecological integrity” by including *“plan components, including standards and guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area.”* Section 219.8 also specifically references *“[s]ystem drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, and wildland fire.”*

Associated Comments: #197-9, #12717-23, #12685-3

Changes made to Plan or EIS: None

NFMA001 Response: It is the role of the Forest Plan to meet the requirement of the Planning Rule. A new plan or plan revision requires preparation of an environmental impact statement, which aids in the development of the Forest Plan via analysis of a range of alternatives. Each alternative we analyzed in our EIS protects, preserves, manages, or restores the natural environments, ecological communities, and species of the Santa Fe NF. However, they each approach this goal in a different manner in order to acknowledge the broad range of uses toward which the public puts the forest and its resources, and that we must support through our management (as required by the Multiple-Use Sustained Yield Act (MUSYA)).

The MUSYA states “it is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.” Many distinctive roles and contributions of the Santa Fe NF, including those that support conservation goals, are recognized, described, and analyzed in the EIS. They are also described in chapter 1 of the final Plan (final Plan, chapter 1, Introduction, Distinctive Roles and Contributions of the Plan Area). This section of the plan highlights the importance of providing and maintaining multiple uses of the national forest and recognizes that all of the Santa Fe NF contributions described provide ecological, social, and economic value.

Our Forest Plan is organized with regards to these categories: (1) ecological sustainability and diversity of plant and animal communities; and (2) social and economic sustainability and multiple uses. The Plan identifies desired conditions for all resources across the Santa Fe NF and provides objectives, standards, and guidelines designed to achieve or maintain desired conditions. Santa Fe NF resources in the Plan include, but are not limited to, air quality, watershed condition, terrestrial ecosystems and vegetation, animal and plant species, invasive species, fire, sustainable recreation, scenery, timber and other forest products, rangeland livestock grazing, minerals and energy, and cultural resources (final Plan, Chapter 2, Forestwide Desired Conditions and Management Direction). The f plan components across resources are designed to work together to meet the requirements of the 2012 Planning Rule (36 CFR 219.8 through 219.11), National Forest Management Act, and MUSYA. Plan components for any single resource hold no greater or lesser

importance than the plan components for any other resource in the final Plan. As a whole, the final Plan is intended to provide direction to maintain ecological diversity and health within the plan area while providing opportunities for recreation, range, timber, and other uses (final Plan, Chapter 2, Forestwide Desired Conditions and Management Direction). The Plan does not compel any agency action, guarantee specific outcomes, list specific projects, or specific work priorities (final plan, Chapter 1, Introduction, Purpose of the Forest Plan).

NEPA001: The DEIS must address CEQ regulations (40 CFR Parts 1500-1508) that state that land use planning associated with NEPA analysis must (1) rigorously explore and objectively evaluate all reasonable alternatives, and (2) take a hard look at the effects of the alternatives.

Associated Comments: #11984-37

Changes made to Plan or EIS: None

NEPA001 Response: The final EIS describes the affected environment and discloses environmental effects of the alternatives. Chapter 3 is the section in which the effects are disclosed for each alternative considered. The forest planning process is a high-level process designed to make decisions to serve as side boards to management and not designed to make site-specific decisions requiring a different level of analysis needed to make decisions on specific projects, areas, or management actions.

See also: Alt002/Alt005 for more on evaluating alternatives.

NEPA002: The DEIS fails to comply with NEPA because it lacks specific analysis for most of the management areas, including the Caja del Rio Wildlife and Cultural Interpretive Management Area, the Cañada Bonita Recommended Research Natural Area, the Cultural Interpretive Management Areas, and the Oil and Gas Leasing Management Area; and all of the geographic areas. The DEIS also lacks specific analysis for management areas included in alternatives other than the preferred alternative, such as the Wetland Jewels Management Area proposed in alternative 3. The final EIS must include detailed and specific analysis that examines the environmental impacts of all the management and geographic areas, and explain how impacts would differ under each of the alternatives.

Associated Comments: #12494-14

Changes made to Plan or EIS: None

NEPA002 Response: The FEIS analyses are focused on topics that would give the responsible official necessary information to make decisions about changed management direction. The analysis of the FEIS is organized by resource area so that although management and geographic areas are not analyzed in their own sections in the FEIS, their analysis is incorporated into resource analyses when their plan direction was relevant to the resource indicator being analyzed. For example, management and geographic areas are both analyzed in the Vegetation chapter of the FEIS, in sections 3.2.5.4 and 3.2.5.5, respectively.

Beyond being analyzed in the Vegetation chapter, management areas are analyzed in:

- the Watersheds and Water Resources chapter under the Surface Water effects analysis (section 3.4.4.1.2.2 Indicator: Motorized Route Density, section 3.4.4.1.2.3 Indicator: Recreation Activities) and under the Watershed Condition effects analysis (section 3.4.4.1.3.1 Indicator: Restoration Activities);

- the Wildlife, Fish, and Plants chapter in the At-Risk Species analysis (section 3.5.4.2, with most discussion in the subsections 3.5.4.2.12.1 and 3.5.4.2.13.1), the Habitat Connectivity analysis (section 3.5.4.3), and the discussion of the Migratory Bird Treaty act (section 3.5.4.5);
- the Forest Products chapter (sections 3.10.3.1 and 3.10.3.3);
- the Recreation chapter (section 3.12.4.1, 3.12.4.2, and 3.12.4.3);
- the Roads and Infrastructure chapter (section 3.13.4.1)
- the Minerals chapter (sections 3.15.3.2 and 3.15.3.3)
- the Scenery chapter (sections 3.16.4.3.5, 3.16.4.3.6, 3.16.4.3.7, 3.16.4.3.9); and
- the Socioeconomic chapter (sections 3.17.4.1 and 3.17.3.2, and the Environmental Justice section, 3.17.5.3)

All of these sections analyze management areas as key differences amongst the alternatives in the context of the varying resources they impact.

Geographic areas are also analyzed in the FEIS as part of the alternative analyses in the Vegetation section, the Recreation section, the Roads and Infrastructure section, the Minerals section, the Scenery section, and the Inventoried Roadless Areas section. Additionally, there are no management objectives, standards, or guidelines associated with any of our geographic areas—the delineation is meant to help communities and Forest employees better conceptualize how different parts of the forest are used by stakeholders and their dominant ecological characteristics.

Forest Vision

OTHER007: On page 16 of the Draft Plan, the second paragraph of the Santa Fe National Forest Vision section should emphasize that the Forest operates as “a learning organization that faces complex challenges holistically and adapts to changing conditions using best available scientific information as required by the 2012 Planning Regulations.”

Associated Comments: #12665-9

Changes made to Plan or EIS: None

OTHER007 Response: We are required to follow the 2012 Planning Rule, which states the need for using the best available science to inform the development of our Forest Plan. As this is a part of pre-existing law, it is not necessary to restate it as part of our vision statement. Beyond this, our Vision Statement is for the forest as a whole, not just the plan revision process. It will grow and adapt with our forest goals.

OTHER008: Page 16, Restore Fire Resiliency to our Forest Landscapes. The Department recommends adding a subsection for “Protecting and Enhancing Fish and Wildlife Populations” listing actions to achieve relevant portions of the vision for Forest management.

Associated Comments: #12665-10

Changes made to Plan or EIS: None

OTHER008 Response: This action is addressed under the second bullet of the “Provide Clean and Abundant Water,” and the first bullet of the “Restore Fire Resiliency to our Forest Landscapes” sections of the Forest Vision. The commenter’s concern is covered by our inclusion of “for the benefit of sensitive species” and “improve wildlife habitat,” respectively.

OTHER014: The “Forest Vision” as presented is misguided and short-sighted and must be amended to make “Wildlife and Forest Ecological Health” one of its three primary goals.

Associated Comments: #13416-3

Changes made to Plan or EIS: None

OTHER014 Response: This action is addressed under the first bullet of the “Restore Fire Resiliency to our Forest Landscapes” sections of the Forest Vision. The commenter’s concern is covered by our inclusion of “improve wildlife habitat.” We also address benefits to sensitive species under the “Provide Clean and Abundant Water” section.

Miscellaneous

OTHER001: There is concern about how the Forest Plan and the Santa Fe Mountains Landscape Resiliency Project are related, particularly in terms of grazing restrictions.

Associated Comments: #12673-5

Changes made to Plan or EIS: None

OTHER001 Response: The Santa Fe Mountain Resiliency Project is an example of a project (site-specific NEPA) that must be in compliance with all laws, regulation, and policy, as well as the Forest Plan (programmatic NEPA). This is true for all resources, including grazing. All projects must operate under the direction of the Forest Plan currently in effect (a Forest Plan comes into effect 30 days after the forest supervisor signs the decision). Projects implemented under this revised Forest Plan must not only follow standards and guidelines but also must also move toward meeting objectives and desired conditions.

ECO001: There is desire for plan direction that facilitates increased progress toward the identified Needs for Change and makes progress toward desired conditions for watershed health, fish and wildlife habitat, and the many other ecosystem services and values provided by the Santa Fe NF.

Associated Comments: #12752-44, #12720-1

Changes made to Plan or EIS: None

ECO001 Response: The conditions, trends, and sustainability of ecological, social, and economic resources on the Santa Fe NF were published in 2015, as part of the assessment required by the 2012 Planning Rule (36 CFR 219). The assessment is the first phase of the forest plan revision process and provides a baseline of current conditions and trends for 15 resource topics on the Santa Fe NF (as per 36 CFR 219.6(b)). The assessment helped identify portions of the 1987 Forest Plan that were working well and meeting desired management objectives, and those that were not. Extensive public and interdisciplinary team involvement, along with science-based evaluations, helped to further identify and refine the concepts of what was not working in the 1987 Forest Plan. These areas that were not working well informed “Need for Change” statements. Need for Change statements were then used to provide focus for developing the revised plan. Watershed health, fish and wildlife habitat, and the many other ecosystem services

and values are specifically mentioned in the Need for Change section in chapter 1 of the final Plan, as well as in plan direction in chapter 2.

OTHER003: There should be a reduction in redundancies with existing law, regulation, and policy. The requirement to prepare additional resource plans, when existing plans meet necessary requirements, should be removed.

Associated Comments: #12503-18

Changes made to Plan or EIS: None

OTHER003 Response: One of the overall Needs for Change between the 1987 Forest Plan and the new Forest Plan is that we remove requirements to prepare additional resource plans (final Plan, chapter 1, Needs for Change). The final Plan has been designed to be a focused document adding to, but not reiterating existing law, regulation and policy as is stated in the final Plan (final Plan, chapter 1, Introduction, Purpose of the Forest Plan).

OTHER004: Page 9, Distinctive Roles and Contributions of the Santa Fe National Forest. The Department recommends adding “bighorn sheep” to the discussion of hunted species in the page's first full paragraph.

Associated Comments: #12665-6

Changes made to Plan or EIS: Plan

OTHER004 Response: We added “bighorn sheep” to the discussion of hunted species in the Distinctive Roles and Contributions of the Santa Fe National Forest section of the final Plan.

OTHER005: On page 11 of the Draft Plan, the third bullet of the Frequent Fires (Low Severity) Systems section should state “These actions may include the use of fire to reduce excess fuels, moderating the risk of future high-intensity fires, improving wildlife and range habitat including reducing encroaching vegetation to return habitats to desired historic conditions, encouraging aspen regeneration, and improving watershed and overall forest health.”

Associated Comments: #12665-7

Changes made to Plan or EIS: None

OTHER005 Response: The conditions, trends, and sustainability of ecological, social, and economic resources on the Santa Fe NF were published in 2015, as part of the assessment required by the 2012 Planning Rule (36 CFR 219). The assessment is the first phase of the forest plan revision process and provides a baseline of current conditions and trends for 15 resource topics on the Santa Fe NF (as per 36 CFR 219.6(b)). The assessment helped identify portions of the 1987 Forest Plan that were working well and meeting desired management objectives, and those that were not. Extensive public and interdisciplinary team involvement, along with science-based evaluations, helped to further identify and refine the concepts of what was not working in the 1987 Forest Plan. These areas that were not working well informed “Need for Change” statements and provided focus for developing this plan, particularly in creating plan components to help ensure management meets desired conditions for each resource.

Furthermore, the sentence referenced by the commenter is in the second bullet of the Frequent Fires (Low Severity) Systems section.

OTHER006: On page 14 of the Draft Plan, the second bullet in the Wildlife, Fish and Plants section should express the need for “Plan direction for terrestrial and aquatic habitat connectivity for species migration and movement while minimizing the potential for disease transmission between animals and species.”

Associated Comments: #12665-8

Changes made to Plan or EIS: None

OTHER006 Response: The conditions, trends, and sustainability of ecological, social, and economic resources on the Santa Fe NF were published in 2015, as part of the assessment required by the 2012 Planning Rule (36 CFR 219). The assessment is the first phase of the forest plan revision process and provides a baseline of current conditions and trends for 15 resource topics on the Santa Fe NF (as per 36 CFR 219.6(b)). The assessment helped identify portions of the 1987 Forest Plan that were working well and meeting desired management objectives, and those that were not. Extensive public and interdisciplinary team involvement, along with science-based evaluations, helped to further identify and refine the concepts of what wasn’t was not working in the 1987 Forest Plan. These areas that were not working well informed “Need for Change” statements and provided focus for developing this plan, particularly in creating plan components to help ensure management meets desired conditions for each resource.

Habitat connectivity is addressed throughout the Plan, as identified in the Connectivity Crosswalk (appendix E). Additionally, plan direction in the Non-Native Invasive Species section addresses disease spread (see FW-INVASIVE-G-4).

OTHER009: There is support for implementing landscape scale restoration on the forest, including on deserted areas.

Associated Comments: #12720-12

Changes made to Plan or EIS: None

OTHER009 Response: The Plan is focused on landscape-scale restoration through managing for broad-scale habitat health and resilience. Cross-boundary management, which facilitates a landscape level approach, is included as a sub-section of the Lands and Realty section of the plan. Finally, the details of site-specific restoration, including the scale at which is appropriate for any given area or landscape, will occur at the project-level and is outside the scope of this Plan.

ALTN011/OTHER010/011: Commenters expressed both support and opposition for sustaining multiple uses across all alternatives. Some commenters are against uses such as commercial development on the forest, including mining, oil and gas, and logging. Other commenters support the provision of sustainable, multiple uses, products, and services on the forest.

Associated Comments: #13658-6, #12606-1, #12669-2, #13476-3, #9087-3

Changes made to Plan or EIS: None

ALTN011/OTHER010/011 Response: The Forest Service operates under the Multiple Use Mandate that states, “The management of all the various renewable surface resources of the NFS should be managed so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with

the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act (MUSYA) of 1960 (16 U.S.C. 528–531) (36 CFR 219.19).” In addition, the MUSYA states “it is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes.”

To address the many different ideas and opinions on how the forest should be managed and how the mix of multiple uses of the forest should be applied across the landscape, the FEIS considered a broad range of alternatives. Each alternative that emphasized different mixes of uses, such as one that included more backcountry and recommended wilderness areas (alternative 3) and one that included more lands that are suitable for higher levels of timber production (alternative 4). All alternatives recognized that vegetation management, including timber harvest, is an important tool to help achieve forest plan desired conditions, including ecological (i.e., wildlife habitat, forest resilience) and social and economic (i.e., providing wood products and employment). The responsible official considered all points of view and the desire to provide for multiple uses of the forest in identifying alternative 2 as final Plan.

The any distinctive roles and contributions of the Santa Fe NF are recognized in chapter 1 of the final Plan (final Plan, Chapter 1, Introduction, Distinctive Roles and Contributions of the Plan Area). This section of the plan highlights the importance of providing and maintaining multiple-uses of the national forest and recognizes that all of the Santa Fe NF contributions described provide ecological, social, and economic value.

Overall, the final Plan is organized under two broad major categories: (1) ecological sustainability and diversity of plant and animal communities; and (2) social and economic sustainability and multiple uses. The Plan identifies desired conditions for all resources across the Santa Fe NF and provides objectives, standards, and guidelines, which were designed to achieve or maintain desired conditions. Santa Fe NF resource in the Plan include, but are not limited to, air quality, watershed condition, terrestrial ecosystems and vegetation, animal and plant species, invasive species, fire, sustainable recreation, scenery, timber and other forest products, rangeland livestock grazing, minerals and energy, and cultural resources (final Plan, Chapter 2, Forestwide Desired Conditions and Management Direction). The suite of plan components across resources are designed to work together to meet the requirements of the 2012 Planning Rule (36 CFR 219.8 through 219.11), National Forest Management Act, and MUSYA. Plan components for any single resource hold no greater or lesser importance than the plan components for any other resource in the final plan. As a whole, the final Plan is intended to provide direction to maintain ecological diversity and health within the plan area while providing opportunities for recreation, range, timber, and other uses (final Plan, Chapter 2, Forestwide Desired Conditions and Management Direction). The Plan does not compel any agency action, guarantee specific outcomes, list specific projects, or specific work priorities. (final Plan, Chapter 1, Introduction, Purpose of the Forest Plan).

See responses to specific resource areas for more in-depth responses concerning resource topics (e.g., increased protections for riparian areas is a concern that is addressed in the Water, Riparian, and Soil section). For more on our choice of proposed action and alternative analysis.

See also: AltN002

OTHER015: The Santa Fe NF received a number of comments that were related to areas or issues specific to the Carson or Cibola NFs.

Associated Comments: #3-1, #411-1, #498-16, #498-18, #4095-10, #9836-4, #10185-7, #12468, #12498-9, #12508-1, #12508-2, #12508-4, #12508-5, #12508-8, #12508-9, #12696-5, #12763-1, #13353-3, #13353-4, #13659-4, #13659-5, #4246-3, #4246-4, #4246-5

Changes made to Plan or EIS: None

OTHER015 Response: These comments were forwarded to the forest to which they referred.

Vegetation and Related Topics

VEG001: There are concerns that southwestern white pine (SWWP) and its ecosystems, along with plant diversity and conservation on the forest in general, are not being adequately protected by the Forest Plan. In particular, commenters expressed concern over the threat of white pine blister rust, and how proposed thinning and burning treatments may impact an already-threatened species and any areas of refugia found on the forest.

Given this concern, commenters expressed opinion that the Plan and DEIS turned fail to maintain or restore plant biodiversity in a manner consistent with planning regulations and the BASI standard. The Forest Service needs effective and efficient management tools, including preservation of the at-risk SWWP community, to maintain and restore its viability. Additionally, SWWP refugia should be established by the Forest Plan.

Associated Comments: #12685-13

Changes made to Plan or EIS: None

Veg001 Response: Knowledge of forest management and infectious tree diseases has grown substantially since the chestnut blight decimated eastern deciduous forests in the 1950s. The Santa Fe Plan contains desired conditions and guidelines that aim to avoid these types of species losses and retain native plant diversity in management activities (e.g., FW-VEG-DC-1, DC-1a, DC-1d, DC-2, DC-2a, DC-2b, and DC-3a; FW-VEG-G-1; FW-MCD-DC-1; and FW-FORESTRY-G3).

Additionally, the Forest Plan and EIS do not restore or maintain plant biodiversity on their own, rather the plan is a guiding document for on-the-ground project work to restore or maintain plant biodiversity. There are plenty of plan components that support retaining or restoring biodiversity using project-level treatments including, FW-VEG-DC-1 and DC-3; and FW-ATRISK-DC-1 and DC-3. The design and implementation of projects are outside the scope of the Forest Plan.

Revisions to the final Plan based on comments received resulted in the addition of FW-VEG-DC-3 c: "Habitats and refugia for rare, endemic, and culturally important species, are resilient to stressors and support species' persistence or recovery." While this desired condition does not list SWWP (or any species) specifically, if it can be considered rare, endemic, or culturally important the Plan supports areas of refugia for it.

VEG002: The Santa Fe NF received general support for Vegetation desired conditions (DC) as written, but were asked to further recognize the importance of having desired conditions that include language that supports the development of diverse, resilient, and functioning native understory plant communities, provides sustainable sources of plants needed for cultural purposes and traditional uses, to meet wildlife needs, and to identify significant plant communities on the Forest to protect during management practices.

Associated Comments: #12575-5; #12528-4; #12528-5; #12698-4; #12698-5; #12528-3; #12698-3; #12528-6; #12503-24; #12528-6; #12698-6; #12575-4; #12575-7.

Changes made to Plan or EIS: None

VEG002 Response: The Forest recognizes the importance of having plan direction that supports the multiple use mission of the Agency while also providing for healthy and resilient ecosystems. The Santa Fe NF plan has included numerous desired conditions and other pertinent components which provide a comprehensive framework for guiding management actions. Particularly relevant to this concern statement are plan components listed within the Vegetation (e.g., FW-VEG-DC-3 and 3a), Water Resources, Wildlife Fish and Plants, Forest Products, and Northern New Mexico Traditional Communities and Uses sections that are applicable to the development, maintenance, or improvement of both ecological and human conditions.

The identification of significant plant communities that need additional protections not explicitly stated in the plan can be done on a site-by-site basis at the project level. For example, the Forest plan has identified the Cañada Bonita proposed Research Natural Area (RNA), which adds specific guidance for the protection of rare Thurber fescue grassland. Appendix L includes an analysis of unique ecosystems used to identify proposed RNAs.

VEG003: The Santa Fe National Forest should consider revising the following desired conditions in the Vegetation section of the draft Plan to read as (suggested language in bold):

VEG-XXX-DC-3 (For All VEG types): “The ecological attributes and processes that provide habitat for native biota and/or historic and cultural values are maintained, **enhanced, or restored**”

- ♦ 3.a: “A diversity of vegetation exists with a mosaic of cover types and stand structures forming a healthy, resilient landscape that provides for genetic exchange, **habitat connectivity for** daily and seasonal movements of animals, including inter-specific interaction at all trophic levels (e.g., producer-consumer and predator prey interactions) across multiple spatial scales.”
- ♦ 3.b: Vegetation provides a sustainable supply of timber and forest products, such as firewood, piñon nuts, vigas and latillas, **herbs**, and forage.

Associated Comments: #12665-13; #12665-14; #12528-3; #12698-3

Changes made to Plan or EIS: Plan

VEG003 Response: We incorporated most of the suggested changes into the Santa Fe NF plan. However, we chose not to use the term, “enhance,” as it overlaps “restored” and is a subjective term that does not have a planning definition.

VEG004: VEG-SFF-DC- 1.c: The Forest should revise VEG-SFF-DC-1c to replace “succession and disturbance” with “changes in species composition, tree growth and mortality” as this is more accurate. The desired condition should also indicate “old growth stands that are of variable sizes and include some large patches that are entirely or predominantly representative of old growth forest conditions.”

Associated Comments: #12665-15

Changes made to Plan or EIS: Plan

VEG004 Response: The desired condition referenced above was modified for greater clarity of purpose in the Plan. The words “tree growth and mortality” were removed because the intent of the term succession in this desired condition is the processes in which the structure of a biological community shifts over time. While tree growth and mortality are a part of that process, they are not all inclusive and we determined that highlighting just those processes did not meet the intent of the desired condition. We also chose not to implement the suggested wording changes referring

to old growth as the existing language captures that concept within a larger context that does not constrain management for meeting or movement toward desired conditions over the life of revised Plan.

VEG005: The Santa Fe National Forest should add the following desired conditions in the Vegetation (ALL VEG) section of the Draft Plan as these concepts are missing from the current draft plan and are needed:

- VEG-DC- 1.f. “Ecosystems are resilient or adaptive to the frequency, extent, and severity of disturbances (e.g., human impacts, fire in fire-adapted systems, flooding in riparian systems, insects, pathogens, and climate variability). Natural disturbance regimes, including fire, are restored where practical and allowed to function in their natural ecological role. Wildfire maintains and enhances resources, including wildlife habitat for species associated with fire-adapted systems. Uncharacteristic wildland fire behavior is minimal or absent on the landscape.”
- VEG-DC- 1.g. “Vegetation characteristics (e.g., tree density, litter depth) support favorable water flow and quality.”
- VEG-DC-3.c: Native plant communities dominate the landscape, while invasive species are nonexistent or low in abundance and do not disrupt ecological function.
- VEG-DC-3.d: Habitats and refugia for rare, endemic, and culturally important species are intact, functioning, and sufficient for species persistence and recovery.

Associated Comments: #12528-1; #12698-1; #12528-2; #12698-2; #12528-4; #12698-4; #12528-5; #12698-5.

Changes made to Plan and EIS: Plan

VEG005 Response: We added the suggested VEG-DC-3.d above to the vegetation section of the plan with some modifications (now: VEG-DC-3.c). The new plan component reads, “Habitats and refugia for rare, endemic, and culturally important species, are resilient to stressors and support species' persistence or recovery.” We believe that the intent of the other suggested desired conditions is largely covered by existing desired conditions in the plan (see FW-VEG-DC-1, 1a-c, 2; FW-WATER-DC-1, 1a, 3, 5; FW-RWE-DC-1c, 4; FW-INVASIVES-DC-1,2; FW-ATRISK-DC-2).

VEG006: The Santa Fe National Forest should add additional plan components pertaining to the management of Gambel oak where it occurs in ponderosa pine and mixed conifer ERUs, and recommend that the following guidelines be added:

FW-VEG-G-6: In ponderosa pine and mixed conifer ERUs:

- Retain a mosaic of all sizes and age classes of Gambel oak across treated areas.
- Retain tree-form Gambel oak in the 12-14" diameter range to maximize acorn production for game and non-game species (Clary and Tiedemann 1992), and larger diameter Gambel oak to provide nesting and roosting habitat for turkey and other bird species.
- Retain patches of pole-sized Gambel oak in the 3-6" diameter range to increase migratory bird diversity (Jentsch et al. 2008).

Associated Comments: #12665-17

Changes made to Plan or EIS: Plan

VEG006 Response: An interdisciplinary team reviewed the suggested plan components pertaining to Gambel oak, which were supported by relevant literature provided by the commenter. The Plan contains a desired condition in dry mixed conifer (MCD) and ponderosa pine (PPF) forests that includes broad management guidance for Gambel oak, stating “all structural ages of oak are present” (FW-VEG-MCD-DC-1b and FW-VEG-PPF-DC-1b). We added the following desired conditions to the forestwide all-vegetation section to strengthen direction regarding all ERUs, including shrublands (e.g., Gambel oak):

- “Seral state proportions (per the ‘Seral State Proportions for the Southwestern Region’ supplement) are applied at the landscape scale, where contributions from all seral stages and low overall departure from reference proportions are positive indicators of ecosystem condition.”
- “At the scale of the plan unit, overall plant composition similarity to site potential (FSH 2090.11) averages greater than 66 percent, but can vary considerably at the mid- and fine-scales owing to a diversity of seral conditions.”

We also changed FW-VEG-MCD-DC-1b to refer to “all structural stages of oak (e.g., Gambel oak)...”

VEG007: The Santa Fe NF should correct omissions in the plan components for the Alpine and Tundra ERU as follows:

- FW-ALP-DC-3: last sentence in the DC should read: “Alpine fellfields are dominated by alpine clover, alpine avens, Bellardi bog sedge, and a variety of other forbs, graminoids, and dwarf willows. Conservation of this ERU allows for the persistence of alpine-obligate wildlife such as white-tailed ptarmigan.”
- Management approaches should address the issue of nitrogen deposition and effects upon species composition changes -- forbs to grasses and concomitant impacts on invertebrate and vertebrate species, particularly for the Alpine Tundra ERU.

Associated Comments: #12665-20); #481-1

Changes made to Plan or EIS: Plan

VEG007 Response: An interdisciplinary team reviewed the suggested changes to plan components and decided to change FW-ALP-DC-3 to include the suggested wording from the commenter, but decided not to add an additional management approach for ALP, as individual ERUs were not issued management approaches in the plan.

VEG008: The Santa Fe NF should clarify the difference between persistent piñon juniper woodlands and where areas of grassland encroachment by PJ occur, to direct treatments in areas of encroachment, but not in areas of persistence. The inclusion of additional standards and guidelines for PJO management are needed stating that, “treatments will generally be avoided within persistent pinon-juniper woodlands, except in WUI situations.” The Forest should also acknowledge that the early seral-stage and late seral-stage closed-canopy woodlands of the piñon-juniper woodlands ERU are persistent (Romme et al. 2009).

Associated Comments: #12575-6; #12665-19

Changes made to Plan or EIS: Plan and EIS

VEG008 Response: Revisions to the Plan and EIS have been made to more clearly differentiate persistent piñon-juniper (PJO) from piñon-juniper grass (PJG) or shrublands (PJS). The desired conditions for piñon-juniper communities were developed to reflect the historic range of variability.

The desired conditions include a mix of seral stages. The desire to manage for a somewhat balanced mix of seral stages on the landscape permits management for open conditions (particularly in PJG) and retaining closed canopy conditions where and as appropriate (Romme et al. 2009). Further, an interdisciplinary team reviewed the suggested additional plan guidance and determined that the existing plan components are inclusive of this suggestion, as persistent PJO has no objectives for direct vegetation treatments in the Santa Fe NF Plan (See FW-VEG-O-2).

VEG009: An additional management approach is needed in the FW-VEG-MA section of the draft Plan, that addresses the needs and benefits of combining vegetation and watershed or riparian projects, such as, “FW-VEG-MA 4: Consider pairing vegetation management projects with activities to restore or enhance stream and riparian habitat, improve floodplain connectivity, and improve habitat conditions for aquatic and riparian-dependent species.”

Associated Comments: #12752-27

Changes made to Plan or EIS: None

VEG009 Response: The Santa Fe NF Plan includes direction for interdisciplinary work throughout the document (see FW-RWE-MA-1, 2; FW-WATER-MA-1,2; FW-AQUASH-MA-1-5) and encourages an all-lands approach to ecological restoration (see FW-TERRASH-MA-2; Lands and Realty chapter). An interdisciplinary team reviewed the suggested additional plan guidance and determined that the intent of this suggestion is already met with existing plan components, particularly those in the Riparian and Aquatic Species chapters (FW-RWE-DC-2, 4; FW-RWE-O-1; FW-RWE-S-3; FW-AQUASH-DC-1, 2; FW-AQUASH-G-3; and all MAs cited above).

VEG010: The draft Plan does not provide plan components that would encourage the retention of old (>150 yrs) or large (>16” dbh) trees. Retention of old and large trees is a core management approach that will allow the Santa Fe National Forest to achieve restoration objectives and move towards desired conditions. Ecological restoration should manage to ensure the continuing presence of large and old trees, both at the stand and landscape levels. This includes preserving the largest, oldest trees from cutting and crown fires, focusing treatments on excess numbers of small young trees. Develop "desired" forest condition objectives that favor the presence of both abundant large diameter trees and an appropriate distribution of age classes on the landscape, with a wide distribution of older trees. It is generally advisable to maintain ponderosa pines larger than 41 cm (16 inches) diameter at breast height (dbh) and other trees with old-growth morphology regardless of size (e.g., yellow-barked ponderosa pine or any species with large drooping limbs, twisted trunks or flattened tops) (Allen et al. 2002). We recommend that simple plan components be added, which could be as simple as “Forest restoration projects will retain old trees and old growth characteristics where they exist” or “Old and large trees should be retained when designing forest restoration projects.”

Associated Comments: #12522-3, 116, 117

Changes made to Plan or EIS: None

VEG010 Response: The Santa Fe NF recognizes the importance of the presence, persistence, and development of large and old trees on the landscape and has provided language in the plan that supports these ecosystem components. The following plan components contain intent or direction that encourages an array of healthy, functioning, and complex ecosystems on the Forest that can be related to the retention of large or old trees and the promotion of the development of old growth on the landscape: FW-VEG-DC-1, 1a; FW-VEG-DC- 3; FW-VEG-G-4; FW-XXX-DC-1c

or 1d for all forest types,¹ FW-PJO-DC-2 and 2b, and FW-PUJ/JUG-DC1 and 1c; old trees are mentioned in desired condition statements alongside snags in FW-PJS-DC-4; FW-SFF/MCW/-DC-7 and DC8; FW-MCD-DC-9 and DC-10; FW-PPF-DC-3, DC-10, and DC-12; FW-ATRISK-DC-1 and DC- 2; FW-ATRISK-G-2; FW-ATRISK-G-12; and FW-FORESTRY-DC-5. Further, the development of old-growth characteristics is mentioned in the introduction to the Fire and Fuels section, the Cañada Bonita Recommended Research Natural Area, and Monitoring chapter of the Plan. As is evident from the aforementioned plan components, most references of old growth (and its components including large and old trees; complex landscapes) exist within the Plan in the desired conditions section.

The Plan does not have to explicitly state something for that object, aspect, or direction to be applied during management (e.g., project development) so long as the action does not contradict any guidance that is stated in the Plan. For example, though the Plan does not explicitly state that trees older than 150 years of age or larger than 16 inches dbh should be retained where they exist, the guideline, “*Vegetation treatments should be designed such that structural stages and age classes that are under-represented in desired conditions become proportionally represented, and to assure continuous recruitment of old growth characteristics across the landscape over time (FW-VEG-G-4)*” covers the intent of the suggested plan component addition offered by the commenter. Furthermore, the statements, “*Ecosystems maintain all of their essential components (e.g., plant density, species composition, structure, coarse woody debris, and snags), processes (e.g., disturbance and regeneration), and functions (e.g., nutrient cycling, water infiltration, and carbon sequestration (FW-VEG-DC-1);*” and “*The ecological attributes and processes that provide habitat for native biota and/or historic and cultural values are maintained (FW-VEG-DC-3);*” also lend direction that could imply that old or large trees should be retained as essential components of wildlife habitats and of ecosystems, particularly since these components have declined on many contemporary landscapes.

The Plan does not contain any language that contradicts retaining trees older than 150 years of age or larger than 16 inches dbh during project development and implementation. However, the particular parameters for what sizes of trees are retained or removed is determined on the local project-scale and is based on needs and concerns for management.

VEG011: The need for restoration is evident on the landscape (e.g., gypsy moth infestations on aspen, drought stress) and is depicted in the high degree of departure in PPF and MCD as outlined in the Draft Plan and DEIS. Restoration is needed to reduce fire risk that could threaten overall forest viability.

Associated Comments: #12503-21; #12591-4; #12643-3.

Changes made to Plan or EIS: None

VEG011 Response: The assessment phase of the plan revision process provided a clear picture of the current state of the ecosystems on the Santa Fe National Forest (USDA Forest Service 2016a) and highlighted which of the forest and woodland or grassland ecosystems were highly departed from historic conditions and in need of management to help guide them back to within their reference condition. The Santa Fe Plan includes guidance for adaptive management that will help move these departed systems toward desired conditions over time, providing for increased resiliency to overarching factors such as climate change and help to reduce the threat of potential large-scale disturbances (such as the Los Conchas fire 2011).

¹ All FW-VEG forest types: FW-SFF, FW-MCW, FW-MCD, FW-PPF

VEG012: The Santa Fe NF Draft Plan is missing vegetation plan components in certain ERUs (particularly PJS and SAGE) that acknowledge and discuss the importance of these ERUs as winter range for large game animals such as mule deer and elk according to the Mule Deer Working Group's Habitat Guidelines for Mule Deer: Colorado Plateau Shrubland and Forest Ecoregion document. Additionally, it would be beneficial to include a list of representative or important wildlife species supported by each ERU, and identify habitat management actions to sustain populations of native fish and wildlife species as explicit desired conditions, where it hasn't already been written.

Associated Comments: #12665-11; #12665-18; 12503-24

Changes made to Plan or EIS: None

VEG012 Response: We recognize the importance of having quality habitat and suitable winter range for large animals such as mule deer and elk; however, these species do not meet the definition of a species of conservation concern under the 2012 Planning Rule, since their populations on the forest are stable or expanding. Because they are not recognized as a species of conservation concern, additional desired conditions or other plan components specific to these species are not warranted.

The Santa Fe Plan includes numerous components within the Vegetation and Terrestrial Species and Habitat chapters that are applicable to the development, maintenance, or improvement of suitable habitat. These components are also relevant to other factors such as forage and cover for multiple species, including mule deer and elk on the forest. Example plan components include:

- FW-VEG-DC-3b, "Vegetation provides a sustainable supply of timber and forest products, such as firewood, piñon nuts, vigas and latillas, herbs, and forage, consistent with desired conditions for other resources;" and
- FW-RANGE-DC-5, "Native plant communities support diverse age classes of shrubs and vigorous, diverse, self-sustaining understories of grasses and forbs relative to site potential, while providing forage for livestock and wildlife."

Additionally, the importance of the Sagebrush ERU (SAGE) for providing wildlife forage and shelter is mentioned in the Sagebrush Shrubland introductory paragraph:

*"The dominant shrub, big sagebrush (*Artemisia tridentata*), consists of a number of important varieties and wildlife use is associated with specific varieties of big sagebrush due to the chemical variation and forage preference for each variety... All sagebrush types are important, as each provide thermal cover and protection, (including nesting cover and escape cover) for various species of wildlife (e.g., upland birds). Sagebrush can also make up a significant forage and protein source for wildlife."*

VEG013: The Santa Fe National Forest should consider adding a Plant Community Species Composition Section to the beginning of the Vegetation Chapter in the Land Management Plan. The following additions were recommended:

- Background and Description: Desired conditions in this plan describe the most characteristic site conditions and plant species for each vegetation type, as more complete descriptions of site conditions and species lists for each vegetation type would be unnecessarily exhaustive for this plan. The land manager should refer to the Terrestrial Ecological Unit Inventory database for more complete, site-specific (soil, climate, production, cover, species composition, etc.) data and to "Plant Associations of Arizona and New Mexico" (USDA Forest Service 1997a and 1997b) for more complete species lists.
- Desired condition (FW-DC-SPC): 1. All sites support the potential natural vegetation type best adapted to site conditions. 2. At the plan unit scale, similarity of existing ground cover and overall

plant species composition is greater than 66 percent to that of site potential but can vary considerably at finer scales because of a diversity of seral conditions. 3. Significant plant communities (as defined in “Background and Description” above, this section) and individual plants persist.

- Objective (FW-OBJ-SPC) 1. Clear potentially damaging fuel sources from areas surrounding at least 2 significant plant communities annually per Ranger District.
- Guideline (FW-GDL-SPC) 1. Management activities should be guided by the most site-specific, accurate inventory data for soil, species composition and structure, and site potential. For example, where a woodland now occupies a historic grassland site (such as a soil classification of Mollisol - a signature of grassland ecosystems), grassland desired conditions apply. In other words, the desired condition for vegetation type should be consistent with the site's soil type with an emphasis on native annual and perennial plant communities. 2. Management programs, projects and activities should account for significant plant communities (such as oshá, poleo, and organo del campo) to protect and preserve their persistence.
- Management Approaches (FW-MGAP-SPC) 1. Significant plant communities may be managed to maintain their unique characteristics and permanence. 2. Significant plant communities and individual plants may be accompanied by interpretive signs when appropriate.

Associated Comments: #12528-6; #12698-6; #12698-7

Changes made to Plan or EIS: Plan

VEG013 Response: Overall, existing plan components cover the intent of the section the commenter would like to see added to the Plan. The desired conditions within the vegetation section of the Plan provide guidance on native plant communities; and the TEUI database contains a species list, if and when needed. Additionally, some requested plan components have been added to the Plan in response to other concern statements (see FW-VEG-DC-1f and FW-VEG-DC-1g). FW-VEG-DC-1g contains language that aligns with the suggested language in the FW-DC-SPC-2 given in the concern statement above.

See also: Response to Concern Statement: #12665-17.

EIS/Analyses

AIR004: The DEIS needs to incorporate literature, such as Mitchell’s (2015) *Carbon Dynamics of Mixed- and High-Severity Wildfires: Pyrogenic CO₂ Emissions, Postfire Carbon Balance, and Succession*, that shows that thinning and prescribed fires in dry pine and mixed conifer forests are ineffective at reducing fire severity and come at the expense of carbon storage, particularly because larger trees are typically not consumed. In addition, large wildfires convert a significant fraction of burned vegetation biomass into pyrogenic carbon that can be stored on site for centuries to millennia, buffering carbon emission from the fire and resulting in the burned area becoming a significant carbon sink. The value of this stored carbon is underestimated in emissions calculations and this sink is not reported in the DEIS, estimated in LANDFIRE, or referenced in the forest plan.

Associated Comments: #197-51

Changes made to Plan or EIS: EIS

AIR004 Response: We added citations to our EIS Vegetation analysis for research that is based in the Southwest and supports the use of combined mechanical thinning and controlled burning as a method for increasing the resilience and carbon storage potential of our forest:

- Hurteau, M.D. 2017. Quantifying the Carbon Balance of Forest Restoration and Wildfire under Projected Climate in the Fire-Prone Southwestern US. PLoS ONE 12(1): e0169275.doi:10.1371/journal.pone.0169275
- McCauley, L.A., M.D. Robles, T. Wooley, R.M. Marshall, A. Kretchun, and D.F. Gori. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States. Ecological Applications. 29(8):1-14

Mitchell (2015) is not based in the ecosystems of northern New Mexico, or of the Southwest in general. While pyrogenic carbon may be an important carbon sink, there have been no studies surrounding it in the context of forest management in the southwest. Additionally, desired conditions in the Plan promote natural disturbance processes that sustain forest carbon sequestration by increasing ecosystem resilience and returning the forest to a more natural fire regime, which include low, mixed, and high-severity fires depending on the ERU (e.g., FW-MCD-DC-3, FW-SFF-DC-2b, FW-MCW-DC-2a, FW-MCW-DC-5, FW-MSG-DC-2, FW-CPGB-DC-2). In terms of carbon balance that can be compared for the Santa Fe NF using best available tools and science, there are two factors that need to be evaluated to compare prescribed fire versus high-intensity wildfire. The first is the total amount of biomass consumed by the fire. The second is the amount of overstory tree mortality resulting from the fire. The amount of biomass consumed in a prescribed fire is typically lower than a wildfire (Wiedinmyer and Hurteau 2010). More importantly, prescribed fire causes relatively little overstory tree mortality and high-intensity wildfire causes high tree mortality. Live trees sequester carbon and dead trees do not. In the Southwest a severely burned site can be a source of carbon to the atmosphere for decades (Dore et al. 2008, 2012).

VEG014: Seral state proportions and descriptions are particularly misleading in the DEIS on pages 88, 90, and 230 for the PPF and MCD ERUs. They suggest that large, old trees dominate the landscape, and in actuality, the forest is dominated by small to medium-sized trees at high densities. The large tree, closed canopy category seems arbitrary and it is unclear why standard VSS was not used. The forested ERU sections (e.g., ponderosa pine through spruce-fir) need additional discussion regarding the proportion of old growth VSS Class 6 trees relative to other size classes in the Forest.

Associated Comments: #12665-105; #12665-106; #12665-110

Changes made to Plan or EIS: None

VEG014 Response: The Santa Fe and other Region 3 national forests have generated ecosystem models for each ERU, not to forecast conditions, but for *purposes of approximating trends in key ecological indicators* such as seral state diversity, consistent with agency planning directives (FSH 1909.12 Ch. 10, 12.14c). For effects analysis (EIS), the national forests provided additional modeling for *purposes of contrasting management alternatives* in their ability to achieve desired conditions, according to different levels of mechanical treatment, prescribed burning, managed fire, and other active and passive management. Ecosystem models were developed with variables configured (parameterized) based on quantitative inputs for succession and growth, disturbance frequency and severity (fire, insects, and disease), and for frequency and effect of local management activities including fire management (Weisz et al. 2009, Weisz et al. 2010, Weisz and Vandendriesche 2013). Forest Vegetation Simulator (FVS) models were developed to address all possible vegetation states that can occur along with the probability of transition among states, with FVS outputs resulting in multiple succession pathways in addition to classic succession sequences. Effects of stand-level disturbance and climate are inherent to FVS and the FIA sample data used to train FVS runs. Existing vegetation mapping was used to characterize the initial vegetation conditions for ecosystem modeling.

The individual ecosystem model states were based on 1) existing vegetation technical guide diameter and cover breaks (Brohman and Bryant 2005), characteristic structure conditions (e.g., woodland models typically wouldn't require separate 20+-inch diameter states), and on management conventions (e.g., the need for multi-aged states). As described in the Assessment (USDA Forest Service 2016), forested communities are *assigned to states based on the size class of greatest abundance* (basal area, canopy cover) regardless of overall size class diversity. As such, the density of smaller diameter trees in a given plant community is often greater than the indicated size class, particularly in fire-adapted forests and woodlands. Vegetation states for some forest models are necessarily stratified by one, two, and three-plus tree cohorts.

While the Vegetative Structural Stage (VSS) categories were considered for defining vegetation states within ecosystem models, VSS is not consistent with more recent technical guidance (Brohman and Bryant 2005), is calibrated only to forest life zones, and is tooled mostly for even-aged infrequent-fire forests.

Ecosystem models were also used to determine natural range of variation (NRV) for seral state diversity based on characteristic diameter growth, insect and disease occurrence, and the historic fire regime including human influence (LANDFIRE 2010, TNC 2006). NRV was used to inform desired conditions but is not a management target in and of itself. Seral state percentages for the reference condition represent the approximate mid-point of the range of desired conditions described at the landscape scale and are used primarily to compute overall system departure and are not intended as a target or prescription.

VEG015 The Forest should reevaluate canopy cover levels considered indicative of late-seral, closed-canopy stands of the following habitat types: spruce-fir forests, mixed-conifer forests with aspen, piñon-juniper woodlands with sagebrush, and piñon-juniper woodlands. Sufficient evidence suggests all of these forests and woodlands experienced low-frequency, high-intensity wildfires, meaning they often have high tree densities, with many approaching 100% canopy cover (Reynolds et al. 2013 and Romme et al. 2009). Further, closed canopy forests in some cases currently exceed 70% overstory cover and thus extensive thinning in the preferred alternative constitutes a major change in overstory cover impactful to species requiring closed canopy conditions. Large interspaces will be created across the landscape with substantial reductions in canopy cover and percent of forests in closed conditions to meet this arbitrarily defined "open" reference condition, creating novel ecosystems that do not comport with the ecological integrity or diversity requirements of the planning rule.

- **Associated Comments:** #12668-12; #197-18a, #12685-9
- **Changes made to Plan or EIS:** Plan and EIS

VEG015 Response: We acknowledge that the existing conditions of canopy cover in forests and woodlands across the Santa Fe NF is varied, and in the assessment we determined that many acres of both PPF and MCD forest types and PJG and JUG woodland types are highly departed from reference conditions. From Reynolds et al. (2013) (concerning historical reference conditions) "range of canopy cover for ponderosa pine was 10 to 50 percent, giving reference conditions for openness (i.e., the inverse of canopy cover) 50 to 90 percent." The authors also found similarities in reference conditions of structure for dry mixed-conifer similar to those of ponderosa pine (Reynolds et al. 2013). These findings helped to define desired conditions for PPF openness (FW-VEG-PPF-DC- 5) and MCD openness (FW-VEG-MCD-DC- 5) at the midscale in the Santa Fe NF Plan.

The Romme et al. (2009) paper defined three different piñon juniper subgroups based on structure, site, and species compositions similar to what we recognize in the vegetation section of the plan: persistent woodlands (PJO), savanna (grasslands; PJG), and shrublands (PJS). The paper

contained highly relevant information about the fire regimes of these areas, which was incorporated into the DEIS and desired conditions in the plan, but we were unable to locate the 100 percent canopy cover cited by the commenter in the document. Instead, on page 213-214, the paper states, “a comparison of aerial photos of a southwestern New Mexico study area revealed that former grasslands and juniper savannas had been largely replaced by relatively dense stands of *Juniperus deppeana*, such that forests and woodlands having greater than 40 percent tree canopy cover comprised less than 50 percent of the landscape in 1935 but had risen to over 80 percent by 1991 (Miller 1999). Regardless of a specific number, this increase in canopy cover (and tree density) illustrates departure of current conditions from those of reference conditions.

We also recognize that there was confusion created due to mislabeling canopy cover as canopy closure in the Draft EIS, which has been corrected throughout for the final document. For clarification, the DEIS was not intending to imply that 30 percent cover indicates a late-seral closed canopy condition on the Santa Fe NF landscape, but more simply that these values were indicative of the states given by modeled outputs of canopy cover using the VDDT models. Their purpose was to enable comparisons between alternatives. VDDT is not spatially explicit and does not model opening size, but it does contain three descriptive density classes: openings (non-forested), open forest states, and closed forest states. In VDDT modeling (EIS, appendix B), openings have canopy cover less than 10 percent, “open” states have canopy cover between 10 and 30 percent, and “closed” states have canopy cover greater than 30 percent. Thus, in the output graphs there is a line shown at the 30 percent cover level. This does not insinuate that the Forest intends to manage for all forest and woodland types to attain this measure of cover, as the plan clearly identifies desired conditions that include a range of seral states, densities, and patch sizes across the landscape to support the function and all the varied components of complex ecosystems. Please refer to the desired conditions of each forest type for that information. Additionally, a definition of canopy cover has been added to the glossary of the plan to provide further context and clarity.

See also: Response to VEG014.

VEG016: LANDFIRE has extensive shortcomings in its use within the DEIS. Scott (2008) documented seven potential shortcomings with the canopy and fuel related provisions of LANDFIRE, including:

- canopy cover values are too high,
- data discontinuities exist within and between map zones,
- canopy bulk density values are too low for use in FARSITE,
- canopy base height is too high to generate crown fire,
- treelist data sources may not be best for canopy fuel calculations
- alternative canopy fuel calculation programs may produce different results
- Refreshing and calibrating LANDFIRE data is needed.

Scott (2008) reported that the dead fuel moisture model is especially sensitive to errors in canopy cover and concludes: “Moreover, canopy cover mapping errors may lead to significant indirect fire modeling effects. Because canopy cover is a keystone variable, these indirect effects are difficult to quantify. If canopy cover is overestimated, LANDFIRE may subsequently map the incorrect fuel model, incorrect CBD, incorrect CBH, etc.; all of which can strongly affect fire modeling outputs in a geospatial fire analysis.” “Because it is used as an independent variable, the importance of an accurate canopy cover layer in the LANDFIRE process should not be underestimated.”

Associated Comments: #197-18b; #197-18a, #12685-7

Changes made to Plan or EIS: None

VEG016 Response: The VDDT models used for our vegetation analysis within the EIS, which did not use LANDFIRE models, were calibrated based on local information and were built using specific parameters for vegetation treatments according to plan objectives by alternative. The primary use of these models was for general contrast among alternatives (producing a comparison of treatment objectives), not to provide steadfast values on which to base future treatments. These kinds of analyses for specific measures to guide management would be conducted at the site level (on a project-level basis) and would use the best available information. See EIS Volume 2, Appendix B for our description of the vegetation analysis process.

See also: Comment responses to VEG015 and VEG014.

VEG017: The Forest should reassess its use of ERUs to classify vegetation types. ERUs do not account for vegetation systems changing over time due to factors such as climatic shifts because of their foundation in underlying soil types (TEUI), and are insufficient for determining seral stage proportions. There is better current science that would provide a stronger basis for ecological analyses such as the natural range of variation (NRV) that should be used instead of ERUs. Further, using Terrestrial Ecosystem Unit Inventory (TEUI) data to determine the location of ERUs is not grounded in our current scientific understanding of the factors that determine the distribution of vegetation types across landscapes. The Forest should be basing vegetation classification on actual vegetation data. The desired conditions for each forest vegetation type are based on ERU classification and this does not provide scientifically-supported targets for the distribution of seral stages within a particular vegetation type. The desired condition of seral stage distributions should be developed using data on what is actually present on the landscape and not what hypothetically occurs at a given location in the absence of human-caused disturbance and climate change.

Associated Comments: #12509-2; #12509-3; #12492-6; #3266-1; #3266-4, #12685-10

Changes made to Plan or EIS: None

VEG017 Response: Ecological response units (ERUs) are a landscape mapping system for organizing planning, analysis, monitoring, and research of some ecological features. Like other landscape mapping, ERUs are constructs of spatial data and of map categories (e.g., Ponderosa Pine Forest). ERUs account for current ecological understanding of the Southwest in their underlying (1) classification concepts and (2) map data, both of which represent best available science, updated periodically with new mapping and references on vegetation, disturbance, and environment.

The ERU concept represents both site potential and disturbance regime (Wahlberg et al. in draft), similar to other landscape mapping (Barrett et al. 2010, Comer et al. 2003). For example, two sites with similar site potential but different disturbance regimes would be classified and mapped as different ERUs. Site potential, or potential natural vegetation, remains a valuable concept for understanding basic land capability (Somodi et al. 2012). Historic potential natural vegetation concepts of climax vegetation (Tuxen 1956) are not reflected in Forest Service desired conditions, and have long been dismissed as management targets in favor of an understanding of the dynamics, diversity (e.g., seral states), and potential services of a given vegetation type as noted in both the 2012 Plan Rule (36 CFR 219.19) and agency directives (FSH 1909.12). Often the the assumed climax community doesn't represent desired conditions (e.g., eastern redcedar (*Juniperus virginiana*) dominating mixed-grass prairie communities). Also, the Southwestern Region's own ecosystem models show multiple succession pathways possible for a given ERU in

addition to classic succession sequences (Weisz et al. 2009, 2010; Weisz and Vandendriesche 2013).

ERUs are not the natural range of variation (NRV), seral state proportions, Vegetative Structural Stage (VSS), vegetation states, or management targets, even though ERUs are sufficiently dynamic and fine-grained to capture the range of vegetation conditions for past (e.g., areas of similar NRV), current, and future conditions. Seral state percentages for the reference condition represent the approximate mid-point of the range of desired conditions described at the landscape scale, and are used primarily to compute overall system departure and are not intended as a target or prescription.

The Forest already uses existing (“actual”) vegetation mapping to assess current vegetation structure, composition, and connectivity. Ecosystem models were used to determine NRV for seral state diversity based on characteristic diameter growth, insect and disease occurrence, and the historic fire regime including human influence (LANDFIRE 2010, TNC 2006). NRV was used to inform desired conditions but is not a management target in and of itself. We find *no* research to support using existing vegetation mapping to determine NRV, let alone dismiss the wealth of research that was applied to characterize NRV. Further, the Forest Service acknowledges that NRV may not be appropriate for describing reference conditions (from which to measure departure and assess integrity) when NRV is unknown, when specific legal or policy requirements for federally listed species may not be consistent with NRV, or when NRV is no longer relevant as in the case of changes in site potential from major disturbance or stressors.

In the Southwestern Region, Terrestrial Ecological Unit Inventory (TEUI) mapping underpins ERU mapping both spatially (map line work) and thematically (technical grouping of TEUI units similar in site potential and disturbance history). TEUI mapping is developed from field plots, field surveys, and photo interpretation (Winthers et al. 2005, USDA Forest Service 1986), reflecting more census than sample, updated with new information, and clearly the best available science for ecological mapping available on Forest Service lands. Nevertheless, other landscape mapping has been considered in the Southwestern Region, including Ecological Systems and LANDFIRE Biophysical Settings (Comer et al. 2003, Barrett et al. 2010), but deferred in favor of a TEUI-derived mapping based on a data quality comparison among available map sources and an independent sample of Forest Inventory and Analysis (FIA) plots.

Objectives & Alternatives

VEG018: The Santa Fe NF received multiple comments of support for increasing the scale of treatments in ponderosa pine (PPF) and dry mixed-conifer (MCD) by combining Plan objectives in alternative 2 (mechanical treatment range) and alternative 3 (fire treatment range) to re-establish ground cover diversity of native species, promote the return of natural fire regimes, reduce tree encroachment in grasslands, and protect water resources.

Associated Comments: #12503-22; #12503-23; #12503-25; #12652-3

Changes made to Plan or EIS: None

VEG018 Response: The Santa Fe NF agrees that increasing the scale of treatments in highly departed forest (particularly in PPF and MCD) from current levels is needed to increase the resiliency of these systems to future disturbance and climatic shifts, and to lessen the risk of uncharacteristically high-severity fire. Further, the uncharacteristically high levels of woody encroachment or ingrowth into grasslands, and in frequent-fire ecosystems in general, on contemporary landscapes is well established in the scientific literature as are the impacts to grassland function, plant and animal diversity, and ecological processes (Archer et al. 2017). The

issue of grassland loss and degradation, by woody encroachment and other factors, and the departure from NRV is a clear issue identified by all national forests of the Southwestern Region and fellow land agencies (Fletcher and Robbie 2004, Schussman and Gori 2004, Yanoff et al. 2008).

The FEIS analysis showed that alternative 2 would provide the most balanced approach to meet the multiple-use requirements for the Forest, while also increasing the scale of treatments beyond the level being implemented under the existing plan. The responsible official retains the ability to add aspects of other alternatives into the final decision; however, the interdisciplinary team has not determined that there is cause to recommend changes to the scale of fire treatments in the proposed action, which calls for 6,000 to 20,000 acres of prescribed fire or managed natural fire on the landscape annually. While the upper end of the range in alternative 2 is much lower than that of alternative 3 (80,000 acres), it does not place a cap on the amount of natural ignitions that can be managed for resource benefit when and where it is safe to do so. The range listed in the proposed action is simply a target we anticipate being able to fall within given the financial and personnel capacity of the Forest available for fire management. The high end of the range (in alternative 2) could be exceeded in any given year having the right conditions and capacity since there is no direction in the Plan that states it cannot.

VEG019: The Santa Fe National Forest has wrongly chosen to support alternative 2 over alternative 3, which relies on more natural processes and will better support return to desired conditions. More components of alternative 3 should be incorporated into the final plan.

Associated Comments: #197-1; #12577-9; #12717-17; #12643-5

Changes made to Plan or EIS: None

VEG019 Response: The comprehensive analysis conducted in the FEIS showed that alternative 2 best supports the multiple use needs of the Forest, including those needs centered on natural processes, and will begin to shift resources toward desired conditions over the lifetime of the Santa Fe NF Plan. The components of alternative 3 relating to natural processes, particularly the levels of managed fire, have received opposition from other entities and could pose potential problems based on funding and capacity, as reaching alternative 3 levels of managed natural fires annually would require greater personnel and resource needs than those required to meet alternative 2. Ultimately, the responsible official holds the final decision on adding components of alternative 3 into the final document.

VEG020: How can we be sure to match the right treatments in the right areas to achieve the desired conditions given stressors like drought and past disturbance events?

Associated Comments: #13498-1; #12748-3

Changes made to Plan or EIS: None

VEG020 Response: This comment is outside the scope of the forest planning process as this deals with the decision-making process at the site level (on a project-level basis) and would use the best available information. Plan guidance allows for flexibility in project design and implementation for matching the right treatments in the right areas to achieve desired conditions.

Treatments

Thinning

VEG021: “Surgically” applied thinning treatments should be limited to the most drastically altered forests or WUI areas and should have specific thinning parameters based on BASI.

Associated Comments: #197-63; #197-64; #197-65; #24-5; #12717-10; #13593-1, #12685-11

Changes made to Plan or EIS: None

VEG021 Response: Direction for when, where, and how thinning treatments are applied would be determined by the best available science (and many other factors or sources) on a site-specific basis at the project scale. This type of detail is outside the scope of the plan, which functions to set parameters (standards and guidelines) for vegetation treatments as well as objectives (acreage ranges for specific, departed forest and woodland types), but does not dictate when and where or exactly how treatments will occur.

VEG022: The Draft Plan contains no plan components that promote strategic application of mechanical tree thinning to support the restoration of fire to frequent fire-adapted ERUs, nor does it address any of the National Strategies recommendations for strategically prioritizing thinning treatments. Prominent fire scientists and managers are increasingly calling for strategically placed treatments on portions of the landscape in order to safely facilitate the use of prescribed and managed wildfire to achieve restoration of frequent fire adapted ecosystem processes, composition, and structure. This approach is further called for in the 2012 Mexican Spotted Owl Recovery Plan. Instead, the Draft Plan promotes a dramatic increase in landscape scale logging with no regard for optimizing the efficacy of those treatments. The forest plan should encourage the use of the best available science and tools to prioritize thinning in such a manner as to support the expanded use of prescribed and wildfire to accomplish restoration and fuels reduction at a fraction of the cost of mechanical thinning.

Associated Comments: #12522-118, 119, 120, 126

Changes made to Plan or EIS: None

VEG022 Response: The Plan supports the use of an adaptive management approach which incorporates a suite of tools useful in restoration and building resiliency to future disturbance, and highlights the use of a combination of mechanical treatments (where needed) and prescribed or managed natural fires to restore proper structure, composition, and processes to the Forest’s frequent-fire ecosystems, which are currently departed from reference conditions. The restoration of these forested ecosystems, making up roughly 50 percent of the land area of Santa Fe NF, would provide a host of benefits to humans, wildlife, and enhance other valued ecosystem services.

The Southwestern Region of the Forest Service is committed to implementing all applicable parts of the most recent Mexican spotted owl Recovery Plan. The revised Forest Plan provides a long-term framework for resource use and management, including species conservation. The details for single species management are not included specifically in this framework but are included as plan components that reference current recovery plans and allows for incorporating the best available science for the species.

Additionally, plan direction is consistent with the guidance in the 2012 Mexican Spotted Owl Recovery Plan and with National Cohesive Wildland Fire Management Strategy by giving a broad and flexible framework under which to conduct more detailed and directed project work according to the unique and often varied needs of a specific location or area on the Forest (see:

Vegetation, Fire, WUI, and Wildlife sections). However, the specifics of strategic application of mechanical treatments are determined at the project-scale and on a case by case basis, based on the concerns and needs for treatment and with future treatments overlapping in space or time in mind. Sources considered best available science (including publications such as the National Cohesive Wildland Fire Management Strategy and the 2012 MSO Recovery Plan) are used during project development, along with local knowledge and expertise, to determine when and where the right treatments should be applied to progress toward desired conditions and protect species of conservation concern.

While the revised plan does increase mechanical and fire treatment objectives, particularly across the dry mixed conifer and ponderosa pine frequent-fire forest types, over the treatment objectives in the current plan, this level of treatment cannot be accurately described as “a dramatic increase in landscape-scale logging.” The Plan does not propose landscape-scale logging, but instead proposes a range of acres for the thinning (or other relevant and applicable treatments) of frequent-fire forests (e.g., MCD, PPF) that are departed from desired conditions. Much of the thinning will likely consist of removing overly dense small-diameter stems, as these conditions are leading to the high departure ratings in MCD and PPF on the national forest and are products of the lack of frequent, predominantly low-severity fire that typically characterizes these forests. Thinning dense, small-diameter trees is often used as a precursory treatment to increase manageability and firefighter safety when implementing prescribed burns within long unburned areas adapted to fire. Further, the objective acres for mechanical treatments are given as a range of acres to adjust treatment amounts based on the capacity of the Forest and evident need for treatment at any given time over the life of the plan. These thinning and fire treatments as well as other effective treatments would be determined at the project scale and based on the best available science, expert guidance, and partner and public input through the NEPA process.

VEG023: Thinning of NFS lands causes damage to wildlife habitat (e.g., damage to MSO critical habitat of dense, late seral forests), conservation areas, Inventoried Roadless Areas, underground cabling networks, and acts as a contributor to wildfires. Overemphasis on thinning leads to decreased habitat diversity; instead forest management should emphasize biodiversity and build proper habitat conditions to support species of conservation concern.

Associated Comments: #12643-1; #12569-1; #12682-2; #197-10; #197-35; #197-55; #19-1; #12484-1

Changes made to Plan or EIS: None

VEG023 Response: The Plan contains objectives for mechanical treatments, including thinning, in highly departed forest and woodland systems on the forest. The Plan also includes objectives for the use of prescribed fire, managed natural fire ignitions (where and when safe to do so), riparian restoration work, invasive species removal, and many other management practices that help to restore ecosystems and reduce departure from reference conditions, increase biodiversity, create structural heterogeneity, enhance connectivity and habitat conditions for wildlife, and provide protections for species of conservation concern (SCC). Surveys and site-specific analyses are conducted for any thinning project that falls in habitat for SCC species to determine potential impacts and to provide for mitigations during project implementation to protect these species and their habitats (see also FW-ATRISK-DC-1-3; FW-ATRISK-G-1, 2).

Inventoried roadless areas (IRAs), like other designated areas (DA-ALLDA-DC-1; DA-ALLDA-G-1, 2), have their own set of desired conditions (DA-IRA-DC-1-3) and guidelines (DA-IRA-G-1, 2) to guide management of these areas that supersedes forest-wide (FW) management given their designated status. Any thinning that may occur within IRAs would be required to maintain

consistency with high scenic integrity (DA-IRA-G-2). The Plan states, “road construction, reconstruction, and timber harvest activities are limited in these areas to sustain their social and ecological roadless characteristics” (page 170). The effects of treatment in IRAs have been analyzed in the FEIS, and if a project was slated to be implemented in or adjacent to an IRA, a site-specific analysis would be conducted before treatment occurred to avoid adverse effects. In addition, all projects within IRAs would comply with the 2001 Roadless Area Conservation Rule (Special Areas; Roadless Area Conservation; Final Rule, 66 Fed. Reg. 3243 (January 12, 2001)), which protects the nine IRA characteristics.²

Project-level thinning activities follow best management practices and are planned based on site-specific information and the use of the best available science. These typical thinning practices do not disturb underground infrastructure, including cabling networks as the commenter mentioned. Additionally, the Plan gives guidance (standards, guidelines, and management approaches) for thinning activities based on the regulations of NFMA (1976; see FW-FORESTRY section). Thinning is an important tool in the toolbox of management approaches for reducing the risk of large, high-severity fire and to aid in the reintroduction of fire (in the form of prescribed or controlled burns) into fire-adapted areas that have had many years without fire.

VEG024: The DEIS does not disclose impacts of road improvements and thinning on low density (<1mi/sq mi) and IRAs or clarify how late-successional (closed canopy) forests within the project area will be maintained and restored to levels comparable to historic or reference conditions.

Associated Comments: #197-55

Changes made to Plan or EIS: None

VEG024 Response: The Plan does not explicitly state how late-successional, closed-canopy conditions will be maintained or restored on the landscape, as that is a project-level or site-specific concern. However, the Plan provides guidance for their maintenance or restoration to levels comparable to reference conditions as is illustrated in desired conditions for all forest and woodland types. Further, there is a forestwide guideline for all vegetation types (FW-VEG-G-4) that states, “Vegetation treatments should be designed to favor structural stages and age classes that are under-represented in desired conditions, and to assure continuous recruitment of old-growth characteristics across the landscape over time.” This guideline offers information on how to shape site-specific project guidance to develop a prescription that can either retain a variety of seral stages within the project footprint or implement management that will help create them over time.

The EIS contains analyses within the Roads section (Vol.1: 3.13.4.2) that focused on ecological impacts of roads, which includes those effects related to maintenance or temporary roads needed for thinning activities (which would be decommissioned after use). The EIS also had an analysis based on potential impacts to IRAs (Vol. 2: 3.18.2.4), finding no anticipated effects since IRAs are managed such that road construction, reconstruction, and timber harvest activities are limited in these areas to sustain their social and ecological roadless characteristics. Additional review processes at regional or national levels are required for projects involving any of these activities in an IRA.

² (1) high quality or undisturbed soil, water, and air; (2) sources of public drinking water; (3) diversity of plant and animal communities; (4) habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land; (5) primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation; (6) reference landscapes; (7) natural-appearing landscapes with high scenic quality; (8) traditional cultural properties and sacred sites, and (9) other locally identified unique characteristics

VEG025: Mechanical thinning treatments (alternative 2 targets) have little efficacy to reduce large fire occurrences in the face of a changing climate. Fire risk reduction should focus on home hardening, creating defensible space, additional road closures or decommissioning to reduce ignitions, and identification or maintenance of community evacuation routes. The most prudent means of community fire protection is to work from the home-out rather than the wildlands-in.

Associated Comments: #197-17; #197-33; #197-35; #197-53; #197-54; #197-69; #197-75; #12525-1; #12680-4; #12526-6; #12717-15; #13262-5, #12685-11

Changes made to Plan or EIS: None

VEG025 Response: The Forest Service does not refute the importance of implementing treatments for protecting homes during fire events or emphasizing the importance of public education about minimizing fire risk in the WUI. However, the Forest Service does not hold jurisdiction for private lands management and responsibility for the reduction of fuels on private property around homes and infrastructure.

Research has supported the ability of fuel-reduction treatments to help protect resources in the WUI (Graham et al. 2004). Modeled fires show the efficacy of thinning (Ager et al. 2010; Evans et al. 2015) and fuel breaks (Bar Massada et al. 2011) in the WUI environment. The Angora Fire of 2007 tested fuel treatments implemented before the wildfire. A detailed analysis showed that these treatments were able to modify fire behavior and protect homes (Safford et al. 2009). Similarly, fuel treatments implemented before the 2011 Wallow Fire were able to reduce fire severity (Waltz et al. 2014). Importantly, fuel treatments in the Wallow Fire area gave firefighters opportunities to protect residences during the fire (Bostwick et al. 2011; Kennedy and Johnson 2014). Furthermore, thinning treatments in ponderosa pine and dry mixed conifer have been shown to lessen fire behavior on the Santa Fe NF. Fire managers observed a wildland fire intersect with a previously thinned (lop and scatter) area resulting in the fire dropping from tree crowns to the ground, even though the thinned area had not yet been treated with prescribed fire to lessen the residual fuels (Cajete Fire Report 2017). Still, it has been shown that treatments including both thinning and surface fuel reduction are the most effective at moderating wildfire behavior (Evans et al. 2011; Huffman et al. 2009; Martinson and Omi 2013). A recent meta-analysis of 56 studies of fuel treatment effectiveness in eight states in the western United States showed general agreement that thin + burn treatments had positive effects in terms of reducing fire severity, tree mortality, and crown scorch (Kalies and Yocom Kent 2016).

See also: response to WUI001.

VEG026: Thinning is encouraged on the Santa Fe NF to prevent future large, damaging fires and improve forest health, as well as to provide forest products like fuelwood to New Mexico residents. The only variable of fire that can be controlled is to reduce or eliminate fuels, which increases firefighters' ability to protect lives and structures.

Associated Comments: #12750-1; #10-2; #12551-3 #12638-7; #459-5; #13436-1-3; #12860-3

Changes made to Plan or EIS: None

VEG026 Response: The Forest agrees with the commenters' perspective that the only arm of the fire triangle (oxygen, ignition source, fuel) that land managers may directly control is the amount of available fuel. Fuel treatments have been tested by wildfire and have been confirmed to reduce severity in many instances (Cochrane et al. 2012; Pollet and Omi 2002; Safford et al. 2012; Stevens-Rumann et al. 2013; Wimberly et al. 2009). Restoring fire regimes in frequent-fire forests (e.g., PPF and MCD), as is one focal point of the Plan, will help reduce risk of future large, severe fire events in these forest types and increase the health and function of ecosystems they

comprise. Fuels reduction treatments also have the added benefit of creating greater availability of dead and down wood to provide needed fuelwood for New Mexico residents.

VEG027: The Forest Service erroneously ties insect and disease outbreaks with increased fire intensity. Research has shown that there is no correlation or that insect outbreaks can decrease fire intensity (Romme et al. 2006, Kauffman et al. 2008, Bond et al. 2009, Black et al. 2013, Six et al. 2014, Hart et al. 2015, Meigs et al. 2016, Talucci and Krawchuck 2019).

Associated Comments: #197-74

Changes made to Plan or EIS: EIS

VEG027 Response: The Santa Fe NF has reviewed the FEIS and the reported correlations between insect outbreaks and subsequent fire potential. The only instance we found of suggesting that insect outbreaks may lead to subsequent fire disturbance is in the following sentence on page 107 of the FEIS (Vol. 1), “After significant bark beetle infestations, forest stands may or may not return to original conditions; dead trees can increase wildfire potential; and the loss of keystone tree species affects associated wildlife or vegetation.” We removed the “dead trees can increase wildfire potential” clause from the statement in the FEIS based on the comment received.

A review of the cited literature provided by the commenter in support of the hypothesis that insect outbreaks do not affect fire severity found merit in their findings, but also generally found a lack of application in relation to plan revision on the Santa Fe NF. Any thinning conducted on the Forest following beetle outbreaks would be determined on a project-level scale and guided by the best available science, which may warrant the use of research in consideration of a decision or the development of monitoring needs following implementation. Further, the plan includes a revised monitoring chapter and will include a forestwide implementation plan to help fill in data gaps needed on the Forest to help land managers determine the efficacy of treatments for moving toward desired conditions.

Citations from papers by Romme et al. (2006) and Hart et al. (2015) were incorporated into the vegetation drivers and stressors section (3.2.4) of Volume 1 of the FEIS and a definition of linked disturbance (Hart et al. 2015) was added to the glossary.

VEG028: Mastication and scattering of slash is preferable to burn piles when practical. The Plan should disclose how much of the burn targets are at the stand level (where impacts to soils can be dispersed and limited) vs. pile burning to consume slash that can cause localized soil damage facilitating the spread of invasive plants and delaying forest succession (especially if livestock grazing also occurs—Beschta et al. 2012). Additionally, risk mitigation guidelines for invasive species management on pile-burn sites should be added.

Associated Comments: #12527-4; #197-34

Changes made to Plan or EIS: None

VEG028 Response: Mastication is a useful tool at smaller scales, such as in WUI areas, but can have negative impacts when used on larger scales. Mastication increases fuel loading on the ground surface, which can lead to longer residence times over broader areas (Kreye et al. 2014), potentially damaging soils. The negative effects of mastication can be avoided by using the pile and burn technique instead, which localizes heat transfer to the soil in smaller areas, minimizing detrimental soil impacts at the site level, especially when piles are burned in the cold season (typical in New Mexico). The best tool, whether it is mastication, pile burning, or another treatment, is decided on a case-by-case basis according to local site conditions, including soil

properties and sensitivity. Additionally, the plan contains components in the FW-INVASIVE section relevant to this concern and those concerns raised in the cited literature (FW-INVASIVES-S-1, 2, 4; FW-RANGE-DC-4, 5; FW-RANGE-MA-6, 7).

Fire and Fuels

FIRE001: The Forest Service should fix inconsistencies found between the following desired conditions that imply two different things about the intensity of wildland fires in the area:

- FW-WUI-DC-2: “Wildland fires in the WUI are low-intensity surface fires. Firefighters are able to safely and efficiently suppress wildfires in the WUI using direct attack.”
- FW-FIRE-DC-5: “Wildland fires in the WUI are predominantly low- to moderate-intensity fires.”
- Commenters suggest deleting FW-FIRE-DC-5 and editing FW-WUI-DC-2 to include low-moderate severity fires as acceptable.

Associated Comments: #12494-42, #12494-44

Changes made to Plan or EIS: Plan

FIRE001 Response: An interdisciplinary team reviewed these suggestions and have edited the plan to retain FW-WUI-DC-2 with edits that include the broader ranging “low to moderate intensity” language of FW-FIRE-DC-5, which was removed due to its redundancy with WUI-DC-2.

FIRE002: The Forest Service should clarify the management areas and designated areas included in FW-FIRE-DC-6 and recommend that it should include designated wilderness, recommended wilderness, IRAs, RNAs, other backcountry areas, and in all fire-adapted forest types at least 0.5 mile from the WUI and safely away from communities in the Santa Fe NF.

Associated Comments: #12494-45, #3266-8

Changes made to Plan or EIS: None

FIRE002 Response: The included examples listed in FIRE-DC-6 are not all encompassing; “designated areas” also include IRAs, RNAs, and other congressionally designated areas. See the Designated Areas section in the plan (chapter 3) for more information on management and categorization of designated areas. Designated areas are mentioned in this desired condition as they can function differently from other areas of the forest, given that their management is guided by laws, policies, and regulations outside of the Forest’s control.

For non-designated areas, there is guidance throughout the plan on how fire will be used. For instance, recommended wilderness is managed to retain the characteristics that contributed to the area’s recommendation for potential future designation, but does not need specific mention in FW-FIRE-DC-6 as management of fire in these areas is covered under FW-FIRE-DC-2 and has its own desired condition: MA-RECWILD-DC-1b. Likewise, specific management areas are not explicitly mentioned in FW-FIRE-DC-6, as management of these special areas falls under a unique set of desired conditions, standards, and guidelines; fire management within these areas would fall under the forestwide direction unless otherwise specified (FW-FIRE-DC-1–5; 7). Please refer to the Management Areas section of the plan for more information.

Additionally, we do not specify exact locations of fire management within the Plan because fire managers need the ability to be flexible in the use of managed fire to be able to meet resource objectives. At times this may mean that fire occurs proximal to WUI areas, and in such instances desired conditions, standards, and guidelines defined in the WUI plan section would apply.

FIRE003: The Santa Fe National Forest should revise the following plan components in the Fire and Fuels section of the draft Plan to read as (*or include*):

1. FW-FIRE-DC-3: “Wildland fires burn within the range of severity and frequency of historic fire regimes for the affected vegetation communities. High-severity fires rarely occur where they were not historically part of the fire regime.” --should include qualifications based on patch size for high-severity occurrences. Commenter suggests clarification to include that large patches of high severity are not desirable, while small patches of high severity are a natural and desirable part of frequent-fire forests.
2. FW-FIRE-DC-7: “Restoration and fuel treatments result in ecological resources that are adaptable to changing climate conditions **and work to restore the forest to its historical characteristics of possessing a healthy tree density and spacing.**” This new wording will help to lower the event(s) of unnatural high-intensity fires and maintain the natural frequency of the forest's historic fire regime (Ryan et al. 2013).
3. FW-FIRE-G-6: “Measures should be taken to prevent entrapment of fish and aquatic organisms and the spread of parasites or disease (e.g., chytrid fungus, didymo (*Didymosphenia geminata*), and whirling disease), when drafting (withdrawing) water from streams or other waterbodies during fire management activities (Preventing Spread of Aquatic Invasive Organisms Common to the Southwestern Region Technical Guidelines for Fire Operations, Interagency Guidance Rev. August 2009).”—should include consultation with the Department's Fisheries Management Division to help preclude adverse impacts to aquatic fauna.
4. FW-FIRE-G-8: Post-fire restoration and recovery should be provided where critical resource concerns merit rehabilitation for controlling the spread of invasive species, protecting areas of cultural concern, protecting critical or endangered species habitat, or protecting other highly valued resources such as drinking water, **especially where recurring and prolonged drought has weakened the natural recovery process.**

Associated Comments: #12738-5, #12698-10, #12528-9, #3266-7, #12528-7, #12528-8, #12698-8, #12698-9, #12738-4, #12665-23

Changes made to Plan or EIS: Plan

FIRE003 Response:

1. FW-FIRE-DC-3 includes all vegetation types (ERUs) found on the Santa Fe NF; some types naturally include more high-severity fire occurrences than others, whether it is described as a proportion of the fire regime or as patch size. We acknowledge that patch size, particularly for high-severity fire, is a consideration, but that the size of patches of high-severity fire natural in historic fire regimes depends on the ERU and is intrinsically included in the desired condition as written. Most ERUs described in the Plan have desired conditions that reference desired patch size for that specific ERU. Additionally, FW-FIRE-G-9 addresses higher fire intensities and associated fire effects at the fine scale (less than 10 acres). This guideline points to high fire intensities as being acceptable at the fine scale in areas that are moderately to highly departed from desired conditions.
2. Restoration and fuels treatments are designed to be within the historic range of variability, which will make the treated or restored areas more resilient to climate change. Desired conditions for different ERUs each refer to density and spacing needs for that particular ERU (e.g., FW-MCW-DC-4). Adding “and work to restore the forest to its historical characteristics of possessing a healthy tree density and spacing” to FW-FIRE-DC-7 would be a redundancy of what is currently implied in FW-FIRE-DC-7. By restoring ecological resources to a state that is adaptable to a changing climate, management will result in healthy forest

- characteristics and a lower departure from historic fire regimes, though we recognize that this is not actualized without some challenges (Ryan et al. 2013). While in some cases these may mirror historical characteristics, due to the pressures of climate change, a resilient forest today may not look exactly like historical base conditions. Therefore, we describe our rationale for desired conditions in the Plan, writing that, “Desired conditions may or may not be the same as historic conditions and may have wide ranges of values due to spatial variability in soils, elevation, aspect, or social values.”
3. Changes were not made to FW-FIRE-G-6. In related plan components, we modified FW-FIRE-MA-1 to read, “Consider collaborating with stakeholders and partnering agencies early and often to successfully meet resource objectives through the use of fire while minimizing adverse impacts. Educate internally and externally the potential benefits, challenges and tradeoffs of wildland fire.” Additionally, it is already customary that Forest Service biologists are consulted on the ground when streams are being (or may become) impacted as this is part of the Wildfire Decision Support System (WFDSS) practices; on larger fires, common firefighting practices include assessing impacts to water sources before drafting from a water source, and decontaminating equipment when moving between water sources.
 4. It is not justifiable to modify FW-FIRE-G-8 to read: “Post-fire restoration and recovery should be provided where critical resource concerns merit rehabilitation for controlling the spread of invasive species, protecting areas of cultural concern, protecting critical or endangered species habitat, or protecting other highly valued resources such as drinking water, especially where recurring and prolonged drought has weakened the natural recovery process,” because when, how, and where post-fire restoration occurs varies according to the context of individual fires. Post-fire restoration and recovery is a process covered under Burned Area Emergency Response (which takes into account such factors as a site’s recovery potential), and is decided at the project level, which is outside of the scope of plan revision.

FIRE004: The Forest Service should revise FW-FIRE-S-1 and FW-FIRE-S-2 because they do not recognize public respiratory health in accordance with the NAAQS during wildland fire events. Further, the Forest Service should clarify that fire suppression is not contingent on economics at the expense of fire responder, public safety, and the public's respiratory health in accordance with the NAAQS—in reference to FW-FIRE-G-1.

Associated Comments: #12349-4, #12349-6

Changes made to Plan or EIS: None

FIRE004 Response: Public and responder safety is the top priority when responding to wildfires. FW-FIRE-S-2 and S-3 highlight this priority, citing protecting life and firefighter exposure, and relate it to cost. However, FW-FIRE-S-1 states “human safety must be the highest priority in all fire response actions,” indicating that safety will not be compromised by costs. FW-FIRE-G-5, FW-WUI-DC-2 also mention risk management and safety, respectively. Although there are no established air quality guidelines to adhere to for wildfire occurrences specifically, “human safety” includes respiratory health. Additionally, fire and fuels practitioners on the Forest are required by policy to follow air quality standards on prescribed burns. When planning a prescribed burn, fire and fuels teams perform pre-burn modeling exercises to determine what areas the smoke will impact and get public notifications and information out to people in those areas. FW-AIR-G-2 also directs managers to consider using techniques that minimize smoke impacts. Prescribed burns conducted on the Forest are in line with the EPA’s NAAQS; and plan component FW-AIR-DC-1 directs that, “air quality meets or surpasses New Mexico and Federal ambient air quality standards,” which are inclusive of NAAQS.

FIRE005: The Santa Fe National Forest should consider the following management approaches in the Fire and Fuels section of the Draft Plan to read as (*or include*):

1. FW-FIRE-MA-1: “Consider collaborating with stakeholders and partnering agencies early and often to successfully meet resource objectives through the use of fire. Educate internally and externally the potential **benefits**, challenges, and tradeoffs of wildland fire.”
2. FW-FIRE-MA-12: “Consider the scenic effects from prescribed fire during project planning and implementation, **but uphold the long-term effects and outcomes of enhancing the ecosystems' health over all other short-term effects**. Such short-term effects may visibly leave blackened and scorched vegetation but will enhance the long-term scenic integrity of the forest.”
3. FW-FIRE-MA-13: *Add language that states that only native grasses be reseeded in areas of Jemez Mountain salamander critical habitat.*
4. FW-FIRE-MA-14: “Consider collaborating with scientists (e.g., from universities, Forest Service Research and Development, U.S. Geological Survey, or Ecological Restoration Institute), **Federal, State, county, local, municipal, tribal governments, and land grants-mercedes** to conduct research on areas impacted by uncharacteristic wildfire to understand how fire has altered the ecological conditions outside the natural range of variation and develop strategies to better manage these areas.”

Associated Comments: #12528-10, #12698-11; #12519-2, #12528-10, #12698-12; #12665-24; #12528-10, #12698-14

Changes made to Plan or EIS: Plan

FIRE005 Response:

1. We made the suggested changes to FW-FIRE-MA-1.
2. FW-FIRE-MA-12 was not changed in plan revision. FW-SCENIC-G3 reads, “Management activities that result in short-term impacts inconsistent with the scenic integrity objectives should achieve the scenic integrity objectives over the long term. Short-term and long-term timeframes should be defined during site specific project Planning.” Language suggested for FW-FIRE-MA-12 is captured there.
3. FW-FIRE-MA-13 was not changed in plan revision. FW-INVASIVE-G1 reads, “Certified, weed-free native seed mixes of local species varieties should be used for revegetation when commercially available. Sterile, nonnative, non-invasive plant material that does not persist long term may be used in limited situations where considered necessary to protect resources and stabilize soils in a timely fashion.” This language covers the suggested changes to FW-FIRE-MA-13.
4. FW-FIRE-MA-14 was modified by adding “and other land management agencies or organizations.”

FIRE006: The Fire and Fuels section of the Draft Plan does not adequately appreciate the value of mixed-severity fires as a driver of heterogeneous ecological structure and composition in a variety of forest and woodland types. The guideline that accepts higher severity fire effects at scales of 10 acres or smaller (FW-FIRE-G-9) is fundamentally contradictory to the guideline to allow naturally ignited fires to burn in their natural ecological role (FW-FIRE-G-1).

The Santa Fe NF should develop additional plan components to encourage the use of mixed severity fire in all forested and woodland ERUs as integral components of a process-based restoration strategy. The occurrence of mixed-severity fire is broadly recognized as within the historical range of variability for

middle to high-elevation forests and woodlands, and there are noteworthy advantages of higher severity burn effects; there is valid scientific support for utilizing it as a restoration tool where appropriate and feasible in a manner that does not put communities, infrastructure, and other key values at risk. The Forest should include plan direction to accept higher severity fire intensities and effects of at least ten times of what is provided for in Guideline FW-FIRE-G-9. Determining the appropriate scale and frequency of fire-induced patch disturbance is an important step toward harnessing the efficacy of fire to achieve restoration objectives. Additional plan components that expand the scale of desired fire severities and patch sizes where values at risk are not threatened will allow the Santa Fe National Forest to use fire in a more dynamic role to achieve restoration of ecological integrity.

Associated Comments: #12522-121, 122, 123, 124a; #197-2

Changes made to Plan or EIS: None

FIRE006 Response: Guidelines are meant to be met with intent in management, they are not hardline rules like the standards written in the plan. Therefore, the guideline, FW-FIRE- G-9 which states, “*Higher fire intensities and associated fire effects at the fine scale (less than 10 acres) should be accepted in areas that are moderately to highly departed from desired conditions. Multiple small areas of high mortality are preferable to a single large, high-severity area,*” is written in a way to direct management with the intent of keeping mixed to higher fire severities (particularly within PPF and MCD—where these places are moderately to highly departed from desired conditions) confined to smaller areas as to not result in large, high-severity patches, which is uncharacteristic of the fire regimes that characterize these forests. With that intent in mind, fire managers would operate suppression or fire management practices accordingly. However, having this intent does not mean that areas larger than 10 acres of high severity will never be acceptable (to be determined based on resource needs or concerns for the area in question), or can always be avoided. For instance, the plan also states, “A small percentage of the landscape may be predisposed to larger even-aged patches, based on physical site conditions that favor mixed-severity and stand-replacement fire, and other disturbances” in FW-MCD-DC-4a and in FW-PPF-DC-3b. Further, FW-FIRE-G-9 may not directly pertain to ERUs that are not moderately to highly departed and have an infrequent fire regime that burns at mixed to high severity and can produce stand-replacing effects (e.g., SFF, MCW), though other guidelines within this plan section are directly applicable to these areas (e.g., FW-FIRE-G-1, 2).

Since the Santa Fe NF is made up of multiple forest, woodland, and grassland systems, FW-FIRE-G-1 gives a guideline for fire management within all systems, regardless of the differences or similarities between their natural fire regimes, with intent to support the natural ecological role of fire and facilitate progress toward desired conditions. As such, the guideline written for FW-FIRE-G-9 does not contradict FW-FIRE-G-1, it refines the intent for areas meeting the moderate to high departure description, which do not typically have the effect of large, high-severity patches as a component of the natural ecological role of fire within that system.

See also: Response to Fire011.

FIRE007: The Draft Plan does not acknowledge the ecological value of early-successional, post-fire habitats typically created by patches of high-severity fire. Meaningfully increasing the use of prescribed and wildland fire for ecological restoration requires recognition of the benefits of mixed fire severities in shrub, woodland and forested ecosystems, to meet restoration objectives, create important ephemeral habitats, support biodiversity, create complex wildlife habitats, and reduce the risk of uncharacteristic reburn potential.

Associated Comments: #12522-124b, 125, #12685-6

Changes made to Plan or EIS: EIS

FIRE007 Response: We recognize the importance of early successional habitats as an important seral stage to be represented on the landscape. A wealth of scientific literature outlines benefits of early successional plant communities that provide unique and sometimes critical habitat components for a variety of species, as well as increase heterogeneity and biodiversity across the landscape. The creation of early seral states following fire is acknowledged and tied to ecological benefits in the introduction of the fire and fuels section of the Plan (Plan pg. 64). Further, the following plan components pertain to early successional habitats or to the return of departed systems to a desired condition in which all stages of seral states are represented: FW-VEG-DC-1, 1a, 1c, 1d, 2, 2a, 2b, 2d, 2e, 3, 3a for all ERUs included in the plan; FW-FIRE-DC-2, 3, and 6; FW-FIRE-G-1, 9; FW-FIRE-MA-1 and FW-FIRE-MA-8 through 10. Lastly, treatment objectives outlined in the plan, particularly the use of prescribed fire or managed naturally ignited fires, as well as naturally occurring disturbances will help to create patches of early successional habitat throughout the life of the plan and beyond.

In part, the Plan focuses on returning the frequent-fire, predominantly low-severity fire regime characteristic of ponderosa pine and dry mixed conifer forests and recognizes the benefits of a range of fire severities within forested systems on the Forest in the desired conditions of ERUs. Based on comments received, some additional acknowledgement pertaining to the benefits of mixed-severity fire has been added to the revised EIS. However, the analysis of mixed-severity fire, particularly the ‘high-severity fire as beneficial’ aspect is not discussed in length within the EIS, because large patches of high-severity fire are not characteristic of historical fire regimes in ponderosa pine and dry mixed conifer which are the ERUs with objectives for treatment listed in the plan. The EIS does recognize that mixed-severity effects are a part of fire regimes in these predominantly low-severity systems, but focuses analyses on how different treatments (based on plan alternatives) may reduce the risk of uncharacteristic fire (large, high-severity patches like those that resulted from the Los Conchas fire) in these systems where it can cause prolonged ecological damage and is one of the greatest threats facing the Forest at this time. Other ERUs where large, high-severity patches are a natural part of the historic fire regime (e.g., wet mixed conifer and spruce-fir) are not discussed at length in the EIS as these ERUs do not have objectives for treatment in the plan.

See also: Response to FIRE006; FIRE011.

FIRE008: Relying solely on the plan components for fire and fuels in the WUI will not be sufficient for the Santa Fe to achieve desired conditions for this vulnerable area, and the Forest is encouraged to include specific plan components for the WUI that will move the area toward desired conditions.

Associated Comments: #12494-43, #12494-47

Changes made to Plan or EIS: None

FIRE008 Response: Standards and guidelines provide the framework under which project work is conducted. Project work is the way the Forest can achieve or work toward desired conditions. We do not specifically identify projects or project sites in the plan, rather these locations and practices are based on on-the-ground conditions and need for management. Plan components in the Vegetation and Fire and Fuels sections help to support and guide projects that move the Forest toward the WUI desired conditions. Plan components around partnership and cross-boundary management will also facilitate working with other entities (e.g., local communities, State

agencies, non-profits, volunteers) in WUI areas, which will lend greater support to WUI-based projects.

FIRE009: The Forest Service needs to adopt more creative approaches to adaptive forest management for fire risk reduction, such as using goats to consume vegetative fuels in advance of a fire as was associated with saving a building from fire in California, increasing public outreach and education, and limit forest access during drought.

Associated Comments: #12745-2, #12249-3, #12601-2, #12574-2

Changes made to Plan or EIS: None

FIRE009 Response: When the Plan is silent on a particular type of management action, then the actions are permissible by forest managers given that the action does not conflict with existing direction written in the plan. Ultimately, detailing specific project design elements (e.g., the use of goats for vegetation management within an area of fire concern) is outside the scope of the forest planning process, and must undergo its own NEPA analysis process. In terms of public outreach and education, numerous management approaches throughout the Plan encourage managers to consider increased outreach and education around resource topics, such as FW-FIRE-MA-16, which asks managers to, “Consider providing educational resources and outreach so that residents living within and adjacent to the forest are knowledgeable about wildfire protection of their homes and property, including providing for defensible space.”

DEIS

FIRE010: The DEIS notes that the Forest will apply the “Interagency Prescribed Fire: Planning and Implementation Procedures Guide,” yet discounts measures within that guide that incorporate risk management into prescribed fire operations. The EIS needs to explain why following this guidance will nonetheless result in increased risk of uncharacteristic fire associated with prescribed burning under alternative 3.

Associated Comments: #12522-78 (b)

Changes made to Plan or EIS: None

FIRE010 Response: We identify a risk of increased uncharacteristic fire in alternative 3 compared with the other alternatives (which incorporate more acres of thinning treatments that can increase the safety and manageability of intentional fire ignitions). And, secondly, the risk comes from a combination of the lack of mechanical pre-treatment and more natural ignitions being allowed to burn for resource benefit (fire acres are larger in alternative 3 than in any other alternative).

FIRE011: The DEIS over-emphasizes low-severity fire and fails to recognize the importance of mixed-severity fire on the landscape and that high-severity fire has ecological benefits and is a natural part of mixed-severity fire regimes within some ERUs found on the Santa Fe NF. Revisions to this document should include benefits of small patches of high-severity fire, the importance of fire-free periods for shrub and tree recruitment, and a greater acknowledgement of mixed-severity fire regimes and their ecological importance for plant and wildlife diversity.

Associated Comments: #197-2, 3, 8, 19, 56; #12030-7; #12577-10; #12717-29, #12685-3, #12685-6

Changes made to Plan or EIS: None

FIRE011 Response: In section 3.2 Vegetation Communities and Fuels, the FEIS addresses small pockets of mixed-severity fire and high-severity fire in creating openings where regeneration can occur. The occurrence of small patches of mixed-severity fire is a natural process and outcome when conducting prescribed burns and when managing fire for resource benefit. Fire will not burn evenly across the landscape and will naturally torch a few trees or small pockets where fuel accumulations are high. However, the objectives outlined in the Plan are focused on reintroducing fire in the low-severity fire regimes—ponderosa pine and dry mixed conifer (PPF, MCD)—and thus, the restoration of low-severity fire effects is most prevalent throughout the document. From localized tree ring studies, we know that fire burned frequently in these areas at low intensity. The mixed-severity fire regimes and high-severity regimes, represented by subalpine fir, Engelmann spruce, and wet mixed conifer on the Santa Fe NF, are not outside of the historic range of variability because they generally have very long fire return intervals and have not missed a fire cycle. Because these systems are not departed, the plan does not have objectives for their treatment and thus, these ERUs have not been analyzed in the same manner as ERUs with treatment objectives (PPF, MCD) in the FEIS. The FEIS provides multiple references to relevant, locally based work and an abundance of empirical data (e.g., papers authored by Baisan, Hurteau, Keyser, Margolis, Swetnam), that shows a long history of low-severity regimes in ponderosa pine and dry mixed conifer forests present in northern New Mexico.

FIRE012: The DEIS lacks sufficient analysis regarding post-wildfire ecological conditions.

Associated Comments: #12494-47

Changes made to Plan or EIS: None

FIRE012 Response: The Forest Service uses on-the-ground response to post-wildfire situations, such as the deployment of Burned Area Emergency Response teams following a fire incident. We do not analyze post-wildfire ecological conditions as part of the planning process, as this is not something we can control or plan ahead for, given the unique combination of factors and outcomes that occur with each fire. Working on wildfire recovery is done at the project level and is unique to each wildfire situation, and is ultimately outside of the scope of plan revision.

FIRE013: The Forest Service should continue to outreach to and engage with homeowners in the WUI to empower them to create defensible space around their homes, which ultimately remain their responsibility to protect.

Associated Comments: #12540-5; #13416-57

Changes made to Plan or EIS: None

FIRE013 Response: The Plan does not address private property, as these areas occur outside of the Forest Service management boundaries. As the Forest Service cannot direct defensible space practices on private lands, collaboration and partnership with State and local agencies is instrumental in protecting and educating private landowners near Forest boundaries of the benefits of creating defensible space to prevent structure loss and increase firefighter safety. The Plan includes a Partnership section and numerous management approaches that highlight the importance of collaboration and partnership (e.g., FW-FIRE-MA-16) and numerous desired conditions concerning WUI areas.

FIRE014: The DEIS must disclose project-related costs of thinning, prescribed fire, and road improvements in comparison to managing fire for ecosystem benefits as a viable alternative (refer to the Cohesive Wildland Fire Management Strategy for wildfire ecosystem benefits and 2012 forest planning

rule regarding ecosystem integrity, vegetation diversity, and wildfire maintenance). Additionally, the DEIS must disclose under what conditions wildfires will be managed for ecosystem benefits vs. suppressed so that when fires do eventually occur, appropriate actions are taken based on pre-fire response planning and the Forest Service is accountable for implementing those actions accordingly.

Associated Comments: #197-62

Changes made to Plan or EIS: None

FIRE014 Response: Cost-benefit analyses, or net present value estimation, are not required when evaluating plan alternatives under the 2012 Planning Rule. This is true for both project-related costs (e.g., thinning, prescribed burns, etc.) and wildfire-related costs. Site-specific project costs are a function of unknown future site-specific plan or project proposals; it is, therefore, not possible to estimate or characterize changes in project-specific costs. The planning rule provides direction that the planning process, plan components, and other plan content should be within the agency's authority and the fiscal capability of the unit (36 CFR § 219.1(g)). Forest budgets (that affect expenditures and salaries) are distributed by an act of Congress and may fluctuate over the life of the management plan, but are not dictated by the management plan or alternatives. Funding for levels for wildland firefighting are part of this budgetary process set by the U.S. Congress under its budgetary process.

A key part of the Forest Vision is to “restore fire resiliency” (Forest Plan, chapter 1), a goal that we will “utilize all available tools and resources—prescribed fire, managing natural fires for resource benefit, and mechanical treatments” to achieve. These tools and resources are all discussed in the FEIS, which also analyzes how different levels of prescribed fire use and management (as represented by the four alternatives) will impact diverse forest ecosystems (see FEIS Volume 1, section 3.2). The Plan (alternative 2) has multiple plan components that direct managers on how to approach wildfire management for human and ecosystem health and safety (see FW-WUI-DC-2; Fire and Fuels standards and guidelines; FW-ATRISK-G-4). Other wildfire and emergency response practices that are outside the scope of the planning process have additional guidance on this subject (e.g., Wildfire Decision Support System).

FIRE015: In the DEIS, fire return intervals are biased. While local sampling is important for estimating fire return intervals at the stand level, there are significant uncertainties with extrapolating fire scar point sampling data over large landscapes often used by researchers to re-construct historic fire regimes for comparisons to contemporary conditions (Baker 2017). To fix this problem, the best estimator of fire intervals at landscape scales is to use the fire rotation interval (Baker 2017). Baker (2017) notes that fire rotations at the landscape scale can be derived from: 1. Areas burned in recent fires from agency fire records or records from remotely sensed data. 2. Historical areas burned reconstructed from scarred trees or plot locations. 3. Historical areas burned reconstructed using a ratio method and scarred-tree or plot records, or comparable data in a table or graph. The Forest Service must provide information on the fire rotations using methodologies in Baker (2017) supplemented wherever possible with the paleo-ecology literature that can be used to reduce sampling bias associated with shorter sampling timelines and lack of high severity detectability from fire scar extrapolations. To correct for sampling bias, the Forest Service must account for variability in fire-free intervals using more robust methodologies, disclose whether there are historic accounts of fires in the DEIS area beyond just fire-scars, and include paleo-ecology studies from comparable sites to illustrate variability in fire regimes over longer time intervals. Significant discrepancies and debate among researchers about fire scar sampling must be disclosed (see Odion et al. 2016 response to Stephens et al. 2016 and Moritz et al. 2018).

Associated Comments: #197-14, 197-23, 197-56, 12685-7

Changes made to Plan or EIS: None

FIRE015 Response: The EIS analysis is supported by a wealth of relevant research and tree ring studies (many of which have been conducted locally), which support knowledge that low-intensity fires burned frequently across the landscape in ponderosa pine and other dry forest types. For example, Moore (2004) wrote about how measurement or reconstruction of past fire regimes and forest structure in southwestern ponderosa pine forests is relatively precise compared to many other temperate systems because of the dry climate, slow decomposition rates, and relatively recent impacts of Anglo-American settlement. Dendroecological methods can be used to determine fire recurrence within recent evolutionary history, centuries to millennia. A thorough comparison of southwestern fire history information shows the following: (1) southwestern ponderosa pine ecosystems have experienced high-frequency, low-intensity surface fires for 300 to 500 years; (2) low-frequency, high-intensity stand-replacement fires were very rare or nonexistent; (3) fire frequency fluctuated (with climate) from 2 to 20 years prior to the late 19th century; and (4) a sudden cessation of frequent fire occurred with Anglo- American settlement (1870 to 1890), due to both heavy grazing by livestock that removed fine fuels (i.e., herbaceous material) and active fire suppression practices.

Fulé et al. (2014) refuted earlier work by Baker that asserted similar conclusions as those identified in the concern. Baker (2017) argues that fire statistics used to calculate fire return intervals are biased and suggests a methodology that comes up with much longer fire return intervals. Baker's work is contradictory to most of the scientific literature and is not relevant to our analysis.

FIRE016: The DEIS should disclose and correct accuracy problems associated with the use of LANDFIRE. Fire regime condition class (FRCC) and LANDFIRE vegetation models and maps are used by the Forest Service in planning assessments. These approaches are useful at large spatial scales (national), but they have well known accuracy problems at the project level that need full disclosure, cross validation with field data, and error correction. To correct for these problems, Helmbrecht and Blankenship (2016) recommend (and the DEIS should as well) include the following: 1) update for landscape changes that have occurred since the LANDFIRE version, 2) calibrate to local data and knowledge, 3) improve the thematic agreement (accuracy), 4) change the spatial or thematic resolution (e.g. lump or split map units), 5) modify the map unit classification, 6) create additional data versions that reflect temporal variability (e.g. peat soils being available for burning in drought situations, or exotic annual grasses being present in wet years but not dry years), 7) facilitate comparative analysis by creating data versions (e.g. analyzing pre- and posttreatment effects or comparing treatment alternatives), 8) analyze future conditions (e.g. modifying data to represent future conditions under a climate change scenario). Vogelmann et al. (2014) suggest (and the DEIS should follow) that the Forest Service conduct a suite of accuracy assessment methods for LANDFIRE, ranging from mostly qualitative assessments (such as the critical inspection of products, consultation with regional experts, and comparisons with existing data sets) to more quantitative analyses (such as cross-validation assessments, traditional accuracy assessments at the superzone level, and select evaluations at local levels).

Associated Comments: #197-16, #12685-7, #12685-8

Changes made to Plan or EIS: None

FIRE016 Response: With relevance to the provided literature by the commenter (Helmbrecht and Blankenship 2016 and Vogelmann et al. 2014), an acknowledgement of the general limitations of models is included in the EIS under the assumptions listed within the vegetation section. LANDFIRE was used during the assessment phase of plan revision to aid in characterizing reference fire regime condition classes (FRCC) of predominant vegetation types. To meet this purpose, LANDFIRE mapping is suitable for assessing overall condition and trends without calibration. Further, the assessment was conducted at a coarse scale (landscape), not at the finer (project) scale as the commenter presents concern for above. Further, LANDFIRE was not considered during the development of desired conditions for the Santa Fe NF Plan.

We used regional models built from ecosystem and map data to inform the classification of vegetation types into ERUs, and to produce information pertinent for the plan revision process. Regional models were developed and used because the region recognized (1) ERU and mid-scale map data are more accurate (than LANDFIRE, ReGAP, etc.), (2) some LANDFIRE models don't provide enough precision for Southwestern Regional needs (e.g., modeling uneven-aged management), and (3) Southwestern Regional resources are tooled and integrated with other regional data sources (e.g., TEUI) and conventions (e.g., vegetation type schemes). See Wahlberg et al. (2014, Draft) for a complete description of the ERU framework. Additionally, a Climate Change Vulnerability Assessment was developed to categorize risk from climate impacts (pertaining to point 8 from Helmbrecht and Blankenship 2016) on the Forest during the plan revision process (Triepe 2015).

Lastly, a given geographic distribution of ERUs was assumed in the current suite of ecosystem models given the focus on restoration and other immediate management concerns of the recent planning cycle. Though site potential patterns are still largely intact, the Forest Service is considering modifications for the next generation of ecosystem models (e.g., LANDIS) to integrate climate forcing, along with predictions of the future geographic distribution of ERUs. The current generation of models facilitate some novel states including the transition of fire-adapted forests into long-term uncharacteristic grass/shrub conditions following high-severity fire (as with many post-fire plant communities of the Cerro Grande and Los Cochas fires). The current ecosystem models are appropriate for *purposes of approximating trends* in key ecological indicators consistent with agency directives for ecological assessment (FSH 1909.12 Ch. 10), and for *contrasting management alternatives* in an effects analysis.

FIRE017: Using LANDFIRE, the DEIS inappropriately assumes that “current fire return intervals are highly departed from reference conditions (86%) as is fire severity,” leading to what the DEIS claims is a departure from NRV (DEIS Volume 1:89). However, based on a study of high-severity patches in dry pine and mixed conifer forests across the West, including New Mexico, large (>400 ha) high-severity fire patches have not been increasing since the 1990s (DellaSala and Hanson 2019). Thus, the DEIS claims about uncharacteristically severe fires, for which mechanical treatments are based upon, cannot be substantiated by empirical data (including from New Mexico) and thus the DEIS does not meet the [best available scientific information] BASI requirements. Importantly, Hutto et al. (2016) recommended that managers maintain ecological integrity of western dry pine and mixed-conifer forests through a more informed approach to the importance of mixed and high-severity fires. DellaSala et al. (2017) recommend that managers include mixed-severity effects in dry pine and mixed conifer forests to achieve ecological integrity and plant diversity. And while much of the DEIS project area can be assumed to be in a xeric pine condition, mixed-severity fire effects, including large and small high-severity patches are indeed characteristic, need to be maintained, and are being grossly underestimated in ecological importance throughout the DEIS. Thus, the DEIS does not meet the BASI requirements of the planning rule as well as the diversity, ecological processes, ecological conditions, and integrity provisions as noted.

Associated Comments: #197-21

Changes made to Plan or EIS: EIS

Fire017 Response: The analysis process for the EIS was done using best available scientific information, as determined by the responsible official (36 CFR 219.3). The science was based predominantly on local studies of northern New Mexico fire ecology and the on-the-ground experience of fire managers working in the region over many decades. In the 2012 Planning Rule, BASI must inform the planning process, plan components, and other plan content, but it does not dictate what the decisions must be nor does it claim to cover all scientific controversy around a subject. “There may be competing scientific perspectives and uncertainty in the available science.

Plan decisions also reflect other relevant factors such as budget, legal authorities, traditional ecological knowledge, agency policies, public input, and the experience of land managers” (FSH 1909.12, zero code, section 07). While one of the citations noted by the commenter are relevant to the EIS (Hutto et al. 2016), others are based on data from outside the region and fail to address the ecosystems present on the Santa Fe NF (DellaSala et al. 2017, DellaSala and Hanson 2019).

In section 3.2 Vegetation Communities and Fuels, the DEIS addresses small pockets of mixed-severity fire and high-severity fire in creating openings where regeneration can occur. This is a natural process when conducting prescribed burns and managing fire for resource benefit. Fire will not burn evenly across the landscape and will naturally torch a few trees or small pockets where fuel accumulations are high. The plan has identified objectives to reintroduce fire in the low-severity fire regimes—ponderosa pine and dry mixed conifer. From localized tree ring studies, we know that fire burned frequently in these areas at low intensity. Our mixed-severity fire regimes and high-severity regimes, represented by our subalpine fir, Engelmann spruce, and wet mixed conifer, are not outside of the historic range of variability because they have very long fire return intervals and have not missed a fire cycle. Therefore, there are no plan objectives for treatment in these systems, and the DEIS analysis focused more heavily on the restoration of the low-severity regimes of the ERUs with plan objectives. Still, in the Plan, desired conditions in the Vegetation sections include low, mixed, and high-severity fire depending on the ERU (e.g., FW-MCD-DC-3, FW-SFF-DC-2b, FW-MCW-DC-2a, FW-MCW-DC-5, FW-MSG-DC-2, FW-CPGB-DC-2).

In regard to the points made in Hutto et al. (2016), we modified the EIS to clarify that mixed-severity fires are a natural part of most of our forested ERUs and that while small patches of high-severity fire are acceptable and have many ecological benefits, the large high-severity patches that are becoming more frequent in systems where this fire behavior is not a natural part of the fire regime (PPF, MCD) are not desirable and warrant treatments to avoid adversely associated impacts. We have local data showing that high-severity patches have increased on the Santa Fe NF within our lower-elevation forests and that these patches of high-severity fire are likely contributing to persistent vegetation type changes (Guiterman et al. 2017, Keyser et al. 2020).

See also: Response to FIRE016 for more about LANDFIRE.

FIRE018: The DEIS needs to clearly state scientific disputes (disagreements) and avoid biased perspectives on fire as generally noted by Iftekhar and Pannell (2015) and Moritz et al. 2018. The following biased perspectives are inherent in the DEIS: 1. Action bias - tendency to take actions even when it is better to delay action (in this case the impacts of aggressive thinning and roads may be more significant than effects of fire on ecosystems given uncertainties of treatment effectiveness as noted). 2. Framing effect - tendency to respond differently to alternatively worded but objectively equivalent descriptions of the same item (use of catastrophic fire terminology in the DEIS that fails to account for ecosystem benefits of mixed-severity fires, including periodic flare-ups of high severity patches). 3. Reference-point bias - tendency to overemphasize a pre-determined benchmark for a variable when estimating the level of that variability (i.e., over-reliance on fire scar sampling in the DEIS rather than presenting more robust and multiple lines of evidence). 4. Satisficing rule - tendency to stop searching for a better decision (i.e., a NEPA based range of alternatives) once a decision that seems sufficiently good is identified. 5. Loss aversion - tendency to value losses more highly than similar gains (i.e., managing wildfire of moderate-high intensity for ecosystem benefits instead of avoiding it by mechanical thinning and fire suppression as in the DEIS). 6. Limited reliance on systematic learning - tendency to use information from past successful efforts rather than using information from both successful and failed efforts via extensive and well-funded ecosystem monitoring (adaptive management and learning is not possible without well-funded monitoring). The best way to avoid these biases is to use multiple lines of

evidence in re-constructing fire regimes, not rely mainly on fire scars, and conduct well-funded monitoring studies that fully assess project effects on species of conservation concern and ecological and cultural values.

Associated Comments: #197-23 See Also: #13416-55; #197-14

Changes made to Plan or EIS: None

FIRE018 Response: In the 2012 Planning Rule, best available scientific information must inform the planning process, plan components, and other plan content, but it does not dictate what the decisions must be nor does it claim to cover all scientific controversy around a subject. “There may be competing scientific perspectives and uncertainty in the available science. Plan decisions also reflect other relevant factors such as budget, legal authorities, traditional ecological knowledge, agency policies, public input, and the experience of land managers” (FSH 1909.12, zero code, section 07).

In terms of biases within the process and analyses, there is some bias inherent in all processes. However, we have taken steps throughout the forest plan revision process to limit the biases in our analysis through using the best available scientific information and holding over 300 public meetings to ensure that multiple perspectives were taken into account as we developed the Plan and its language. We also consulted with experts from cooperating agencies representing state, tribal, and local governments and governmental agencies. Furthermore, Iftexhar and Pannell’s (2015) argument is based on the idea of increasing and improving the use of adaptive management. This is a principle that is already utilized in the Forest Service. The 2012 Planning Rule provides an adaptive management framework of assessment, revision or amendment, and monitoring that provides a scientifically supported process for decision-making in the face of uncertainty and particularly under changing conditions. With this new framework in place, monitoring was identified during the Santa Fe NF plan revision process as a key need for change from the 1987 Plan. This is noted in section 1.3.5 of the FEIS (Volume 1):

“Monitoring is a critical element of adaptive management, and the plan monitoring program needs to be focused to be effective. Monitoring questions that are relevant to plan components including desired conditions, standards, guidelines, suitability and other strategic goals of the draft forest plan are needed. In addition, monitoring at appropriate scales is needed, including monitoring beyond the Santa Fe NF boundary to compare resources in the forest with their status on a larger context scale or even between neighboring forests.”

The Plan incorporates adaptive management components to better respond to changing environmental conditions and contains a monitoring strategy (chapter 5). Monitoring and evaluation requirements allow us to track management actions to ensure that they are appropriately moving resources toward desired conditions and indicate if future actions, or the forest plan, need modification.

FIRE019: Fuel reduction has been overpromised to be effective, using questionable logic and unvalidated models. First, fire intensity in most forest types is much more strongly affected by wind than by fuel. High fire-line intensity, the primary fire characteristic that promotes crown fires, is the product of the energy released by burning fuel and the rate of spread of fire (Alexander 1982). Energy release by fuel varies over perhaps a 10-fold range; however, whereas rate of spread can vary over more than a 100-fold range, a high rate of spread caused by strong winds can easily overcome the limited reductions in fuel that are feasible (Baker 2009). Second, common fire models used to show that forests would be fire-safe after fuel reductions have an underprediction bias and are not validated. These flawed models include NEXUS, FlamMap, FARSITE, FFE17 FVS, FMAPPlus, and BehavePlus (Cruz and Alexander 2010; Alexander and

Cruz, 2013; Cruz et al. 2014). The underprediction bias means that these models often predict that fuel reductions would reduce or eliminate the potential for crown fires in forests, when in fact fuel reductions do not achieve this effect. Further, studies of tree mortality in thinned areas following fire do not typically take into account the mortality caused by the logging itself before the fire, leading to further biased results. As further noted by DellaSala et al. (2015), “these concerns should raise red flags about the effectiveness of fuel treatments, as well as issues regarding liability and responsibility.”

Associated Comments: #197-17; #197-16; #197-75

Changes made to Plan or EIS: None

FIRE019 Response: The validity of inferences from studies suggesting that high-severity fire was relatively common in historical post-fire landscapes in dry forest types has been contested by numerous research studies, such as Spies et al. (2010), Fulé et al. (2014), Safford et al. (2015), Stevens et al. (2016), and Hagmann et al. (2018), though it is recognized that weather patterns also influence contemporary fire behavior. To explain the more recent occurrences of high-severity fires in dry forests, Moore (2004) found that southwestern ponderosa pine and lower elevation mixed-conifer forests have experienced tremendous increases in tree densities and fuel accumulations over the past century, and most now support fuel conditions that favor high-intensity crown fires. In these altered structures, fire no longer functions as it did in pre-settlement forests.

The plan has objectives for treatments in dry conifer forests by using mechanical treatments and fire to restore fire regimes and move these forests toward desired conditions. The parameters for restoration are based upon a comparison of reference conditions before European settlement and contemporary conditions (USDA Forest Service 2016). These reference conditions are based upon extensive local dendrochronology studies and other scientific sources, not on predictive models. In NFS lands management, models are used to provide a relative comparison of fire behavior between different options for fuels treatments and to examine probable differences from areas that remain untreated. While there are inherent biases in all models, they can show how changes in single variables (e.g., reduction of fuel loading) will change fire behavior, while all other variables are held the same. We acknowledge that models have limitations and may underpredict certain variables (Cruz and Alexander 2010 and Alexander and Cruz 2013). However, the stated concerns about an underprediction bias in the fire models used to show forests would be fire-safe after fuel reductions is not a valid argument against using fuel reduction as a tool within the restoration toolbox. On the Santa Fe NF, we have experienced positive interactions between fuels reduction treatments and fire, such as noticeable reductions in fire behavior when areas with prior fuels treatments were intersected during wildland fire events.

FIRE020: There are incorrect reference conditions tied to the Forest Service research publication GTR-310 extrapolated from a completely different region (Flagstaff, Arizona), accuracy problems inherent with the LANDFIRE program at the Santa Fe NF scale, uncertainties with fire return interval estimates using fire scar sampling, and arbitrary determinations regarding closed canopy forest conditions that has led to an over emphasis on mechanical treatments to achieve desired open forest canopy conditions at the expense of plant and wildlife diversity.

Associated Comments: 197-1, 197-8, 197-15, 197-18ab, 12717-8, 12685-7, #12685-8

Changes made to Plan or EIS: None

FIRE020 Response: Reference conditions used to inform the development of desired conditions written in the Santa Fe NF Plan were derived from research on several southwestern national forests including the Santa Fe NF (e.g., Rodman et al. 2017). GTR-310 is also referenced within the Plan and FEIS and is considered to be relevant science for on-the-ground management in

frequent-fire forests. It is a synthesis of science on forest ecology and management, reference conditions, and lessons learned during implementation of restoration treatments. Further, GTR-310 presents evidence derived from the Jemez Mountains on the Santa Fe NF.

The canopy cover break for closed forest condition is based on the Forest Service existing vegetation technical guide (Brohman and Bryant 2005). Modifying the canopy cover break for closed forest condition +/-10 percent, results in the same departure rating (either low, moderate, or high) in a majority of departure analyses.

Pertaining to fire return intervals and fire scar sampling, the Santa Fe NF uses the best available science as a tool to understand historical forest structure and composition, while acknowledging variability of fire return intervals throughout various vegetation communities (ERUs) in the Forest. Forest managers also understand the need for site-specific information in guiding land management practices. To this point, Moritz et al. (2018) elucidate that there is a consensus amongst the scientific community to use multiple methods to reconstruct historical fire regimes.

In New Mexico and Arizona, there has been extensive research on fire return intervals using methods such as fire scar chronology. Throughout the Southwest, fire scar chronologies from 1700 to 1900 consistently point to a mean fire return interval between 7 to 10 years within frequent-fire forest types (Swetnam 1990). Specific to the Santa Fe NF, fire scar chronologies taken in Frijoles Canyon were found to have a mean fire return interval of 7.3 years (Swetnam 1990). There is evidence that this trend continued into the early 20th century until increasing fire exclusion disrupted the cycle. Similarly, fire scar chronologies in wet mixed conifer and spruce fir forest types in the Rio Grande Basin (Sangre de Cristos, Jemez, and San Juan Mountains) have accurately predicted stand-replacement events. Using evidence from conifer tree rings and aspen age structure, coupled with the observed successional pattern of conifer-aspen-conifer, stand-replacing fires were accurately dated throughout the study area (Margolis et al. 2007).

See also: Response to FIRE016 for more about LANDFIRE.

WILD164: If there are parts of the forest where suppression (no fire) is a desired condition, especially where that is not the historic ecological condition, the effects of limiting or eliminating fire should be disclosed in the EIS.

Associated Comments: #12522-76

Changes made to Plan or EIS: None

WILD164 Response: There are no parts of the forest where fire suppression is a desired condition, rather it is a situational tool that is decided on a case-by-case basis. Part of our Forest Vision is to restore a natural fire regime to the ecosystem. This means we do not suppress naturally caused fires except in cases where we need to protect life, investments, or valuable resources (e.g., wildland-urban interface).

Intent

FIRE021: The Santa Fe National Forest has erroneously used the words “catastrophic” and “uncharacteristic” to describe high-severity wildland fire throughout the Plan and DEIS documents. This wording should be corrected to more accurately depict the ecological role of high-severity fire and its natural patterns on the landscape.

Associated Comments: #13416-55, #13416-56, #197-23, #12522-91

Changes to Plan or EIS: Plan and EIS

FIRE021 Response: High-severity fire has historically been a part of the Santa Fe National Forest occurring primarily in spruce-fir (SFF) and mixed conifer with aspen (MCW) vegetation types (Margolis et al. 2011). The use of “catastrophic” and “uncharacteristic” fire within the Plan and FEIS refer to high-severity fire occurrences (e.g., the Las Conchas fire) within historically low-severity, frequent-fire types (PPF, MCD) that are departed from the historical range of variability and are episodically experiencing fires larger and more severe than what is characteristic of historical range of variability. These terms are not inclusive of high-severity fire that is a part of fire regimes for vegetation types where stand replacement is within the historical range of variability (SFF, MCW) or inclusive of small, localized patches of mixed-severity that occurs in the dry frequent-fire forests where fuel and weather conditions create those effects. To ensure this is clear, we made sure these two terms are used accurately throughout the final Plan and FEIS, and added definitions to the glossary in both documents.

FIRE022: The current Draft Plan and DEIS don’t describe actions that align with the stated purpose of “managing the Forest for ecological integrity and sustainability,” exemplified by the image depicted on the cover of DEIS volume one that shows lack of diversity, fire in a sparse area, and implies like actions for future management of the Santa Fe NF.

Associated Comments: #12526-1, #12526-3

Changes made to Plan or EIS: None

FIRE022 Response: The Forest Service uses the best available scientific information and input from local experts to base all analyses for management. These relevant and often locally based sources of empirical evidence show that progress toward the desired conditions outlined in the Plan are best served using a combination of mechanical thinning and prescribed fire within the ERUs that have stated management objectives. Historical knowledge indicates that ponderosa pine ecosystems were naturally open stands with diverse ground cover, which is supported by the return of fire to the landscape, as depicted in the picture on the cover of the FEIS volume 1. Periodic maintenance using prescribed fires is essential to keeping frequent-fire systems within the historical range of variability and preserving past efforts to bring these areas back into frequent-fire systems. This aligns with our stated purpose of “managing the Forest for ecological integrity and sustainability,” as areas that are restored to their natural state are more resilient to unpredicted and anticipated changes over the long term.

Objectives & Alternatives

FIRE023: The Fire and Fuels section of the Draft Plan is missing objectives for quantitative targets for acres of fires managed to move toward desired conditions, and needs a Management Approach that considers producing an annual report of fire events and progress toward meeting objectives.

Associated Comments: #12665-22

Changes made to Plan or EIS: None

FIRE023 Response: In the Fire and Fuels section of the Plan, objectives are quantified as such: “Reduce the potential for active crown fire and restore frequent-fire by improving mixed-conifer forests that are outside or trending away from their natural range of variability by annually treating 6,000 to 28,000 acres on average through the use of wildland fire (natural and prescribed), mechanical (e.g., thinning or timber harvest), planting, or other methods that would accomplish this objective and move toward desired conditions.” In addition to these objectives, the Monitoring section of the Plan outlines how we will measure progress toward desired conditions over time. A monitoring implementation plan will be developed after the final Plan is approved and the resulting biannual Monitoring Report will be publicly available.

FIRE024: Objectives for fire treatments in Ponderosa Pine (PPF) and Mixed Conifer Frequent Fire (MCD) are not high enough to achieve the desired condition goals outlined in the draft Forest Plan. These targets should be increased.

Associated Comments: #3266-9, #12665-22

Changes made to Plan or EIS: None

FIRE024 Response: The plan calls for treatment in 60,000 to 280,000 acres of MCD and 165,000 to 350,000 acres of PPF (Appendix D) by a combination of mechanical treatment, prescribed fire, and natural ignitions, to move toward desired conditions over a 10-year period. The high end of acres treated (630,000 acres) is close to half of total acreage of the Santa Fe NF—a sufficient top-end target for progress toward desired conditions. These desired conditions have been written to contain enough specificity so that progress toward their achievement may be determined and objectives have been set as ranges that are within the realm of attainment given personnel, funding, and time limitations. In some cases, desired conditions may already be achieved, while in other cases, they may only be achievable over hundreds of years (final Plan, Chapter 1, ‘Forest Plan Components’ section).

FIRE025: The Draft Plan fails to adequately address forest fire resilience under the clear threats and uncertainties of global warming.

Associated Comments: #12643-4, #197-56

Changes made to Plan or EIS: None

FIRE025 Response: There may be risk and uncertainty surrounding the long-term effects of climate change on future fire behavior as noted by research (e.g., Parks et al. 2016, Margolis et al. 2011, and Margolis et al. 2017), which portray variable evidence on how fire severity is affected by environmental conditions. Thus, in the FEIS we cited research on fire history and dendrochronological studies that provide ample evidence of past relationships between fire and climate. This evidence makes a strong case that a changing climate will profoundly affect the frequency and severity of fires and change vegetation structure and composition in response to more severe or prolonged droughts (Westerling et al. 2006, Bowman et al. 2009, Flannigan et al. 2009).

Though there is not a single guiding principle for management to consider in relation to climate change, there are many approaches that can be taken to address climate change. All alternatives analyzed in the FEIS incorporated climate change into the resource analyses as a driver or stressor; and climate change is addressed throughout the Plan: indirectly through desired conditions in the form of functional ecosystems and resilient landscapes, and directly in management approaches, where appropriate. For example, the vegetation management practices outlined under all alternatives are capable of reducing drought stress and the risk of uncharacteristic fire, both of which are consequences of changing temperature and precipitation regimes combined with uncharacteristically dense and fuel-laden frequent-fire forests (e.g., PPF and MCD). Additionally, in the Fire and Fuels section under management approaches, suggestions to address climate change include:

FW-FIRE-MA-11: In areas highly vulnerable to climate change, consider increasing resiliency by using a diversity of treatments to *facilitate natural adaptation* to changing conditions such as, managing in favor of early- to mid-seral species over late-seral species in ecotones, as species characteristic of lower life zones are adapted for warmer

and drier conditions. Consider managing tree basal area at the low end of the range of desired conditions to mitigate water stress.

FW-FIRE-MA-8: When managing planned ignitions, consider creating conditions that enable future unplanned ignitions to mimic their historical role or to serve as a tool to achieve resource objectives and to move ecosystems closer to desired conditions.

Treatments

Prescribed Fire

FIRE026: Prescribed fire treatments should warrant writing an environmental impact statement.

Associated Comments: #12433-11; #12602-2

Changes made to Plan or EIS: None

FIRE026 Response: At the project level, an environmental impact statement (EIS) is required only when there are significant effects to resources. From FSH 1909.15 Ch.10 Section 11.6 (which explains policies that direct the agency on the appropriate level of NEPA analysis): “The significance of environmental effects of a proposed action determines whether an EIS (zero code, sec. 05) must be prepared. If the proposed action falls within one of the classes of actions in section 21.2 that normally require preparation of an EIS, or if preliminary analysis indicates that there may be significant effects on the environment, publish a notice of intent to prepare an EIS in the Federal Register.”

Prescribed fire is not within the classes of actions described in section 21.2 (FSH 1909.15 Ch 20, sect. 21.2) that require an EIS. Further, most projects that include using prescribed fires as a management action are designed so that the projects (and their use of fire) do not have significant effects, the absence of which is determined through the process of conducting an environmental analysis (EA; Ch. 40) or by the management action meeting the criteria for a categorical exclusion (CE) (FSH 1909.15 Ch. 30 Sec. 32). Ultimately, specific prescribed fire treatments are a project-level concern outside the scope of the forest planning process.

FIRE027: The use of neurotoxins to light fires causes long-term health consequences to the workers and surrounding communities. Please disclose the impacts to public health of volatilized fire accelerants, such as potassium permanganate and diesel oil.

Associated Comments: #12511-2; #12634-3; #13262-7; #13593-2; #12030-10; #12288-5

Changes made to Plan or EIS: None

FIRE027 Response: Findings from the Labat-Anderson Incorporated risk assessment titled “Residues of Fire Accelerant Chemicals” are that, “On a per-unit basis when using a variety of accelerants to ignite prescribed burns, no risks were identified for human health, nor for general wildlife species. However, consideration should be given at the planning stage to protecting sensitive aquatic species in small watersheds that have limited potential for diluting residue chemicals that may run off or erode to surface water.”

Fire028: The use of prescribed fire is heavy-handed currently on the Forest and its use should be stopped or lessened by coordinating with other forests. Prescribed fire has a negative impact on human respiratory health; particularly for those with existing conditions. A genuine risk assessment of these fires has not yet been done.

Associated Comments: #12717-9, 18; #12680-3; #12574-3; 12526-7; 12519; 12512-1; #85-2; #12028-8; #12136-1; #12680-4

Changes made to Plan or EIS: None

FIRE028 Response: Based upon the current science available, prescribed fire is one of the best management tools we have available to return fire-adapted ecosystems closer to the historical range of variability. FW-FIRE-MA-1, MA-2, and MA-3 address collaboration and coordination by asking managers to consider collaborating with partners to meet resource objectives through the use of fire, coordinating across jurisdictional boundaries to manage fires, and using collaboration during project planning. FW-AIR-G-2 directs managers to consider techniques that minimize smoke impacts. In addition to this, the Santa Fe NF regularly coordinates with the Carson NF and Cibola NF when planning prescribed burns, and registers burns with the New Mexico Department of Air Quality. We release public notices specifying the dates when prescribed burns are occurring and notify smoke-sensitive individuals. These are project-level activities, however, and are beyond the scope of the forest planning process.

FIRE029: The Santa Fe NF should continue to implement thinning and prescribed fire treatments to reduce fire hazards and to encourage growth of grasses, forbs, young shrubs, and trees that provide critical forage and cover for elk and other species (Swanson et al. 2011). While these treatments should continue, the Forest Service should be cognizant about when and where the treatments are applied (e.g., for human health, forest resource protection).

Associated Comments: #12497-4; #9-4; #12349-12; #12510-28; #12503-4; #12540-6; #12651-3; #13281-2; #12744-4

Changes made to Plan or EIS: None

FIRE029 Response: It is the intention of the Santa Fe NF to continue implementing thinning projects and prescribed fire to treat the landscape for a variety of reasons, including the restoration of fire regimes, structure, composition, and function particularly to frequent-fire forests such as ponderosa pine and dry mixed conifer, which are currently in high departure from the historical range of variability. The Fire and Fuels guidelines in chapter 2 of the Plan encourage naturally occurring fires to burn within their natural ecological role to “meet multiple resource objectives and facilitate progress toward desired conditions” and “should only be suppressed when outside the natural range of variability or where necessary to protect life.” Furthermore, it points to treatments such as prescribed fire, natural wildfire, and mechanical treatments to move vegetation toward desired conditions. These desired conditions support healthy wildlife habitat and biological diversity (a recognized use of prescribed fire, as noted in Swanson et al. 2011).

Fuels and prescribed fire treatments typically take place within frequent-fire systems that for various reasons have departed from sustainable conditions. These treatments may also occur to reduce hazardous fuels around threatened communities or ecosystems. Timing of treatments depends on many variables including weather, resource specialist clearance, and seasonal wildlife restrictions, and is a project-level decision. The Plan also encourages collaboration and coordination with resource specialists to address potential impacts and develop a practical plan and timeline for future management.

Wildland-Urban Interface (WUI)

WUI001: The Forest Service should continue to outreach to and engage with homeowners in the WUI to empower them to create defensible space around their homes, which ultimately remain their responsibility to protect.

Associated Comments: #12540-5; #13416-57, #12030-9

Changes made to Plan or EIS: None

WUI001 Response: The plan does not specifically address private property, as these areas occur outside of the Forest Service management boundaries. As the Forest Service is not authorized to direct defensible space practices on private lands, collaboration and partnership with State and local agencies is instrumental in protecting and educating private landowners near the national forest boundaries of the benefits of creating defensible space to prevent structure loss and to increase firefighter safety. The plan includes management approaches that highlight the importance of collaboration and partnership (e.g., FW-FIRE-MA-16) and numerous desired conditions concerning WUI areas.

WUI002: The Santa Fe NF should provide more tangible operational guidance for WUI area delineation, including a map or maps within the Plan and/or EIS, and should quantify the proportion of area within each ERU where ecological resource conditions could be superseded by fuel reductions or other resource concerns that are more important to a specific WUI area. The Forest should also include an overall quantification of WUI areas to provide baseline data to measure future change and effective habitat loss on the Forest.

Associated Comments: #12665-21; #12494-41; #197-72

Changes made to Plan or EIS: Plan

WUI002 Response: Given that the distribution of WUI across the Forest may have frequent changes, it is impractical to map these areas specifically, particularly in the context of forest plan revision. Upon review of this comment, a review team decided the best course of action was to remove the “0.5 mile” qualifier from the WUI definition given in the Plan (pg 62) and instead use GTR 299 for the WUI definition, which is now cited in the Plan glossary (Stein et al. 2013). This change will provide for greater project-level flexibility to determine WUI treatments based on the individual project needs instead of being constrained within a set distance parameter. Additionally, there are multiple indicators described in chapter 5 of the Plan under the Terrestrial Habitat, Aquatic Habitat, and Habitat Connectivity sections that monitor habitat on the forest; and plan components in the Wildlife, Fish, and Plants section of the Plan provide direction managing for wildlife habitat.

Water, Riparian, and Soil Resources Comment Response

WILD189: FW-SOIL-G-2 is too vague. It does not offer meaningful and implementable management direction.

Associated Comments: #12522-64

Changes made to Plan or EIS: None

WILD189 Response: For more information on coarse woody debris, see the vegetation section, in which each ERU has specific desired conditions for coarse woody debris.

WILD183: FW-RWE-G-4 should be a standard.

Associated Comments: #12522-50

Changes made to Plan or EIS: None

WILD183 Response: As stated in chapter 1 of the Plan, guidelines are required technical design features or constraints on project and activity decision making that help make progress toward desired conditions. Ultimately, the intent of any guideline is to ensure that during project implementation progress is made toward desired conditions. The guideline in question achieves that intent. We default to guidelines in our direction to allow for adaptive on-the-ground management. We use standards only if there is a specific reason that word-for-word must-do direction is needed.

WILD184: FW-RWE-G-7 should be a standard that provides certainty that management actions will prevent livestock grazing in critical, other suitable, and potential recovery habitat. Developing such a standard is consistent with management activities (2) recommended in the critical habitat rule (81 Fed. Reg. 14294): [R]estoring, enhancing, and managing additional habitat through fencing of riparian areas, especially the Santa Fe, Lincoln, and Apache-Sitgreaves National Forests (this will facilitate restoration of the required vegetative components and support the expansion of populations of the jumping mouse into areas that were historically occupied by the species, but where natural expansion is currently unlikely because no suitable habitat remains).

Associated Comments: #12522-51

Changes made to Plan or EIS: None

WILD184 Response: As stated in chapter 1 of the Plan, guidelines are required technical design features or constraints on project and activity decision making that help make progress toward desired conditions. Ultimately, the intent of any guideline is to ensure that during project implementation progress is made toward desired conditions. This guideline achieves that intent. We default to guidelines in our direction to allow for adaptive on-the-ground management. We use standards only if there is a specific reason that word-for-word must-do direction is needed.

See also: Response to RNG073 for more on grazing in riparian areas.

WILD185: FW-RWE-G-8 is written more like an objective than a guideline. It is also overly broad and fails to offer meaningful management direction. It's also confusing because it doesn't make the connection between the constraint or direction and predation and nest parasitism.

Associated Comments: #12522-52

Changes made to Plan or EIS: None

WILD185 Response: Plan components do not directly address specific species; they collectively improve aquatic and riparian habitats for all species. Species-specific restoration work occurs at the project level and is detailed in project design. The Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides. Although this guideline does not provide specific restrictions, it does require that project-specific actions be able to show how they will move toward desired conditions. Therefore, specificity will be achieved as part of project-specific mitigations and design criteria, allowing for flexibility and adaptive management while protecting riparian resources.

WILD286: Rather than FW-RWE-G-9, the final Plan should have a standard that prohibits fuelwood gathering in RMZs.

Associated Comments: #12522-53

Changes made to Plan or EIS: None

WILD286 Response: As stated in chapter 1 of the Plan, guidelines are required technical design features or constraints on project and activity decision making that help make progress toward desired conditions. Ultimately, the intent of any guideline is to ensure that during project implementation progress is made toward desired conditions. This guideline achieves that intent. We default to guidelines in our direction to allow for adaptive on-the-ground management. We use standards only if there is a specific reason that word-for-word must-do direction is needed.

WILD179: FW-WATER-DC-2 is in conflict with the recovery requirement, given its support of multiple uses; it is unrealistic to assert that ecological conditions will not decline with the continued recreation and livestock grazing, which are stressors to riparian and aquatic habitat.

Associated Comments: #12522-39

Changes made to Plan or EIS: None

WILD179 Response: The Forest Service is a multiple-use agency. Under the National Forest Management Act and the Multiple-Use Sustained Yield Act, the Forest is required to balance the use of forest resources. Plan components in the Riparian and Wetland Ecosystems section and the Aquatic Species and Habitats section also support healthy watersheds, as do vegetation treatments outlined in the Vegetation section.

WRS001: Management approach (FW-WATER-MA) 2 should be a requirement in the final Plan, not a consideration.

Associated Comments: #24-1

Changes made to Plan or EIS: None

WRS001 Response: We address working with the New Mexico Environment Department as a management approach; the New Mexico Environment Department monitors water quality across the state. We attempt to control non-point source pollution through the implementation of best management practices; this is the way we meet the requirements of the Clean Water Act. In addition, plan components guide Forest activities to maintain or improve water quality by controlling sources of pollution (e.g., erosion; FW-WATER-DC-4, FW-WATER-DC-3).

WRS002/003: Commenters expressed a desire for more protections for water quality. They are concerned that improving culverts and surfacing primitive dirt roads with poor drainage may not be enough to improve water quality, and some commenters suggested the Forest conduct a minimum road density analysis to mitigate project-related effects to water quality.

Associated Comments: #197-26, #197-27

Changes made to Plan or EIS: None

WRS002/003 Response: The Plan does not analyze what specific roads will be maintained or decommissioned. Road density was considered within the Travel Analysis Report as part of the Travel Management process, Subpart A. We also use other analyses to assess road density impacts, such as the Watershed Condition Framework (FW-WATER-DC-1). Motorized route

density was analyzed as an indicator for water resources in the EIS (FEIS, Watersheds and Water Resources, section 3.4.4.1.2.2). Additionally, the Roads section of the Plan outlines conditions for when roads will be decommissioned (FW-ROADS-G1 to G10) and directs the use of best management practices for road construction and maintenance (FW-ROADS-G-1).

See also: RD034 for more on motorized route density.

WRS004/010/018/019/047/WILD040: The final plan should include ephemeral and intermittent streams as part of watershed restoration efforts, and ensure these resources are protected. The final plan should limit any substantial management actions to maintaining the function, structure, and connectivity within riparian management zones.

Associated Comments: #459-7, #10185-4, #12319-2, #12752-15b, #4095-1, #4174-1

Changes made to Plan or EIS: Plan

WRS004/010/018/019/047/WILD040 Response: Ephemeral and intermittent streams are included in the definition of riparian management zones, so they are protected from management activities (FW-RWE-G-1). The definition has been clarified and added to the glossary definition for riparian management zones.

Beyond this definition, intermittent and ephemeral streams are restored through riparian ecosystem restoration and improvement, and through road decommissioning and maintenance that diminishes upland sediment sources. The Plan provides components that guide these restoration efforts in the Riparian and Wetland Ecosystems section and the Roads section.

WRS005: The final Plan needs to include information on water rights, and who is in charge of managing water rights on NFS lands. Specifically, the final plan should include information on existing water rights where licenses have been issued and order by the State of New Mexico Office of the State Engineer. And that the State Engineer is the administrator of the waters in the State of New Mexico, even on NFS lands.

Associated Comments: #498-10

Changes made to Plan or EIS: None

WRS005 Response: The State is going through adjudication on a watershed-by-watershed basis. The Forest Service holds both reserved water rights and filed rights with the State of New Mexico for permitted activities (e.g., campgrounds, grazing allotments, etc.). The Forest Service engages with the State of New Mexico to perfect its water rights through the adjudication process when necessary.

WRS006: The final Plan should include restoration objectives for Water Resources to restore stream function and habitat, naturalize non-system roads, and install erosion control treatments to stabilize head cuts and road impacts.

The final Plan should include plan components that requires erosion control treatments throughout the forest where erosion is caused from alterations to the land (like roads).

Associated Comments: #4095-5

Changes made to Plan or EIS: None

WRS006 Response: Together, the Watershed Condition Framework and the Plan provide guidance for restoring stream function, habitat, and watershed function. Furthermore, the Water section also provides objectives for decreasing road density.

WRS007/016/057: The Santa Fe should add plan components to the final Plan for preventing and reversing water quality impairments on the forests, especially for Outstanding National Resource Waters (ONRW). Some commenters expressed a desire for components addressing ONRW to be added to the final Plan, including the following:

- i. Proposed New ONRW-Related Objective: "If degradation of water quality is detected in an ONRW, the responsible official will conduct a meeting with State water quality officials and other interested parties, and will draft an action plan that details potential sources of the degradation and actions to take to address and/or remedy the degradation."
- ii. Proposed New ONRW-Related Objective: "If degradation of water quality is detected in an ONRW, the Santa Fe National Forest will work with the New Mexico Environment Department to increase water quality sampling frequency to at least once annually."

Associated Comments: #4095-6, #12752-19, #12501-14, #12702-5, #12708-12, #12783-1

Changes made to Plan or EIS: None

WRS007/016/057 Response: ONRW are designated by the State of New Mexico, not the Forest Service. The Santa Fe NF has a memorandum of understanding (MOU) with the New Mexico Environment Department to work with them to better manage water resources (Forest Service agreement no. 17-MU-11031600-049, Cooperator Agreement No. 18 667 2060 0003). This collaboration is supported by FW-WATER-MA-1 and MA-2 and multiple laws that the Forest Service must follow (as per the 2012 Planning Rule, forest plans must follow existing law and policy, although these are not restated in the plan document). It is up to the New Mexico Environment Department if they want to increase their sampling frequency, but in terms of Forest Service responsibility, ONRW waters are all located in designated wilderness areas on the forest, so they are protected by wilderness management policy. Additionally, plan components under grazing and recreation protect ecological resources, and the Water Resources section has numerous plan components protecting water quality in general. An analysis of the impacts on water quality from various forest uses (e.g., recreation and grazing activities) can be found in volume 1 of the FEIS.

WRS008: The Santa Fe should add plan components to the final Plan that would allow for restoration of watersheds and improved water quality, while not negatively impacting sustainable energy development or the grazing of cattle and other livestock.

Associated Comments: #9836-5

Changes made to Plan or EIS: None

WRS008 Response: Plan components addressing watershed health and restoration include FW-WATER-DC-1, DC-4, DC-5, DC-6; FW-WATER-O-1 and O-2; FW-WATER-S-1 and S-2; and FW-WATER-G-1, G-2, G-3, G-4, and G-5. Plan components addressing water quality include FW-WATER-DC-3, FW-WATER-S-1 and S-2, and FW-WATER-G-1 and G-5. The Forest operates on the multiple-use principles cited in the Multiple-Use Sustained Yield Act, embodied in various plan components such as FW-WATER-DC-2 and FW-WATER-S-2. Plan components in the Riparian and Wetland Ecosystems section and the Aquatic Species and Habitats section also support healthy watersheds, as do vegetation treatments outlined in the Vegetation section.

WRS011: The Santa Fe needs to protect watersheds, water quality, forests, fish, and wildlife for current and future generations.

Associated Comments: #10185-1, #12353-3, #12483-2, #12518-1, #12540-1, #12634-5, #9836-1

Changes made to Plan or EIS: None

WRS011 Response: The Forest Vision focuses on achieving three goals: (1) restore fire resiliency to our forest landscapes, (2) provide clean and abundant water, and (3) honor and strengthen ties to the land. To support this vision, our final Plan has plan components focused on protecting and supporting all forest resources, including watersheds, water quality, forests, fish, and wildlife, via the forest planning process. This continuous process includes (1) assessment; (2) plan development, amendment, and revision; and (3) monitoring. The intent of this forest planning framework is to create an integrated approach to the management of resources and uses, incorporate the landscape-scale context for management, allow the Forest Service to adapt to changing conditions, and improve management based on monitoring and new information.

WRS012: Objectives (FW-WATER-O) for water resources should be carried forward in the final Plan.

Associated Comments: #12362-10, #12501-12

Changes made to Plan or EIS: None

WRS012 Response: Objectives in the proposed action will be carried forward into the final Plan.

WRS014/021/022/041/042/045/049/057/Other013: Some commenters wanted increased ecological objectives to improve watershed, water resource, and riparian condition. As part of this, some commenters asked that we consider increasing watershed and riparian restoration, aquatic habitat restoration, and road decommissioning objectives in the final Plan, akin to those outlined in alternative 3.

Associated Comments: #12752-29 (b), #12752-29 (a), #197-44, #12752-28 (b), #12752-28 (c), #12752-28 (d), #12752-41, #197-44, #12501-12, #459-8, #12708-7, #12708-8, #12752-20, #12752-19, #13499-1

Changes made to Plan or EIS: None

WRS014/021/022/041/042/045/049/057/Other013 Response: The levels of objectives in the proposed action (alternative 2) are what we can reasonably accomplish in the context of the rest of the Plan and with currently available resources and forest capacity (e.g., current budgets, personnel, etc.). These objectives do not include upper limits so that if more resources become available (e.g., due to novel funding sources or changes in Congressional direction) we can increase the amount of work we do for maintaining and restoring forest conditions to better meet our desired conditions. If this should occur, it would be a project-level decision outside the scope of the planning process. While objectives in the final Plan are lower than those proposed in alternative 3, but current planning efforts under way outside the forest plan revision effort (e.g., the Northern New Mexico Riparian Restoration Project) look to increase the level of riparian restoration on the forest.

Components in the Roads section of the Plan outline how the resources will be protected from negative impacts due to roads, beyond the objectives written in the Water Resources section of the Plan. Road decommissioning objectives in the Water Resources section are based on Forest capacity, and ensuring we can maintain public and administrative access. They are drafted to balance our minimal needed road system while reducing resource impacts (e.g., water quality degradation) through a combination of decommissioning and road maintenance. Alternative 3,

since it emphasizes decommissioning over maintenance, lacks necessary tools for managing roads that are needed but causing resource impacts.

The proposed action's 15 miles is within the capacity of the Forest to achieve in combination with other management actions. Alternative 3 is able to propose higher objectives for restoration because it does not propose any mechanical vegetation treatments and thus has more funding for other treatments. To maintain both the combination of mechanical and fire treatments, 15 miles of stream restoration over the life of the plan (10 to 15 years) is feasible given current budgets (as per the 2012 Planning Rule).

WRS015: The final plan should have plan components to address water quality concerns in impaired streams.

Associated Comments: #12501-13, #12708-11

Changes made to Plan or EIS: None

WRS015 Response: FW-WATER-DC-3 directs projects to work toward meeting or exceeding State water quality standards. Additionally, the plan components in the proposed action ensure best management practices are applied to projects (FW-WATER-S-1). These best management practices reduce non-point source pollution from activities; further actions to address water quality impairment are taken on a site-specific basis.

WRS017: The final Plan needs to provide a description of the benefits acequias provide to the ecosystem. The Carson National Forest has provided a fully supported and approved description under their Water Resources section of their draft plan. In addition to adding the description, the final Plan should take a "do-no-harm" approach when it comes to acequias.

Associated Comments: #12510-5, #12677-3, #13614-3

Changes made to Plan or EIS: Plan

WRS017 Response: FW-WATER-MA-3 encourages managers to work with acequia associations, and we have added the following sentences from the Carson NF's Water Resources narrative to the narrative of our Water Resources section in the final Plan:

- "Because of human demand for water resources and other human land uses, watersheds, and aquatic ecosystems have been altered from their reference condition. While the location of stream channels is generally unchanged, diversion into acequias has changed the hydrologic, riparian, and agroecosystem function of stream systems."
- "Acequias provide cultural and provisioning ecosystem services. They feed water to communal agricultural lands, bring families and traditional communities together through the shared work of maintaining them, and contribute to a way of life that spans generations," and FW-RURALH-G-4 provides direction on "coordination with land grants and acequia governing bodies."

Acequias in general are mainly addressed in the Traditional Communities section. Plan components in the Rural Historic Communities subsection ensure that traditionally used products (e.g., fuelwood, latillas, vigas, pinon, osha, and clay) are available to communities in balance with other resource management objectives (FW-RURALH-DC-3, FW-RURALH-G-1 and G-2). Impacts to culturally important place are also mitigated (FW-RURALH-DC-4), and acequia access is ensured (FW-RURALH-DC-5, FW-RURALH-G-3). The absence of language about acequias in other sections of the Plan does not make them any less important a consideration for

forest management decisions. The entire Plan is one piece of interconnected direction, and direction in one resource affects the management of all resources.

WRS018: The final Plan should include plan components that require erosion control treatments throughout the forest where erosion is caused from alterations to the land (like roads).

Associated Comments: #10185-11

Changes made to Plan or EIS: None

WRS018 Response: There are numerous components in the plan that address erosion, including FW-VEG-DC-1e, FW-RWE-DC-1, FW-RWE-DC-2a, FW-RWE-G-9, FW-SOIL-DC-1, FW-SOIL-DC-2, FW-SOIL-DC-7, FW-SOIL-G-4, FW-DISREC-G-4, FW-ROADS-DC-3, FW-ROADS-G-1, FW-ROADS-G-3.

WRS020/024/032/039/044: Commenters expressed concern about protecting riparian and wetland ecosystems from impacts due to energy and mineral activities (e.g., oil and gas exploration or drilling, mining, fracking, dredging). There is desire for strengthened plan direction regarding protection of water resources, aquatic habitat, and water quality, including prohibiting energy or mineral operations within riparian management zones or adding a plan component that directs there to be “no-surface occupancy” for riparian management zones in the Oil and Gas Leasing Management Area. Some commenters also asked that oil and gas leasing be limited by the Plan, or that all energy and mineral development be prohibited by the Plan. Another commenter wanted a guideline added to the Plan to help meet desired conditions for water quality and riparian habitat: “To protect water quality and inland native fish habitat, wildlife and other riparian-associated resources, mineral operations should not be authorized in riparian management zones. If the riparian management zone cannot be avoided, the authorization should include measures to maintain, protect, and rehabilitate fish and wildlife habitat that may be affected by the operations.”

Associated Comments: #12508-7, #12665-27, #481-2, #13281-1, #12681-6, #12752-29 (d)

Changes made to Plan or EIS: None

WRS020/024/032/039/044 Response: Plan components in the Proposed Action protect riparian management zones to the extent feasible for forest capacity (e.g., personnel, current budgets, etc.). FW-RWE-G-1, G-2, and G-3 protect riparian management zones and wetland areas from long-term negative impacts due to management activities (e.g., mineral operations). Additionally, in the Oil and Gas Leasing Management Area, MA-OGLEASE-G-2 directs that roads and pipelines should not be located in riparian terrestrial ecosystem units unless there are no practical alternatives. FW-MINERAL-DC-1 and FW-MINERAL-S-1 protect resources from long-term impacts.

Existing leases (such as those in the Oil and Gas Leasing Management Area) cannot be changed from the stipulations put in place when the parcel was leased; most of the management area is already leased. However, if development is proposed, we can require measures to protect riparian ecosystems, including 43 CFR § 3101.1–2 Surface use rights:

A lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to: Stipulations attached to the lease; restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed. To the

extent consistent with lease rights granted, such reasonable measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. At a minimum, measures shall be deemed consistent with lease rights granted provided that they do not: require relocation of proposed operations by more than 200 meters; require that operations be sited off the leasehold; or prohibit new surface disturbing operations for a period in excess of 60 days in any lease year.

Horizontal wells and hydraulic fracturing have not been used recently on the Santa Fe NF and the industry has not expressed any interest in using those technologies (either separately or together), and the BLM reasonable foreseeable development scenario does not project that formations responsive to the technologies occur under the national forest. Therefore, these technologies are not specifically addressed in the Plan.

For locatable minerals, the General Mining Act of 1872 (30 U.S.C. 22-42) grants U.S. citizens the right to prospect and explore for minerals on lands open to mineral entry. The right of reasonable access for exploration and development of locatable mineral is guaranteed. The Forest Service can require reasonable protection of surface resources and compliance with other Federal laws (i.e., Clean Water Act, Endangered Species Act, Archeological Resources Protection Act, etc.), but cannot deny a request to explore and develop the minerals on NFS lands. The Forest Service does not have the authority to prevent a claimant from developing mineral resources; however, we can apply measures to mitigate potential impacts (see FW-MINERAL-DC-1 and DC-2; and FW-MINERAL-S-1, S-4, S-5, and S-7).

All salable mineral disposals require the operator to obtain a permit from the appropriate ranger district. The type of permit depends upon the circumstances of the disposal as described in 36 CFR 228.57. Salable mineral disposal is discretionary and is a project-level decision outside the scope of the forest planning process.

WRS020: The final plan should strengthen plan components to safeguard water resources. The Carson and Santa Fe final Plans should add standards that limit management activities within riparian management zones to only those that maintain or restore connectivity, function, composition, and structure.

Associated Comments: #12508-7

Changes made to Plan or EIS: None

WRS020 Response: Plan components in the Proposed Action protect riparian management zones to the extent feasible for Forest capacity (e.g., personnel, current budget, etc.). FW-RWE-G-1, G-2, and G-3 protect riparian management zones and wetland areas from long-term negative impacts due to management activities (e.g., mineral operations). Additionally, direction throughout the Plan provides protection for natural resources when management activities occur. For instance, in the Oil and Gas Leasing Management Area, MA-OGLEASE-G-2 directs that roads and pipelines should not be located in riparian terrestrial ecosystem units unless there are no practical alternatives.

WRS023: There is opposition to alternative 4 being incorporated into the final Plan, as it could result in the long-term degradation of sensitive riparian areas, which is in violation of the 2012 Planning Rule, 36 CFR 219.8(a)(3)(E)(i.i.)(B): “Plan components must ensure that no management practices cause detrimental changes in water temperature or chemical composition, blockages of water courses, or

deposits of sediment that seriously and adversely affect water conditions within the riparian management zones or site-specific delineated riparian areas.”

Associated Comments: #12665-109

Changes made to Plan or EIS: None

WRS023 Response: All alternatives analyzed follow law, regulation, and policy, including the 2012 Planning Rule. While alternative 4 focuses forest resources more on human-uses of the forest, it does not do this at the risk of creating long-term degradation to other resources.

See also: Response to Alt4001.

WRS024: There is concern the 100-foot buffer that delineates a riparian management zone is not enough to protect critical riparian areas, particularly where timber harvesting or mineral exploration or extraction occurs. Commenters believe 150 feet is a more adequate distance for defining a riparian management zone.

Associated Comments: #12665-27, #481-2, #12708-3

Changes made to Plan or EIS: None

WRS024 Response: There is no existing literature that agrees on an exact buffer width to protect riparian areas in the arid, high-elevation forests of the Santa Fe NF. However, 100 feet is a number that aligns with our existing directives (FSM 2526 Riparian Area Management: 2526.03 – Policy 5). Beyond this, situations where protections or special management considerations occur for more than 100 feet would be identified during project-level analysis. For instance, in the case of mineral exploration, an additional 656 feet (200 meters)³ can be added if it is determined necessary to protect resources.

See also: EM017 and EM019 for more on buffers against mineral exploration.

WRS025: Soils are a large carbon reservoir or pool and do not sequester carbon, they store it. Page 94 states that "Soils are also among the largest pools for carbon sequestration...." This is inaccurate and should read: for carbon storage. Soils do not sequester carbon. Plants sequester carbon and organic matter incorporating into soils (e.g., through root turnover and other processes) provides the mechanism for carbon addition to soil.

Associated Comments: #3266-3

Changes made to Plan or EIS: Plan

WRS025 Response: We agree with the commenters that “carbon storage” is a more accurate term. This change was implemented in the Plan in the soils section.

WRS027: The Proposed Action will have a positive impact on drinking water quality over the long term.

Associated Comments: #12627-6

Changes made to Plan or EIS: None

WRS027 Response: Thank you for your comment.

³ 43 CFR § 3101.1–2 Surface use rights states that measures can be taken to relocate proposed operations by up to 200 meters.

WRS028: Water resources need to be protected from increasing drought conditions.

Associated Comments: #12590-1

Changes made to Plan or EIS: EIS

WRS028 Response: Through watershed protection and making watersheds more resilient (e.g., FW-VEG-DC-2, O-1, O-2; FW-FIRE-DC-2, DC-6; FW-WATER-DC-1, DC-3, DC-4, DC-5, DC-6, O-1, O-2), especially to catastrophic wildfire, we are protecting our water resources from drought conditions. Healthy watersheds will soak up water during wet periods and slowly release it during dry periods. As climate change is a known driver of drought, we analyze both climate change and drought as a stressor in the FEIS's Watersheds and Water Resources section (section 3.4.3). Additionally, we analyze watershed condition (impaired, at risk, or properly functioning) as affected by the different alternatives in section 3.4.4.1.3 (watershed condition - indicator: restoration activities). Within that section, we discuss drought and watershed resiliency.

For additional clarification, we added a paragraph within section 3.4.4.1.2.1 (surface water, indicator- restoration activities), as well as a few sentences under sub-sections 3.4.4.1.2.1.2 through 3.4.4.1.2.1.6 that describe how each alternative differs with respect to watershed resiliency, climate change, or drought. The edits resulted in a new “effect”- Wa4.5.

WRS029: Dollar values should be calculated for lost topsoil and water yield due to post-fire debris flow from catastrophic fires. This possibly irreparable harm could be avoided by effective forest management and mitigation, which is limited by wilderness expansion.

Associated Comments: #13499-3, #13499-4

Changes made to Plan or EIS: None

WRS029 Response: Part of the Forest Vision is to restore fire resiliency to the Santa Fe NF, and multiple plan components throughout the document support moving toward healthier forests with reduced wildfire risk. Wilderness areas that have been recommended in the Proposed Action were evaluated in part based on our ability to manage them as wilderness, which included wildfire risk; plan components in recommended wilderness support management in recommended wilderness for health and safety, such as fire risk management. Additionally, the Plan addresses the ecosystem services of different resources in the narratives of each resource. While some of these may have a monetary value connected to them (analyzed in the Socioeconomic section of the FEIS, Volume 2), many are non-monetary or intrinsic values that cannot be directly calculated in dollar terms.

WRS030: FW-RWE-MA-2 should be replaced with the following: “Collaborate with universities, State and Federal agencies (e.g., Forest Service Research and Development, U.S. Geological Survey, Natural Resources Conservation Service, New Mexico State Forestry, New Mexico Department of Game and Fish), and other organizations (e.g., The Nature Conservancy, Natural Heritage New Mexico, Native Plant Society of New Mexico, Trout Unlimited, Audubon, and other non-governmental organizations), to obtain data and encourage research on rare and endemic species.”

Associated Comments: #12575-10

Changes made to Plan or EIS: None

WRS030 Response: The term “partners” used in both FW-RWE-MA-1 and MA-2 encompasses any and all entities with which the Forest Service might work collaboratively on management activities. Partnerships, including research partnerships, related to species on the forest are called

out in management approaches in the Wildlife, Fish, and Plants section (FW-AQUASH-MA-1 and MA-2, FW-TERRASH-MA-1 and MA-2, FW-INVASIVE-MA-1 and MA-3, FW-ATRISK-MA-1 and MA-2).

WRS031: The term “arroyos” should be added in parentheses after “intermittent streams” on page 69 of the Draft Plan to accommodate local New Mexicans that understand intermittent streams as arroyos. This will also aid in helping to foster communication between the Forest Service, local New Mexican citizens, and members of traditional communities by understanding the diverse names of the same system.

Associated Comments: #12528-11, #12698-15

Changes made to Plan or EIS: Plan

WRS031 Response: “Arroyos” is a more appropriate description for ephemeral streams. However, we agree with the commenter that the term can be useful for creating cultural contextualization and we will add “arroyos” as a parenthetical descriptor after “ephemeral streams” in the Water Resources narrative (Plan, pg. 69).

WRS032: Headwaters should be protected from any activity that undermines access to fresh, potable water. In particular, hard rock mining, oil and gas development, mineral extraction, and off-road vehicles all impact water quality and should be protected against.

Associated Comments: #13281-1

Changes made to Plan or EIS: Plan

WRS032 Response: We added a sentence to the narrative of the Riparian and Wetland Ecosystem section discussing the importance of headwater wetlands: “*Restoration on headwater wetlands and first order streams has benefits that cascade throughout the watershed and can facilitate future restoration downstream. Fixing watershed problems at their source assists natural recovery and increases the potential for future restoration lower in the watershed.*”

Most headwaters on the forest are located in designated wilderness areas (Forest Plan, Wilderness Areas, pg. 163), thus, they are protected under wilderness management laws. Beyond this, desired conditions for geographic areas indicate that forest management should move toward high-quality, protected headwaters (GA-CANNAC-DC-1, GA-PECOSRIV-DC-3), and multiple components in the Plan protect water quality (e.g., FW-WATER-DC-3, FW-WATER-S-1, FW-WATER-S-2, FW-WATER-G-1, FW-AQUASH-DC-2c, FW-LEASEMIN-DC-1, FW-MINERAL-DC-1, MA-OGLEASE-G-1d).

See response to WSR020 for more on protections against for energy and mining activity.

WRS033: Desired condition 3 in the Soil Resources section should read: In forested areas, logs and other woody materials are retained and distributed across the soil surface to facilitate soil productivity and maintain key habitat features **without adding to an overwhelming amount of forest fire fuels. If there is an overwhelming amount of downed woody material or standing dead woody material, a fire prescription shall be written, and the remains spread to increase soil quality.**

Associated Comments: #12519-6, #12528-19, #12698-24

Changes made to Plan or EIS: None

WRS033 Response: Course woody debris is essential for soil health and supports forestwide habitat improvement for at-risk species. It is analyzed in the FEIS under the At-Risk Wildlife

section (section 3.5.4.2, subsection 3.5.4.2.3), and FW-SOIL-DC-3 highlights its importance. Fuel treatments (see the Vegetation section of the Plan), as well as permitted activities such as fuelwood gathering, contribute to reducing risks of fuel loading in the forest. However, specific locations of fuel treatments are a project-level decision, and spreading ash over the landscape can have varying effects (e.g., there may be water quality issues). This type of soil-augmentation treatment is not always feasible within the capacity of the Forest (e.g., personnel, time, current budgets, etc.). Furthermore, FW-SOIL-MA-4b addresses the topic of using soil amendments such as biochar.

WRS034: The Forest Service should recognize the importance of mycorrhizal and mycelium networks.

Associated Comments: #12569-4, #12685-18

Changes made to Plan or EIS: None

WRS034 Response: Soil organisms, including mycorrhizae fungi, are important for soil health and overall soil function. Mycorrhizae fungi help support plant growth and increase nutrient cycling in the soil. Mycorrhizae generally occur within the top 4 inches of soil (Anna 2009), potentially increasing the chances that they are affected by harvesting or prescribed burning activities. Mycorrhizae fungi have developed in the ecosystem in conjunction with low intensity, somewhat frequent fires (Anna 2009). These fungi have been found to withstand prescribed burning, but their resilience is somewhat dependent on soil moisture levels during fire. When soil moisture levels are high, fire has little effect on mycorrhizal populations, but burning under drier soil conditions have been shown to reduce but not eliminate mycorrhizal productivity (Anna 2009; Dove and Hart 2017). Harvesting has been shown to have some suppressive effects, especially in larger openings, but as nutrient cycling, forest floor cover and root growth occur following treatments, mycorrhizae populations return rapidly (Philpott et al. 2018; Harvey et al. 1980). The treatment objectives in the Final Plan will likely increase grass cover (see the Vegetation section of the FEIS); increased grass cover has been shown to also increase mycorrhizae populations (Reynolds et al. 2013). Retention of organic matter is important for soil and mycorrhizae recovery (Johnson et al. 1991; Mann et al. 1988). Overall, mycorrhizae fungi are resilient to the treatments proposed in the final Plan (Philpott et al. 2018) and it is believed that although they may be reduced in numbers and productivity for the short term, no long-term effects are expected.

WRS035 (a): Page 12 of the draft Plan (under Riparian Ecosystems) states that “riparian systems have been degraded” by “diversion of waterways.” The commenter contends that not all riparian systems on the forest are degraded, and that acequias and other water rights owners have senior private water rights that entitle them by law to divert water from a stream.

Associated Comments: #12640-5

Changes made to Plan or EIS: None

WRS035 (a) Response: The Forest Plan does not contest the rights of acequias or other water rights owners, but does acknowledge that water diversion and other human uses of the forest has effects on the ecosystem. Acequias established before the land on which they are located was reserved as National Forest are within valid rights-of-way granted by the United States under laws and treaties that pre-date the Federal Land Policy and Management Act (FLPMA). These acequias do not require Forest Service authorization for the use and occupancy of NFS land within the historic right-of-way. (USDA Forest Service 2019a)

See also: WRS063

WRS035 (b): The term “unauthorized use by cattle” should be removed from page 12 of the Draft Plan (under Riparian Ecosystems) and replaced with "unmanaged grazing of ungulates" as it is misleading readers by implying that:

1. Livestock are not authorized to graze within riparian areas and streams. This is not the case.
2. Grazing permittees are illegally grazing livestock within riparian areas and streams. If this is the case, it is the responsibility of the Santa Fe NF to correct the situation by working with the grazing permittee to rectify the situation.

Associated Comments: #12640-5, #12640-6

Changes made to Plan or EIS: Plan

WRS035 (b) Response: Uncontrolled grazing is a driver of riparian ecosystem degradation, but we agree that this stressor can arise from multiple species. Under “Riparian Ecosystems” on page 12 of the final Plan, we changed “unauthorized use by cattle” to "unauthorized grazing."

WRS036: There is concern livestock grazing negatively impacts riparian areas through soil compaction, spread of invasive species, streambank erosion, hydrological alterations, water quality and stream temperature degradation, and trampling effects. These and other negative impacts should be reduced according to best available scientific information.

Associated Comments: #197-43, #197-57

Changes made to Plan or EIS: None

WRS036 Response: Livestock grazing impacts on riparian areas are addressed through a number of plan components in the Range section. Salt or mineral supplementation to control cattle presence in riparian areas is addressed in FW-RANGE-G-5, fencing improvement and maintenance is addressed in FW-RANGE-O-1, and water features for cattle are addressed in FW-RANGE-O-2. Additionally, multiple guidelines in the Sustainable Rangelands and Livestock Grazing section address resource protection in the context of livestock grazing (e.g., FW-RANGE-G-2, which addresses livestock grazing in riparian areas; and FW-RANGE-MA-12 asks managers to consider avoiding livestock grazing in the same area during vegetative growth and reproduction periods). More specific project design features for livestock grazing are project-level decisions that are detailed in AOIs and allotment-level NEPA.

WRS037: The forest plan should have stronger conservation and restoration measures including large no-grazing zones (exclosures), additional riparian and wet meadow/spring protections, road obliteration, invasive species removals, and beaver reintroductions.

Associated Comments: #197-57

Changes made to Plan or EIS: None

WRS037 Response: The riparian management zones delineation and associated plan components protect riparian areas, wet meadows, and springs. In addition, FW-WATER-O-1 discussed road decommissioning and maintenance for watershed improvements; FW-INVASIVE-O-1 discusses invasive species eradication and suppression; and FW-AQUASH-O-1 discusses restoring beaver populations as an example of aquatic habitat restoration. Creating a no-grazing zone would be a project-level NEPA analysis, and is outside the scope of the forest plan revision process.

WRS038: The Soils section should include further guidance for mechanized equipment, including a guideline stating work will be temporarily halted when ruts of 6 inches or greater in depth occur from trucks and equipment on saturated soil. This is in line with BLM Gold Book standards and New Mexico Mining and Minerals Division provisions for mine permits operating on public lands.

Associated Comments: #12665-67

Changes made to Plan or EIS: None

WRS038 Response: FW-SOIL-S-1 directs projects to use best management practices to minimize management impacts to ensure long-term soil productivity and satisfactory soil condition. These best management practices include general guidance on ground-disturbing activities, as does FW-SOIL-G-1. Specific guidance on rut depth is determined at the project level through design criteria and contracts.

WRS040: Additional management approaches should be added to the Riparian and Wetland Ecosystems section of the Plan that represent strategies for improving wetland and riparian systems. Specifically, these recommended management approaches are as follows.

1. Review and consider modifying management of dispersed recreation activities (e.g., unregulated camping) to reduce impacts and protect riparian management zones.
2. Work with grazing permittees to reduce impacts and protect riparian management zones.
3. Collaborate with the Department, New Mexico Environment Department, and other partners to implement measures to identify, protect, and enhance riparian areas and water quality.

Associated Comments: #12665-28

Changes made to Plan or EIS: None

WRS040 Response: We believe the plan components and management approaches currently in the Plan cover these concerns. The 2017 MOU with the New Mexico Environment Department requires collaboration with that department, and FW-RANGE-MA-2 encourages collaboration with permittees. Other relevant plan components include:

- FW-DISREC-G-4 discusses protecting riparian areas in the context of dispersed recreation;
- FW-DISREC-G-6c discusses how dispersed camping sites should be managed when unacceptable environmental damage is occurring;
- FW-DISREC-MA-4 encourages managers to consider methods that would discourage dispersed camping near water resources and sensitive areas;
- FW-DISREC-MA-6 considers monitoring use at heavily used dispersed recreation sites, which are often near water.

WRS042: Several commenters preferred the use of acres to stream miles when delineating restoration objectives.

Associated Comments: #12752-29 (b), #459-8

Changes made to Plan or EIS: None

WRS042 Response: For watershed and riparian restoration objectives, stream miles are used as a measure of restoration rather than acres as they are a more meaningful metric to use for monitoring our progress toward desired conditions. While the metric is different from that used

on the Carson NF, the restoration benefits are not reduced. The number of stream miles chosen as a target for restoration is based on Forest resource capacity (e.g., personnel, current budgets, etc.).

WRS043: FW-RWE-G-3 should be expanded to indicate that projects to improve stream habitat or benefit aquatic species are also permissible. Suggested language from the Rio Grande NF: “Management activities within the riparian management zones must maintain or restore the connectivity, composition, function, and structure of riparian and wetland areas over the long term.”

Associated Comments: #12752-29 (c)

Changes made to Plan or EIS: None

WRS043 Response: FW-RWE-G-3 does not indicate that projects to improve stream habitat or benefit aquatic species are not permissible; if the Plan is silent on a subject, it is allowable as part of forest management. In addition, in-stream restoration is addressed in the Water Resources section of the Plan and aquatic species habitat is addressed in the Aquatic Species and Habitats section of the Plan (see FW-WATER-DC-4, DC-5, & DC-6; FW-WATER-G-2; FW-AQUASH-O-1, FW-AQUASH-G-4).

WRS045: To ensure a healthy watershed, the final Plan should:

- include prohibitions to human development, mining, oil and gas activities within 1/4 mile of all streams suitable for native trout;
- install up to 100 erosion control structures to mitigate road drainage impacts and stabilize head cuts;
- include the specific objective of restoration of 200 to 300 acres of riparian habitat annually; and
- include the removal of non-native species and the reintroduction of native plants as part of vegetation management.

Associated Comments: #459-8

Changes made to Plan or EIS: None

WRS045 Response: There is no cutthroat trout habitat in the Oil and Gas Leasing Management Area, which is the only location on the forest where oil and gas activity has potential. Throughout the forest, riparian management zones are given a buffer of 100 feet, as described in FW-RWE-G-1, and 43 CFR § 3101.1–2 Surface use rights states that measures can be taken to relocate proposed operations by up to 200 meters. The decision on whether to implement this measure would be based on the context of individual projects, and is outside of the scope of the planning process.

Erosion control structures are considered part of FW-AQUASH-O-1, as they are an example of a restoration measures. One example of an erosion control project the Forest is implementing are beaver dam analogues.

FW-INVASIVE-O-1 provides objectives for invasive plant species eradication or suppression, and FW-AQUASH-DC-1f directs that, “At least 60 percent of woody riparian cover consists of at least three native plant species or where soil characteristics do not support woody vegetation, native obligate wetland species dominate herbaceous bank cover.”

WRS048: Objectives to mitigate road impacts to restore hydrologic function should be balanced by the need to maintain firefighting and prevention access.

Associated Comments:

Changes made to Plan or EIS: None

WRS048 Response: We will not be decommissioning essential routes. Determining which roads to decommission is a project-level decision and outside the scope of the forest planning process.

WRS050: Language should be added to the final Plan's Water Resources narrative that indicates how water resources on the forest support local economies and are culturally, socially, and economically significant to communities.

Associated Comments: #12528-13, #12698-17

Changes made to Plan or EIS: Plan

WRS050 Response: We added language to the Water Resources section so that the narrative reads, "Collectively, surface waters contribute to connectivity for fish and wildlife across the landscape, local and urban potable water supplies, agricultural uses such as livestock watering and **irrigation (which all support local economies)**, and recreation providing support services, provisions, and cultural benefits. Water in arid northern New Mexico has important traditional, **cultural, and socioeconomic** significance, which will only become more vital in the future with additional pressures from predicted climate change and continually increasing demands from growing urban populations."

Additionally, we discuss the social and economic importance of forest resources at length in the Northern New Mexico Traditional Communities and Uses section. In that section's narrative, "use of common waters...for drinking, irrigating crops, and watering livestock" is listed as an important traditional use.

WRS051: Components should be added to the final Plan that address springs and seeps on the forest. These should include:

- A desired condition for springs and seeps to meet proper functioning condition, and
- An objective of assessing and, if needed, improving the condition of 10 to 20 individual springs and seeps over each 10-year period following Plan approval.

The Forest should also submit results of spring condition assessment to the Springs Online database, maintained by the Springs Stewardship Institute.

Associated Comments: #12665-25

Changes made to Plan or EIS: None

WRS051 Response: The Plan protects groundwater and recharge areas for springs (FW-WATER-G-1 and G-5). Additionally, these waters are protected under the riparian management zone definition (FW-RWE-G-1); components and best management practices that protect riparian management zones thus protect springs and seeps as well (e.g., FW-RANGE-DC-3 and DC-4; FW-RANGE-G-3, G-4, and G-5; along with numerous management approaches). Objectives for riparian restoration can be found in FW-RWE-O-1. FW-RWE-MA-1 and MA-2 encourage managers to work collaboratively with partners to manage riparian areas.

WRS052: A component should be added to the final Plan stating that, “Stream crossings should only occur at 90 degrees to the stream channel.”

Associated Comments: #12575-8

Changes made to Plan or EIS: None

WRS052 Response: This level of specificity is more appropriate to project-level design criteria. In the Plan, guidelines in the Water Resources and Roads sections reference best management practices that minimize management impacts, such as orienting stream crossings perpendicular to stream channels.

WRS053: FW-WATER-DC-2 should be modified to read: "Most watersheds support multiple uses (e.g., timber, cultural uses, traditional uses, human subsistence, recreation, and grazing) with no long-term decline in ecological conditions, although some watersheds are reserved to preserve ecological functions and may support more limited uses (e.g., municipal watersheds)."

Associated Comments: #12519-3, #12528-14, #12698-18

Changes made to Plan or EIS: Plan

WRS053 Response: We added “traditional and cultural uses” to the multiple uses of watersheds.

WRS054: A new desired condition should be added to the Soil Resources section relating to the use of soils by traditional communities. The new desired condition should read: "Soil resources that support cultural and traditional needs (e.g., micaceous clay) as well as those that support traditional and subsistence economic needs (e.g. gravel and soils used for building materials, including but not limited to those used to build adobes and those for traditional plastering on adobe buildings) traditional communities are available and sustainable."

Associated Comments: #12528-20, #12698-25

Changes made to Plan or EIS: None

WRS054 Response: FW-RURALH-DC-3 and FW-TRIBES-DC-3 (Santa Fe Plan) discuss micaceous clay as an important resource for cultural and traditional needs. The use of soil and rocks for building materials is also listed as a traditional use in the narrative of the Northern New Mexico Traditional Communities and Uses section. While this is not discussed again in the Soil section, the Plan is meant to be read in its entirety as it is an interdisciplinary approach with plan direction also relevant to this comment within the salable mineral resource section. No change is necessary to the soils desired conditions. This is addressed within the traditional uses section of the plan and the plan is meant to be interdisciplinary.

WRS055: A desired condition should be added to the Riparian Management Zones section stating that riparian management zones are not subject to tree encroachment by native conifer species due to historic fire suppression.

Associated Comments: #12575-9

Changes made to Plan or EIS: None

WRS055 Response: FW-RWE-DC-1c states, “Riparian communities are free from encroachment by upland species and the extent of riparian communities is expanding or has achieved potential extent.” We believe this sufficiently addresses the concern. We do not specify why trees are

encroaching as there are a number of reasons (e.g., climate change, flood regime changes, etc.) that could drive tree encroachment.

WRS056: The EIS should remove language implying that grazing has a negative impact on surface water quality regardless of timing, intensity, duration, or any other livestock management considerations; and that removing livestock from wilderness areas would improve water quality. There is no evidence cited of a causal link between water quality, wilderness, and livestock; when livestock is properly managed it is compatible with and may even improve surface water quality.

Associated Comments: #12640-14

Changes made to Plan or EIS: None

WRS056 Response: The Water Resources analysis in the FEIS does not make the claim that grazing has an inevitably negative effect on water resources. Any type of management is more difficult in wilderness areas, where ease of access is limited. We stand by the evidence that livestock grazing has the potential to harm water resources, particularly in situations where good management is not occurring (Armour et al. 1991) or is more difficult because of access. We agree with the commenters that good livestock management practices can support the coexistence of grazing and healthy ecosystems.

WRS060: The EIS should discuss how activities that introduce fill into WOTUS⁴ will be managed, and how the U.S. Army Corps of Engineers would be coordinated with if fill occurs. This course of action would ensure compliance with the Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials and to satisfy the regulatory requirements of Section 404(b)(1) of the Clean Water Act.

Associated Comments: #13496-2

Changes made to Plan or EIS: None

WRS060 Response: This is a matter of law and policy. Under the 2012 Planning Rule, the Plan must follow all existing law, regulation, and policy. We are not required to list all of them, and the Plan should be read with the assumption that they are not optional.

WRS061: Commenters requested we add language to Water Yield narrative: *“Water Yield: Natural and human disturbances have altered and will continue to alter the quantity and timing for the streamflow in the Santa Fe NF. General trends for the region show an increase of drought and drier winters with a trend toward warmer winter temperatures. **This impediment coupled with the overgrowth of the forest and its watersheds has diminished the supply of water in the later summer months, which both wildlife and traditional communities rely on for survival.** The earlier runoff season combined with drought means less water will be available during the late summer and fall. Decreased stream flow will have cascading impacts for both the natural systems and humans that rely on the forest's water. Functioning watersheds show increased resilience to drought and changing precipitation regimes and may replenish streamflow.”*

Associated Comments: #12698-16, #12528-12

Changes made to Plan or EIS: None

WRS061 Response: Water yield and vegetation dynamics are complex processes; vegetation treatments do not necessarily increase water yield over the long term (Lewis 2018, O'Donnell

⁴ Waters of the United States

2016). We discuss the ways in which human and natural disturbance have altered and continue to alter streamflows both in the narrative already in the Plan and in the FEIS (see the Watershed and Water Resources section in the FEIS). We, therefore, decided against adding this language to the narrative.

WRS062: Whether as a standard or a guideline, commenters would like us to add the following language:

- Operation of motorized equipment should not occur in stream channels except for channel restoration activities.

Associated Comments: #12575-8

Changes made to Plan or EIS: None

WRS062 Response: This guidance is included in best management practices, which managers are directed to follow by FW-WATER-S-1. Additionally, FW-RWE-S-6 restricts motorized equipment use in riparian management zones.

WRS063: To ensure water rights, such as those held by acequia associations, are not superseded by forest management actions, the following language should be added to any narrative, plan component, or management approach that may imply senior, pre-existing water rights will not be respected, such as FW-WATER-DC-5: “The Santa Fe NF recognizes the private water rights associated with many streams and springs within the forest and their legal right to put their associated water rights to beneficial use.”

Associated Comments: #12640-5, #12640-7

Changes made to Plan or EIS: None

WRS063 Response: The Plan does not contest the rights of acequias or other water rights owners. Acequias established before the land on which they are located was reserved as national forest are within valid rights-of-way granted by the United States under laws and treaties that pre-date the Federal Land Policy and Management Act. These acequias do not require Forest Service authorization for the use and occupancy of NFS land within the historic rights-of-way (USDA Forest Service 2019a).

WRS064: The Forest should restore beavers to unoccupied but suitable habitat to restore ecological integrity to riparian areas and watersheds.

Associated Comments: #12515-36, #197-66, #12515-35

Changes made to Plan or EIS: None

WRS064 Response: Beaver restoration is an example of aquatic habitat restoration in FW-AQUASH-O-1. Additionally, beavers are a focal species for riparian habitat connectivity monitoring (for more about focal species see Volume 2 of the FEIS, appendix F).

See also: WILD062

WRS065: There is general support for plan components in the Water Resources section.

Associated Comments: #12752-28 (a)

Changes made to Plan or EIS: None

WRS065 Response: Thank you for your comment.

WRS066: In recognition of the fact that 20 percent of wells identified by the State Engineer are within the administrative boundaries of the Santa Fe NF, and the requirements of FSM 2560 (Groundwater Resource Management), the final EIS must disclose the effects of groundwater withdrawals on the environment.

Associated Comments: #12522-31

Changes made to Plan or EIS: None

WRS066 Response: Groundwater is discussed as part of the affected environment in the Watersheds and Water Resources chapter of the FEIS, specifically section 3.4.1.2.2. Forest Service groundwater policy (Forest Service Manuals 2560, 2880) as well as agency technical guides, provide direction for well drilling and pumping in the Santa Fe NF, specifying that these activities must not adversely affect connected riparian habitat and water quantity and quality. Because direction in the Forest Service manual is considered adequate and groundwater withdrawal is governed by State regulations, additional management direction was not specified by any of the action alternatives and they are not analyzed in the FEIS. Groundwater is discussed as part of the cumulative effects analysis, recognizing that mining and energy production that occur within and around the forest could adversely affect water quality.

Wildlife, Fish, and Plants

General

WILD213: Either the final Plan or FEIS needs to review and incorporate the following technical reports, as well as review and incorporate the bibliography provided in GTR-269:

- Zwartjes, Patrick W.; Cartron, Jean-Luc E.; Stoleson, Pamela L. L.; Haussamen, Walter C.; Crane, Tiffany E. 2005. Assessment of native species and ungulate grazing in the Southwest: Terrestrial wildlife. Gen. Tech. Rep. RMRS-GTR-142. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 74 p. plus CD.
 - ♦ This assessment exhaustively details the effects of livestock grazing on wildlife and includes statements like the two below which contradict with current forest plan direction. In a section discussing birds of wetland/marsh habitats, GTR-142 (p. 29) states that livestock use has “a consistently negative impact and therefore to be generally incompatible with habitat maintenance.” In a section discussing mammals of riparian and wet meadow habitats, including the masked and water shrews and the New Mexico meadow jumping mouse, GTR-142 states (page 34) that “... such wetlands are generally incompatible with livestock use.” It's a significant omission that this agency-crafted report was not cited by the Santa Fe NF in any volume of the DEIS or draft Plan.
- Poff, Boris; Koestner, Karen A.; Neary, Daniel G.; Merritt, David. 2012. Threats to western United States riparian ecosystems: A bibliography. Gen. Tech. Rep. RMRS-GTR-269. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 78 p.
 - ♦ In this comprehensive review and bibliography of threats to riparian areas, the Forest Service authors reviewed “453 journal articles, reports, books, and book chapters addressing threats to riparian ecosystems in western North America were analyzed to identify, quantify, and qualify the major threats to these ecosystems as represented in the existing literature.” Poff and colleagues write (page 8) that “most of the publications in this bibliography that address a single threat discuss grazing” and on page 11 “the two topics with the most individual references are grazing and invasive species.” By overlooking these relevant documents, the Forest Service has failed to incorporate the best available science into the at-risk species analysis.

Associated Comments: #12522-20, #12522-21

Changes made to Plan or EIS: None

WILD213 Response: We recognize the potential adverse impacts that livestock grazing can have on at-risk species and their habitats, as is noted in both of these technical reports. However, we have local, on-the-ground evidence, along with other, more recent scientific literature, which shows controlled grazing in riparian and wetlands may not be detrimental in all cases. In RNG073, we discuss some of the literature we have used with regards to understanding successful management of livestock in sensitive riparian areas.

In the case of both reports, neither is as specific to the Santa Fe NF as the local evidence and research we have drawn upon in our plan revision documents (including the Assessment, which details both the benefits and drawbacks of grazing on the forest; USDA Forest Service 2016a and 2016b).

GTR-142 is meant to be an, “assessment of the ecological interactions among native wildlife species of the Southwest and grazing and range management practices is designed to provide an informational tool for the region’s land managers and biologists,” with information on specific species that livestock grazing may impact across Arizona and New Mexico. While this information is undoubtedly useful, specialist on the Santa Fe NF are aware of the species that are impacted by livestock grazing and have chosen to draw more upon research that takes place directly on the forest (e.g., research on the New Mexico meadow jumping mouse from the work of both Dr. Jennifer Frey and Dr. Carol Chambers) or that relate to how to successfully manage cattle to mitigate impacts. This is because we are legally obligated to allow grazing on the forest as part of the Multiple-Use Sustained Yield Act of 1960 (16 U.S.C. 528–531) (36 CFR 219.19). To discontinue grazing in any particular place on the forest is beyond the scope of the Plan and cannot be done without further allotment level analysis. Current grazing in riparian areas has been authorized through previous allotment-level NEPA analyses, which are still in effect.

Similarly, GTR-269 contains a wealth of information, but little of it is specific to the management needs of the Santa Fe NF.

WILD214: The DEIS emphasizes repeatedly the threats to ecosystems posed by seral state departure and uncharacteristic wildfire but ignores the much more widespread and chronic stress and disturbance that is caused by the non-native domestic livestock grazing. For example, in reviewing the risk posed to water shrew and masked shrew, the DEIS lists a number of issues and threats, though none of them are explicitly listed as livestock grazing. Recent research in habitat similar to that where these shrews and New Mexico meadow jumping mouse occur found that “livestock grazing had a greater effect than wildfire on the small-mammal community by altering vegetation or other habitat elements and thus decreasing population sizes” (Jones 2000). The omission of livestock grazing disturbances as a direct threat to small mammals that rely on meadows with high grass and forb cover is inconsistent with the 2012 Planning Rule requirement to consider the impacts of “disturbance regimes” (36 CFR 219.8(a)(1)(iv)) on ecosystem integrity. Any subsequent NEPA document prepared during the forest plan revision process must assess the effects of the plan alternatives on the level of livestock grazing and how it may be managed and include the best available science that documents the impacts of livestock grazing on at-risk species and the ecological integrity of their riparian and upland habitats, and add livestock grazing as a threat for analysis of effects to all of the 36 at-risk species. Also, individual impacts to riparian areas should be evaluated as issues that impact at-risk species.

Associated Comments: #12522-23, #12522-30

Changes made to Plan or EIS: None

WILD214 Response: In the FEIS, appendix E, section A, we discuss negative impacts on the masked shrew as, “sedimentation caused by grazing, fuelwood gathering, wildfire, recreation, motorized travel, and changes in hydrology.” Grazing is not listed explicitly under the “Issues and Threats” column of the table as we do not mention every resource that causes an issue or threat to occur in the wildlife section, as many aspects of resource management can lead to an impact that could be considered an issue or threat to certain species (e.g., seral state departure and disconnected floodplains are both threats, but they each have multiple ways in which they can come about). Thus, we discuss the impacts of threats and issues rather than the causal agent. The specific impacts of livestock on water and soil resources is discussed in greater depth in the Watersheds and Water Resources chapter and the Soils chapter of the FEIS. To acknowledge the impacts that grazing can have on at-risk species, it has been added as a subcategory of Threat J – Ground/Soil Disturbance, with a discussion of erosion impacts.

See also: RNG074 for how we address ecological impacts of grazing on the forest and RNG072 for more on grazing management law, regulation, and policy.

WILD004: The Santa Fe should develop an adaptive wildlife management strategy to address concerns related to wildlife and the development of new multi-use areas, like the Caja del Rio. Adaptive management strategies should focus on addressing situations that arise between wildlife and other uses of the forest. The adaptive management strategy should be used in place of status monitoring or seasonal counting techniques as a way of mitigating effects from new infrastructure, change in uses, or alterations in habitat quality or size.

Associated Comments: #12647-9

Changes made to Plan or EIS: None

WILD004 Response: We recognize the importance of adaptive management in improving and supporting habit resiliency across the forest. The intent of the forest planning framework is to create an integrated approach to the management of resources and uses, incorporate the landscape-scale context for management, allow the Forest Service to adapt to changing conditions, and improve management based on monitoring and new information. We discuss our approach to adaptive management in chapter 1 and chapter 5 of the final Plan; the latter chapter outlines our monitoring program, which addresses the most critical plan components needed to inform management of the forest’s resources. The program provides feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring and evaluation requirements of forest plans are directed by the 2012 Planning Rule (36 CFR 219.12).

See also: WILD134 for more on how we use fine-filter and course-filter plan components to support species habitat.

WILD006: The final Plan should at a minimum reference the New Mexico Department of Game and Fish's, 2016, State Wildlife Action Plan for New Mexico (SWAP). In addition, the Plan and FEIS should provide a table cross-referencing the Santa Fe's Species of Conservation Concern with the SWAP's Species of Greatest Conservation Need.

Associated Comments: #12665-29

Changes made to Plan or EIS: Plan

WILD006 Response: We made adjustments to FW-AQUASH-MA-2 so that it references the SWAP, and added FW-TERRASH-MA-8.

WILD029: The final EIS should include livestock grazing as an additional and focused item under Issues and Threats that impact at-risk species.

Associated Comments: #13416-32, #12522-17, #12522-18, #12522-19

Changes made to Plan or EIS: EIS

WILD029:Response: Livestock grazing is a permitted use on the Santa Fe NF (see the Multiple-Use Sustained Yield Act of 1960, which lists grazing as one of the multiple uses of the national forests), therefore, it must be managed simultaneously with other resource areas. To acknowledge the impacts that grazing can have on at-risk species, it has been added as a subcategory of Threat J – Ground/Soil Disturbance, with a discussion of erosion impacts. The impacts of livestock on water and soil resources is discussed in greater depth in the Watersheds and Water Resources chapter and the Soils chapter of the FEIS. Other results of excessive grazing, such as out-of-reference seral state, are included under other Issues and Threats, although grazing itself is not explicitly mentioned. We do not mention every resource that causes an issue or threat to occur in this section as many aspects of resource management can lead to an impact that could be considered an issue or threat to certain species. Thus, we discuss the impacts in-depth rather than the causal agent.

WILD031: The final Plan should have requirements that keep livestock out of rivers, creeks, and wetlands (riparian management zones).

Associated Comments: #10185-5, #12497-6

Changes made to Plan or EIS: None

WILD031 Response: Riparian management zones and activities within are addressed by FW-RWE-G2: Within riparian management zones, management activities (e.g., recreation, permitted uses, structural developments such as livestock water gaps, pipelines, or other infrastructure) should occur at levels or scales that do not preclude the attainment of desired conditions for water, soils, aquatic species habitat, and vegetation within the sub-watershed in which the management activity is taking place. Activities and facilities with a small footprint (e.g., access points, intermittent livestock crossing locations, water gaps, or other infrastructure) may be necessary to manage larger scale impacts within the riparian management zone, recognizing there may be trade-offs between activities and resources.

See also: FW-RANGE-G-2 and G-3.

WILD035: The DEIS incorrectly describes the relationship between wildlife and high-severity fire. High-severity patches are diverse ecological habitats and are important foraging habitat for wildlife. The FEIS needs to be modified to acknowledge the importance and benefits of high-severity fire on wildlife, including in the at-risk species tables.

Associated Comments: #197-4, #197-20, #12577-11

Changes made to Plan or EIS: EIS

WILD035 Response: In the Wildlife section of the FEIS, “uncharacteristic fire” is defined as, “fire that burns at higher intensity or longer duration than what would typically occur under reference conditions” (section 3.5.4.2.5, Issue D—Uncharacteristic Fire). As this definition implies, fires that are within reference conditions, including high-severity fires, are not uncharacteristic of frequent-fire systems and thus, are not always catastrophic. We have added a definition of “catastrophic fire” to the glossary in the FEIS, and have clarified our usage of “catastrophic fire” throughout the document. As part of this clarification, we have added language

to the Wildlife section of the FEIS (section 3.5.4.2.5.1, Catastrophic Fire Analysis) that identifies the benefits of small-scale instances of high-severity fire to wildlife.

WILD037: The Santa Fe should manage for the protection of all flora and fauna equally.

Associated Comments: #4165-2, #8826-1, #10185-5, #12531-3 (b), #12720-5, #12725-13, #13485-1, #8223-1

Changes made to Plan or EIS: None

WILD037 Response: We agree with the commenter and have developed sections dedicated to species and their habitats, which takes into account both flora and fauna. Our assessment phase (USDA Forest Service 2016a and 2016b) assured that we considered all species and their needs.

WILD038: The Santa Fe needs to strengthen wildlife protections in the final Plan, including in proposed special management areas.

Associated Comments: #9836-2, #10185-5, #12028-10, #12647-9, #12725-13, #13485-1, #8223-1, #193-1

Changes made to Plan or EIS: None

WILD038 Response: The Plan thoroughly addresses our wildlife resources. In addition, we have multiple management areas throughout the Plan that provide additional protections for wildlife, e.g., the Caja de Rio Wildlife and Culture Interpretive Management Area, recommended wilderness, as well as our Oil and Gas Leasing Management Area.

WILD045: The final Plan should include plan components that reduce stressors to wildlife, maintain viable populations and habitat, and manage for climate sanctuaries (older forests, forests on north-facing slopes, riparian areas).

Associated Comments: #12028-2a, #13485-1, #8223-1

Changes made to Plan or EIS: None

WILD045 Response: Plan components addressing these concerns are found within multiple resource areas such as vegetation, riparian and wetland ecosystems, sustainable range land and grazing, and all wildlife sections. For example, FW-AQUASH-DC-1 and FW-TERRASH-DC-1 support habitat and species populations; and FW-VEG-DC-2 and FW-WATER-DC support resilient ecosystems.

WILD046: The Santa Fe's fire management program should be focused on right-sizing prescribed burns for ecosystems to benefit wildlife.

Associated Comments: #12028-2b

Changes made to Plan or EIS: None

WILD046 Response: Plan components addressing these concerns are found within the vegetation and fire and fuels resource areas. For instance, FW-VEG-DC-1c supports natural ecological cycles and processes, and FW-VEG-DC-2 supports ecosystem resilience and adaptation in the face of disturbance, such as fire. FW-FIRE-DC-2 addresses how wildland fire should protect, maintain, and enhance resources and function in its natural role, and FW-FIRE-DC-3 addresses historic fire regimes and the related vegetation communities. Finally, guidelines

such as FW-FIRE-G-4 direct project managers in how to work with prescribed and wildfire to support other forest resources (e.g., wildlife).

WILD044: The Santa Fe should focus efforts on protecting and conserving native species and wildlife, including species requiring large home ranges, and providing for biological diversity using the best available scientific information as per the 2012 Planning Rule.

Associated Comments: #10185-13, #12685-4, #12685-5

Changes made to Plan or EIS: None

WILD044 Response: The 2012 Planning Rule (section 219.9) requires plans to adopt a complementary ecosystem and species-specific approach to maintain the persistence of native species in the plan area. We use a fine-filter/course-filter approach based on the best available scientific information to achieve this requirement. According to the Planning Rule, “this [approach] is a well-developed concept in the scientific literature and has broad support from the scientific community and many members of the public. This requirement retains the strong species conservation intent of the 1982 rule but with a strategic focus on those species that are vulnerable paired with a focus on overall ecosystem integrity and diversity.” See our response to WILD134 for more on how we use this approach.

Plan components that protect and support populations of native species and their habitats can be found in the Wildlife, Fish, and Plants section of the Plan (e.g., FW-AQUASH-DC-1 and DC-2; FW-TERRASH-DC-1; FW-TERRASH-O-2; etc.). Additionally, plan components in the Vegetation, Fire, Water Resources, and Riparian and Wetland Ecosystems sections protect habitat that supports diverse wildlife populations on the forest, and provide direction that moves the forest toward a resilient and healthy fire-adapted ecosystem (e.g., FW-VEG-DC-1 and DC-2).

See also: Sci001 for more on how we approach best available scientific information in the Plan and FEIS; WILD001/022/052 for more on how we address habitat connectivity; and WILD146 for more on how we protect core habitat.

WILD056: Wildlife and fish species depend on roadless, fenceless areas to find food, mates, or escape ecosystems adversely affected by climate change. The Pecos Wilderness should be expanded to ensure these important functions of the land remain.

Associated Comments: #12567-4

Changes made to Plan or EIS: None

WILD056 Response: We went through a wilderness recommendation process as part of plan revision. During this process, areas of the forest were selected as recommended wilderness based off of a set of criteria documented in the EIS’s Appendix J. Documentation of Wilderness Recommendation Process (FEIS, Vol 3). As part of this process, we engaged in extensive public outreach and a public comment period (see Appendix J, Summary of Public Participation in Wilderness Process).

See also: RW044/045/046 for a list of comments received about expanding the Pecos Wilderness, and RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

WILD076: The Plan should be adjusted to increase the size of protected wildlife areas.

Associated Comments: #12531-1, #12531-4

Changes made to Plan or EIS: None

WILD076 Response: Plan components support wildlife habitat throughout the forest through forestwide direction. In addition, we have multiple management areas throughout the plan that provide additional protections for wildlife, e.g., the Caja de Rio Wildlife and Culture Interpretive Management Area, as well as our Oil and Gas Leases Management Area. The Plan also recommends five areas of the forest as recommended wilderness. This represents managing 1.54 percent of the Santa Fe NF as recommended wilderness and in combination with designated wilderness represents just over one-fifth (20.1 percent) of the forest. All recommended wilderness areas are also adjacent to existing wilderness, enhancing existing wilderness characteristics by providing more acres of uninterrupted land and its beneficial effects (e.g., fewer physical obstructions, decreased human presence, and restrictions on certain development).

WILD077: The natural beauty of New Mexico should be protected as a tourist draw.

Associated Comments: #12531-3 (a)

Changes made to Plan or EIS: None

WILD077 Response: The Plan includes a section on scenery management and several sections on recreation. These, along with direction found throughout the plan pertaining to resources that contribute to the natural beauty of the forest, support the activities and values that may be appealing to tourists. Tourism is discussed as an ecosystem service in the Socioeconomic section of the FEIS.

WILD099: The Forest Service should conduct baseline wildlife inventories and annual monitoring projects that follow state guidelines, including:

- A determination of existing wildlife species, population densities, and habitat utilization in a proposed project area of disturbance, alteration or contamination.
- An assessment of impacts upon wildlife and wildlife habitat as a result of completion and operation of the project.
- An assessment of construction impacts and need to mitigate effects for any species or class of wildlife on or near the proposed project site.
- An evaluation of the effectiveness of mitigation or reclamation plan as it pertains to wildlife. If mitigation requires an ongoing cost be paid for by a local, state, or federal entity, then the leasing agency should require upfront bonding or other financial assurance from the company. If a project developer is unable to guarantee future reclamation costs before a project starts, then the permit should be denied.
- A comparison of habitat quality in affected habitats before and after project activities should be monitored by an independent consultant, paid by the project developer, who reports annually to SFNF.

Associated Comments: #12647-1

Changes made to Plan or EIS: None

WILD099 Response: These concerns are outside the scope of the forest plan, and would occur as part of project-level planning or in collaboration with research institutions.

WILD104: In the third paragraph of the Wildlife, Fish, and Plants section, add “disease” to the list of drivers of change in plant and animal populations.

Associated Comments: #12665-31

Changes made to Plan or EIS: Plan

WILD104 Response: We have made this change. The new sentence reads, “*The most important direct drivers of change in plant and animal populations are habitat change (e.g., land use changes, disruption of natural processes, physical modification of rivers or water withdrawal from rivers, lack of connectivity, or disease), climate change, invasive species, overexploitation, and pollution. Changes to ecological conditions can occur naturally through large-scale disturbance or unnaturally.*”

WILD105: The narrative of the Wildlife, Fish, and Plants section of the Plan should discuss the Bald and Golden Eagle Protection Act as an applicable protection for wildlife in the planning area, and contain a brief synopsis of what is known regarding presence of nesting golden eagles on the Forest.

Associated Comments: #12665-32

Changes made to Plan or EIS: None

WILD105 Response: We are required to follow all law and policy, including the Bald and Golden Eagle Protection Act.

See also: WILD088 for information on the Migratory Bird Treaty Act.

WILD134: The DEIS does not meet the BASI requirement for species' assessment, as the site-specific measures are very general and insufficient as a fine-filter approach. To meet the BASI requirements, therefore, the Forest Service must appropriately provide fine-filter approaches, acknowledging that the assumptions of a coarse filter approach are not met for all, or even most, species, and that there are numerous prediction errors associated with coarse-filter approaches that need supplementation with species-specific analyses. For instance, Forest planning needs to include population viability analysis (PVA) methods in its monitoring and adaptive management approach to better ensure coarse-filter requirements are representative of the community of interest, or species-level monitoring that includes trigger points.

Associated Comments: #197-47, #12522-34, #12685-16, #12685-12

Changes made to Plan or EIS: None

WILD134 Response: The 2012 Planning Rule “adopts a complementary ecosystem and species-specific approach to provide for the diversity of plant and animal communities and the long-term persistence of native species in the plan area. Known as a coarse-filter/fine-filter approach, this is a well-developed concept in the scientific literature and has broad support from the scientific community and many members of the public. This requirement retains the strong species conservation intent of the 1982 rule but with a strategic focus on those species that are vulnerable paired with a focus on overall ecosystem integrity and diversity.” Fine-filter plan components are very prescriptive and specific to a species, based on best available scientific information. In the EIS, a fine-filter approach is applied to at-risk species and is analyzed beginning on page 223 of volume 1. This section addresses specific ecological conditions required for at-risk species but is analyzed with an all-inclusive approach since the plan components impact multiple species.

Fine-filter plan components were developed for at-risk species, like goshawks, for which specific stand structure components are included in the forest plan. Although the fine-filter components in the analysis were chosen specifically for at-risk species, they cover a broad range of risks that can be applied to both at-risk and more broadly distributed species. Therefore, the fine-filter analysis for at-risk species allows us to consider the most vulnerable populations but helps us craft plan components that ultimately benefit all wildlife.

In regards to PVAs, we do not have the capabilities to conduct these analyses on most species, nor are we required to conduct them. We do work with outside agencies and organizations that can help with this effort, however. The monitoring plan within the Forest Plan is focused on what resources we need to monitor and the questions and indicators we will use for that monitoring. Therefore, the specifics of monitoring protocols and methods, such as using PVA, is still under development and outside of the Forest Plan Revision process. We appreciate your thoughts and hope you stay engaged as we develop those details on monitoring.

WILD197: The following statement should be clarified: "Habitat ratings are generalizations...can cannot be used as a basis for predicting necessary ecological conditions for any specific species" (DEIS, p. 211). The statement should be clarified because the planning rule requires determinations that the necessary ecological conditions are being provided and the EIS is the vehicle for supporting such determinations.

Associated Comments: #12522-84

Changes made to Plan or EIS: None

WILD197 Response: The Habitat ratings are a coarse-filter tool for efficiently evaluating all wildlife, and we acknowledge that it does not address viability for all species. The Threats and Issues subsection of the EIS's Wildlife section is meant to analyze specific ecological conditions required for at-risk species. This is necessary as the planning rule requires us to make habitat determinations for all species, not just at-risk species. Thus, we combine a coarse-filter/fine-filter approach to our analysis.

WILD211: The EIS must clarify what activities it considers to be "restorative" when discussing habitat quality.

Associated Comments: #12522-85

Changes made to Plan or EIS: None

WILD211 Response: We define restoration in the glossary of the EIS: Restoration, ecological. The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed. Ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems sustainability, resilience, and health under current and future conditions (36 CFR 219.19).

Aquatic Species and Habitat

WILD002: FW-AQUASH-O-2 should be modified to include the term minimal to allow for a more broad approach to native fish restoration efforts. Suggested wording: Every 10 years, restore native fish species to 20 miles of streams where nonnative fish are absent or minimal and where natural or human-made fish barriers exist.

Associated Comments: #12519-4, #12528-15, #12698-19, #343-1

Changes made to Plan or EIS: None

WILD002 Response: The suggested change would be inappropriate to do as New Mexico's Game and Fish Department's policy is to only stock native fish in areas where nonnative fish have been completely removed.

WILD003: FW-AQUASH-MA-1 should be modified to include specific mention of government institutions and provide examples to include local, state, and federal governments. Suggested Language: Work collaboratively with the New Mexico Department of Game and Fish, **government institutions (local/state/federal)**, organizations, individuals, and groups to plan and implement projects for the management and research of fish and other aquatic species and their habitats.

Associated Comments: #12528-16, #12698-20

Changes made to Plan or EIS: Plan

WILD003 Response: We modified FW-AQUASH-MA-1 to read, "Work collaboratively with the New Mexico Department of Game and Fish, government institutions (local/State/Federal), organizations, individuals, and groups to plan and implement projects for the management and research of fish and other aquatic species and their habitats."

WILD007: The aquatic species and habitats introduction should be modified to be consistent with FW-AQUASH-DC-1 and add non-native species to the description.

Associated Comments: #12665-33

Changes made to Plan or EIS: Plan

WILD007 Response: We modified the narrative to read: "These animals are both native and non-native to the Santa Fe NF, and their persistence on the forest is desirable."

WILD008: The final Plan's desired conditions for aquatic species and habitats section should specifically reference, consider, and align with the fisheries management goals defined in the New Mexico Department of Game and Fish's 2016 State Wildlife Action Plan for New Mexico.

Associated Comments: #12665-34

Changes made to Plan or EIS: None

WILD008 Response: We have reviewed the New Mexico Department of Game and Fish's 2016 State Wildlife Action Plan for New Mexico. Although the verbiage differs, we believe our desired conditions to be consistent with the document.

WILD009: FW-AQUASH-O-1 should indicate that actions related to restoring beaver populations will require coordination with the New Mexico Department of Game and Fish. Furthermore, the final plan should acknowledge that where beaver cannot be reintroduced due to potential conflicts with adjacent land management or other factors, constructed beaver dam analogs may create similar beneficial conditions for aquatic and riparian habitats.

Associated Comments: #12665-35

Changes made to Plan or EIS: Plan

WILD009 Response: We added a management approach to the Aquatic Species and Habitats section that reads, "Consider constructing beaver dam analogues to create similar beneficial conditions for aquatic and riparian habitats as reintroducing beavers while avoiding potential conflicts with adjacent land management."

WILD010: The desired conditions and guidelines for aquatic species and habitats needs to be consistent with regards to desired width:depth ratio conditions.

Associated Comments: #12665-36

Changes made to Plan or EIS: None

WILD010 Response: FW-AQUASH-DC-1 outlines the appropriate habitat components needed to support “self-sustaining populations of native fish and other aquatic species,” including that the width:depth (w:d) ratio of a stream channel should be within ranges for the channel type. AQUASH-DC-1d provides an example method that could be used to determine the appropriate w:d ratio. Appropriate w:d ratios will help move stream temperatures toward New Mexico state standards for “High Quality Coldwater” systems (FW-AQUASH-G-4).

WILD011: Desired conditions for aquatic species and habitats should be reasonable and attainable within the life of the plan. Reducing non-native fish to less than 50 percent of aquatic habitats across the forest is not reasonable nor is it attainable. Furthermore, the final Plan should ensure it is in compliance with the 2013 Rio Grande Cutthroat Trout conservation agreement.

Associated Comments: #12665-37, #12665-41

Changes made to Plan or EIS: None

WILD011 Response: The desired conditions in the Plan have been written to contain enough specificity so that progress toward their achievement may be determined. In some cases, desired conditions may already be achieved, while in other cases, they may only be achievable over hundreds of years.

We do not reference specific plans or agreements in the Forest Plan, as these may change over time. Instead, management approaches throughout the Plan encourage collaboration. For example:

- FW-AQUASH-MA-1 asks that Forest Service personnel consider working, “collaboratively with the New Mexico Department of Game and Fish and other organizations, individuals, and groups to plan and implement projects for the management and research of fish and other aquatic species and their habitats.”
- FW-AQUASH-MA-2 as that Forest Service personnel consider working, “with partners to develop and implement conservation strategies beneficial to aquatic habitats (e.g., Rio Grande Cutthroat Conservation Strategy).”

The Partnership section of the Plan also contains desired conditions for the Forest’s work with partners.

WILD012: Desired condition #4 for aquatic species and habitats should be modified to include a statement that explains why fish barriers are necessary to restore native fish populations, in addition to protecting them from existing non-native species.

Associated Comments: #12665-39, #12665-41

Changes made to Plan or EIS: None

WILD012 Response: There is no reason to use fish barriers except to protect native fish populations from encroachment of non-native species. This is the only way in which the Forest

Service uses these devices. We believe FW-AQUASH-DC-4 explains our use of barriers adequately.

WILD013: There is general support to maintain the standards, guidelines, objectives, and management approaches identified for aquatic species and habitats.

Associated Comments: #12665-40, #12665-41, #12665-42, #12665-43, #12665-45, #12752-30 (a), #4095-2

Changes made to Plan or EIS: None

WILD013 Response: Thank you for the support. Restoring riparian habitats and protecting our water resources is one of our primary goals.

WILD014: The objectives for aquatic species and habitats should include language stating that non-native fish must be eradicated before native fish can be restored.

Associated Comments: #12665-41, #12752-23

Changes made to Plan or EIS: None

WILD014 Response: FW-AQUASH-O-2 states that, “Every 10 years, restore native fish species to 20 miles of streams where nonnative fish are absent and where natural or human-made fish barriers exist.” This language covers the stated concern, because it specifies that nonnative fish will be absent, which is a broader term than eradicate and covers more situations in which a region is suitable for native fish restoration.

WILD016: The Final Plan should include a new management approach for aquatic species and habitats that references explicitly working with the New Mexico Department of Game and Fish and other partners to identify, protect, and enhance aquatic habitats for fish and other aquatic species.

Associated Comments: #12665-47

Changes made to Plan or EIS: None

WILD016 Response: This concern is captured in FW-AQUASH-MA-1 and MA-2.

WILD026: The final plan should include an objective for aquatic species and habitats to reduce nonnative fish within native fish populations in 4-6 stream reaches during each 10-year period following plan approval.

Associated Comments: #12752-30a

Changes made to Plan or EIS: None

WILD026 Response: We address restoring aquatic habitat, which includes examples such as using fish barriers and treating invasive aquatic species, in FW-AQUASH-O-1; FW-AQUASH-O-2 provides goals for restoring native fish species. In our management approaches, we also ask project managers to consider working with New Mexico Department of Game and Fish “to plan and implement projects for the management and research of fish and other aquatic species and their habitats” (FW-AQUASH-MA-1) and “develop and implement conservation strategies” (FW-AQUASH-MA-2).

WILD027: FW-AQUASH-MA-5 should clarify that work would focus on aquatic species and wildlife.

Associated Comments: #12752-30b

Changes made to Plan or EIS: Plan

WILD027 Response: This typo was corrected in the final Plan.

WILD023: The final plan should include plan components specific to maintain high quality fisheries, with the preference for conserving and maintaining natural fish habitat.

Associated Comments: #12720-7

Changes made to Plan or EIS: None

WILD023 Response: Our goals are focused on maintaining high quality terrestrial and aquatic habitats across the forest. Please see the Wildlife, Fish, and Plants section of the Forest Plan.

WILD042: The final plan should include a guideline for aquatic species and habitats that require actions occurring on NFS lands within or near Riparian Management Zones will require all mechanized equipment (including boats and watercraft) to be decontaminated and high-pressure washed prior to entering.

Associated Comments: #12665-44

Changes made to Plan or EIS: None

WILD042 Response: Standards in the Riparian and Wetland Ecosystems section (FW-RWE-S-1) and the Nonnative Invasive Species section (FW-INVASIVE-S-1a) direct that project managers take measure to avoid introducing invasive species or pathogens. Decontamination procedures must be implemented in alignment with best management practices (e.g., Forest Service Handbook, Region 3 Soil and Water Conservation Practices Handbook).

WILD062: The final Plan needs to strengthen the attention given to the ecological and economical value that beavers have on the forest ecosystem and downstream users. This will ensure full compliance with the 2012 Planning Rule's requirements for climate resiliency and ecological integrity, and reflect current scientific research and practical experience. Specifically, the final Plan should more explicitly facilitate and prioritize restoration of beavers to unoccupied but suitable habitat.

Associated Comments: #12515-38, #12515-40, #12708-15, #12515-35

Changes made to Plan or EIS: None

WILD062 Response: Beaver restoration is addressed multiple times within the plan, e.g., FW-AQUASH-O1. Other examples include Ch. 5 Monitoring Plan, in which beaver are used as a focal species for wildlife connectivity.

Beaver restoration is included as part of FW-AQUASH-O1 and used as an example. We have been implementing beaver habitat restoration and beaver dam analogs in a number of projects.

WILD065: The SFNF should adopt a guideline advising that lethal removal of beavers will only be considered after non-lethal strategy options have been exhausted.

Associated Comments: #12515-39

Changes made to Plan or EIS: None

WILD065 Response: The 2012 Planning Rule directs us to provide ecological conditions for persistence of native species, not the management of individual animals. We do recognize the importance of beavers on the forest, and have identified them as a focal species to help us monitor habitat connectivity. While we don't foresee any situation where we would need to resort to lethal means to deal with beaver concerns, lethal removal may be conducted by the State under their own authority.

WILD100: The EIS should include language throughout the document that it is uncertain whether non-native trout have negative impacts to these two native fish species, as current science has not found definitive evidence that Non-native brown trout, brook trout, and rainbow trout have similar impacts on Rio Grande chub and Rio Grande sucker as they do on the Rio Grande cutthroat trout.

Associated Comments: #12665-112

Changes made to Plan or EIS: EIS

WILD100 Response: Under section 3.5.4.2.11, Threat I – Non-native Competition and Predation (Aquatic), we have added clarification that the Rio Grande chub and Rio Grande sucker may be at risk due to predation or competition from brown trout or other non-native aquatic species. We have also added two citations to Forest Service reports that support our analysis that these two fish species may be experience competition or predation from non-native species.

WILD101: The description of Rio Grande chub in the DEIS (Volume 2, p. 287), contains a few inaccuracies that should be corrected. Rio Grande chub have not been extirpated from the mainstream Rio Grande. In addition, no scientific evidence indicates brown trout to be a significant threat as a predator of Rio Grande chub, and the two species coexist in areas of the Forest. There is some evidence that white sucker compete with Rio Grande chub.

Associated Comments: #12665-115

Changes made to Plan or EIS: EIS

WILD101 Response: We removed the language suggesting that Rio Grande chub have been extirpated from the mainstream Rio Grande.

See also: WILD100 for more on non-native predation and competition for the Rio Grande chub.

WILD167: It is unclear to which species FW-AQUASH-DC-1 applies. The species should be identified, and the scientific basis for ecological condition targets should be documented.

Associated Comments: #12522-36

Changes made to Plan or EIS: None

WILD167 Response: FW-AQUASH-DC-1 is meant to apply to a myriad of species that utilize high-elevation cold-water streams, rather than a single species.

WILD168: In the final Plan, FW-AQUASH-DC-3 must articulate the conditions for achieving species population redundancy on the forest, based on accepted BASI.

Associated Comments: #12522-37

Changes made to Plan or EIS: None

WILD168 Response: Habitat redundancy is addressed in FW-AQUASH-DC-1 and DC-4, but the purpose of the plan is not to identify how or where projects will be completed, or specify project design. Rather, the plan contains forest-specific guidance and information for project and activity decision-making over the plan period, generally considered to be 10 to 15 years. With the direction laid out by the forest plan, management can adapt to better achieve the vision for the Santa Fe NF. The Forest Plan does not compel any agency action or guarantee specific outcomes. It does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides.

WILD169: There is support for FW-AQUASH-O-1 and FW-AQUASH-O-2.

Associated Comments: #12522-41, #12522-42

Changes made to Plan or EIS: None

WILD169 Response: Both of these objectives are included in the final Plan.

WILD187: In addition to FW-RWE-G-10, the final Plan should also include direction to protect cottonwood seedlings that are vulnerable to trampling, grazing, tamarisk invasion, insufficient water due to drought (increasing risk because of climate change), and other threats.

Associated Comments: #12522-54

Changes made to Plan or EIS: None

WILD187 Response: In the Forest Plan, we focus on protecting mature cottonwoods as they provide habitat benefits and take years to grow.

Terrestrial Species and Habitat

WILD028: There is general support to maintain the standards, guidelines, objectives, and management approaches identified for terrestrial species and habitats from alternative 2. Some minor changes or additions are recommended, such as:

1. Increase the restoration objectives outlined in FW-RWE-O-2 to least 400 – 600 acres of nonfunctioning and functioning-at-risk riparian areas annually.
2. Describe how success and progress toward FW-TERRASH-O-2 (“restore or enhance at least 50,000 acres of terrestrial wildlife habitat during each 10-year period”) will be measured and how “restore or enhance” is defined.
3. Add additional objectives for terrestrial wildlife.
4. At least one such objective should be specific to the Caja del Rio MA, such as: “Improve wildlife or aquatic habitat connectivity by removing unneeded structures (e.g., fences, roads, cattle guards, culverts, and spring developments) or completing improvement projects (e.g., removing barriers and connecting fragmented habitat) in at least 10 – 20 locations during each 10-year period following plan approval.”
5. Use the desired conditions to identify areas of wildlife movement, especially areas critical to connectivity, seasonal migrations, and summer and winter range.

Associated Comments: #12575-1, #12752-31, #12752-40, #12515-4

Changes made to Plan or EIS: None

WILD028 Response:

1. The levels of objectives in the proposed action (alternative 2) are what we can reasonably accomplish in the context of the rest of the Forest Plan and with currently available resources and forest capacity (e.g., current budgets, personnel, etc.). These objectives do not include upper limits so that if more resources become available (e.g., due to novel funding sources or changes in Congressional direction) we can increase the amount of work we do for maintaining and restoring forest conditions to better meet our desired conditions. If this should occur it would be a project-level decision outside the scope of the planning process. Objectives in final Plan are lower than those proposed alternative 3, but current planning efforts underway outside the forest plan revision effort (e.g., the Northern New Mexico Riparian Restoration Project) look to increase the level of riparian restoration on the forest.
2. Restoration goals for terrestrial habitat are defined by the desired conditions in the Vegetation and Terrestrial Species and Habitats section of the Forest Plan. We use seral state proportions and species composition of terrestrial ERUs and acres of terrestrial habitat restored or enhanced as indicators to help us measure progress toward meeting our terrestrial habitat objectives (see chapter 5 of the final Plan). Restoration work is primarily conducted through prescribed fire and mechanical treatments.
3. Terrestrial wildlife are most impacted by restoration of habitat. Objectives set forth in the vegetation section will help accomplish this goal. For example, FW-Veg-O1 strives to treat up to 250,000 acres of ponderosa pine over a 10-year period.
4. Forestwide plan components that focus on connectivity cover the Caja del Rio (see Section C of Appendix E of the final EIS). Caja-specific plan components also address connectivity (MA-CAJA-G-2).
5. Wildlife connectivity plan components are found throughout the Forest Plan. There are over 150 plan components related to wildlife connectivity and corridors (see Section C of Appendix E of the FEIS). Furthermore, we try to avoid identifying specific migration corridors since they are subject to move over time and for many species are yet undefined.

WILD043: The final plan should modify Terrestrial Species and Habitats Desired Condition 1.a to include parturition as a critical life history need.

Associated Comments: #12665-48

Changes made to Plan or EIS: None

WILD043 Response: In FW-TERRASH-DC-1a we have a list of examples of life history needs. Our statement, “and other critical life history needs,” covers any remaining unmentioned needs. Additionally, parturition is considered part of the breeding cycle, which is mentioned.

WILD058: The Terrestrial Species and Habitats section Guideline 3 states "Activities negatively impacting wildlife reproduction or other vital functions should be minimized (e.g., closures during elk calving)." This statement should be revised to minimize activities that negatively impact wildlife reproduction or other vital functions by implementing actions such as seasonal closures during game animal breeding seasons (e.g., elk calving).

Associated Comments: #12665-52

Changes made to Plan or EIS: None

WILD058 Response: FW-TERRASH-G3 protects wildlife during reproduction or other vital functions. We do not believe rewording this guideline as asked is necessary.

WILD061: Objectives to maintain, improve, or install at least one water feature per year should be increased.

Associated Comments: #12503-26

Changes made to Plan or EIS: None

WILD061 Response: This concern is addressed under FW-TERRASH-O1.

WILD075: Management Approach 1 in the Terrestrial species section should be modified to include "government institutions (local/state/federal)" in the list of groups with whom to collaborate.

Associated Comments: #12528-17

Changes made to Plan or EIS: Plan

WILD075 Response: We have made the suggested modification to FW-TERRASH-MA-1.

See also: Response to RNG013/023/033/042/052.

WILD088: Add a new Management Approach to the Terrestrial species section: "During project-level planning, in order to be consistent with the MBTA, consider seasonal (April 15-August 15) restrictions on vegetation modification to avoid negative impacts on nesting bird species."

Associated Comments: #12575-11

Changes made to Plan or EIS: None

WILD088 Response: Under the 2012 Planning Rule, we are required to follow all existing law, regulation, and policy. These are not always restated in the Plan document. We do discuss the Migratory Bird Treaty Act (MBTA) in-depth under the Wildlife, Fish, and Plants section of the EIS (Migratory Bird Treaty Act, section 3.5.4.5), and summarize the effects of the proposed action and alternatives on migratory birds. In addition, FW-TERRASH-G-3 and G-4 direct the Forest to mitigate impacts to wildlife during project activities (e.g., avoid disturbing nest sites).

WILD106: Desired condition 3 in the Terrestrial species section should be modified to read: "Wildlife are free from harassment and human disturbance at a scale that does not impact vital functions of populations (e.g., breeding, feeding, rearing young **and migration and dispersal**) resulting in a negative impact to the persistence of the species in the forest."

Associated Comments: #12665-49

Changes made to Plan or EIS: Plan

WILD106 Response: FW-TERRASH-DC-3 now reads, "Wildlife are free from harassment and human disturbance at a scale that does not impact vital functions of populations (e.g., breeding, feeding, rearing young, **migration and dispersal**) resulting in a negative impact to the persistence of the species in the forest."

WILD107: Objective 1 in the Terrestrial species section should not lump livestock in with wildlife. Peer reviewed literature suggests that artificial waters are sometimes beneficial for wildlife, but probably less important than is commonly believed. Instead of a fixed number of artificial waters, the Department recommends assessing the distribution of natural water on the landscape relative to wildlife populations.

Associated Comments: #12665-50

Changes made to Plan or EIS: None

WILD107 Response: We include livestock with wildlife in FW-TERRASH-O-1 due to the fact that water features installed on forest land are not monitored to ensure they only allow either wildlife or livestock to drink from them. While we agree that natural waters are important for wildlife, we do not want to discount the fact that wildlife do use and benefit from installed water features when natural water sources are limited.

WILD110: Guideline 4 in the Terrestrial species section should indicate that disturbing known raptor nests sites during implementation of management activities should be avoided by seasonal closure of activities within a species-dependent buffer around the nest site

Associated Comments: #12665-53

Changes made to Plan or EIS: Plan

WILD110 Response: We have modified FW-TERRASH-G-4 to read, "Management activities that inhibit the reproduction of an individual raptor (disturbing the same nest site) should be avoided in successive years (e.g., via the development of species specific distance buffers focusing around known nest sites)."

WILD125: Management Approach 1 in the Terrestrial species section should be modified to include "government institutions (local/state/federal)" in the list of groups with whom to collaborate.

Associated Comments: #12698-21

Changes made to Plan or EIS: Plan

WILD125 Response: The suggested edit has been added to the final Plan.

WILD133: Critical bird habitat in the Caja del Rio should be protected to the fullest extent possible.

Associated Comments: #13502-1 (b)

Changes made to Plan or EIS: None

WILD133 Response: MA-CAJA-G3 is specific to protecting bird species. MA-CAJA-D2 specifies that the intent of the management area is to protect wildlife, including birds. MA-CAJA-MA2 and 4 specify specific strategies we may employ to help protect wildlife, including birds, on the Caja.

WILD188: FW-TERRASH-G-3 is so broad, it is difficult to discern all of the management actions it could entail and how it should be applied to mitigate impacts to species' "reproduction and other vital functions." It is not written clearly; what does "except if management activities are implemented to control wildlife populations to protect the overall health of the habitat or other populations (e.g., NMDGF regulations)" mean? If the intent is to follow NMDGF regulations, management direction must be spelled out. The Forest Service is not obliged to abide by state regulations, so the revised plan must be clear regarding how these regulations promote overall wildlife protection and at-risk species recovery and persistence. The guideline should be broken up by species or groups of species that share elements of reproductive habitat. For example, there should be a standard or guideline for seasonal closures of elk calving grounds. There should be standards that provide disturbance buffers around raptor nests. And it should be clear what jumping mouse risks will be minimized.

Associated Comments: #12522-55

Changes made to Plan or EIS: None

WILD188 Response: The 2012 Planning Rule requires Forest Plans to “adopt a complementary ecosystem and species-specific approach to provide for the diversity of plant and animal communities and the long-term persistence of native species in the plan area. Known as a coarse-filter/fine-filter approach, this is a well-developed concept in the scientific literature and has broad support from the scientific community and many members of the public.” Plan components in the Terrestrial Species and Habitats section are more coarse-filter, and thus they do not directly address the needs of specific species but collectively address the needs of all species. The At-Risk Species section of the Plan has more fine-filter plan components for those species that we have identified as needing them for persistence. Additionally, species-specific restoration work occurs at the project level and is detailed in project design. The Forest Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides. Specificity will be achieved as part of project specific mitigations and design criteria, allowing for flexibility and adaptive management while protecting riparian resources.

Elk, Deer, and Pronghorn

WILD039: The Santa Fe should develop management direction around protecting elk and their habitat. Management direction should include banning new road construction as well as mineral and energy development.

Associated Comments: #9387-4

Changes made to Plan or EIS: None

WILD039 Response: Big game species management is primarily in the realm of responsibility for the New Mexico Department of Game and Fish. We collaborate with the Department (FW-TERRASH-MA-1, MA-2) to identify habitat for these species. In the final Plan, we also have several plan components that reference habitat for game species and the need to protect them, particularly at critical times such as calving (see FW-TERRASH-G-3, MA-OGLEASE-S-1d and S-1e). Plan components in several sections also protect wildlife from roads, barriers (e.g., fences) and related impacts (e.g., MA-CAJA-G-1, MA-CAJA-G-2, FW-TERRASH-G-1 and G-2, FW-RANGE-S-2 and S-3).

See also: WILD050, WILD051 and WILD060 for more on elk habitat.

WILD051: The final plan should include plan components for seasonal closures during critical times for elk and other wildlife species.

Associated Comments: #12503-14, #12503-28

Changes made to Plan or EIS: None

WILD051 Response: FW-TERRASH-G3 guides us to minimize activities negatively impacting wildlife reproduction or other vital functions (e.g., closures during elk calving), except if management activities are implemented to control wildlife populations to protect the overall health of the habitat or other populations (e.g., New Mexico Department of Game and Fish regulations).

WILD060: The final Plan should include additional habitats for deer, elk, pronghorn, and sheep.

- Elk: migration corridors, migration patterns, production areas, summer concentration areas, and all winter ranges.
- Mule deer: concentration areas, migration corridors, migration patterns, summer ranges, and all winter ranges.
- Bighorn sheep: concentration areas, any migration patterns, perennial water sources, and all seasonal ranges.
- Pronghorn: concentration areas, any migration patterns, perennial water sources, and all seasonal ranges.
- These areas should be identified on maps tying back to specific plan direction, or included in an appendix that can be updated based on new information, with plan direction tied to functional descriptions of migration corridors, species concentration areas, summer ranges, winter ranges, and water sources.

Associated Comments: #12720-4

Changes made to Plan or EIS: None

WILD060 Response: Big game species management is primarily in the realm of responsibility for the New Mexico Department of Game and Fish. We collaborate with the Department (FW-TERRASH-MA-1, MA-7, and MA-8) to identify habitat for these species. In the Plan, we have several plan components that reference habitat for these game species and the need to protect them, particularly at critical times such as calving (see FW-TERRASH-G-3, MA-OGLEASE-S-1e). These habitat areas are dynamic, however, and thus not appropriate for static maps in the plan documents.

WILD036: The Santa Fe should protect Rocky Mountain Elk.

Associated Comments: #4075-1, #9387-2, #10185-5

Changes made to Plan or EIS: None

WILD036 Response: Elk do not fit under the definition for species of conservation concern. The Forest Service manages for habitat, while game species populations are managed by New Mexico Department of Game and Fish.

WILD050: The final Plan should add Desired Conditions (DCs) that emphasize coordination between the National Forest, state wildlife agencies, private landowners, and others to provide habitat conditions that support year-round presence of elk and other big game on the Forest.

Associated Comments: #12503-11, #12515-16

Changes made to Plan or EIS: None

WILD050 Response: See response to WILD036. The Santa Fe NF sees the importance of coordination between the national forest, state wildlife agencies, private landowners, and others to provide desired habitat conditions. Refer to Plan, Cross-boundary Management on p. 140, and FW-PARTNER-DC3

Rocky Mountain Bighorn Sheep

WILD032: Rocky Mountain bighorn sheep should be listed as a Species of Conservation Concern (SCC). The fact that a species can be hunted should and does not disqualify it from listing. The final plan and FEIS, need to be consistent in how they evaluate SCC, which the draft EIS and plan are not.

Associated Comments: #12515-30

Changes made to Plan or EIS: None

WILD032 Response: Rocky Mountain bighorn sheep do not meet the criteria for listing as a species of conservation concern according to the 2012 Planning Rule Directives, which define species of conservation concern as: “a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species’ capability to persist over the long-term in the plan area.” Bighorn sheep do not meet these criteria.

WILD047: The final plan should include plan components that will reduce the risk of contact and disease transmission between population of Rocky Mountain bighorn sheep and domesticated sheep.

Associated Comments: #12499-7

Changes made to Plan or EIS: None

WILD047 Response: Bighorn sheep do not meet the definition of a SCC under the 2012 Planning Rule. Although not recognized as an SCC, the Forest has provided a plan component to address disease concerns regarding bighorn sheep. See FW-RANGE-G8.

WILD054: The Santa Fe failed to fully describe the existing conditions for Rocky Mountain bighorn sheep and the considerable amount of competition they face from domestic and wild ungulates. The Santa Fe should use a similar approach to the Rio Grande NF, where competition was recognized as a potential risk factor to Rocky Mountain bighorn sheep.

Associated Comments: #12515-28

Changes made to Plan or EIS: None

WILD054 Response: There is no known competition to bighorn sheep from other ungulates. FW-RANGE-G8: Grazing of domestic sheep or goats should not be authorized in areas occupied by bighorn sheep to minimize the spread of disease between domestic and wild populations.

WILD063: The Forest Service failed to use the best available scientific information (BASI) in making their determination that there is not substantial concern about the Rocky Mountain bighorn sheep’s ability to persist. In this letter, we respectfully submit that the BASI dictates that Rocky Mountain bighorn sheep must be managed as an SCC. BASI can come from a number of sources, but most notably the Planning Rule requires the responsible official to “coordinate with or provide opportunities for . . . the public to provide existing information” for the planning process. 36 C.F.R. § 219.5(a)(1). Under regulation and agency guidance, it is critical to leverage the expertise provided by the public when the Forest Service is identifying species of conservation concern. FSH 1909.12 ch20, § 21.22(a)(1)(d)-(e); 36 C.F.R. § 219.6.

Associated Comments: #12515-24, #12515-26, #12515-27

Changes made to Plan or EIS: None

WILD063 Response: Best available scientific information informs us that bighorn sheep do not meet the criteria for species of conservation concern. Although bighorn sheep may be at-risk within the state of New Mexico, populations on the Santa Fe NF appear to be increasing. The Forest Plan addresses disease concerns with bighorn through FW-RANG-G8.

WILD071: Considering the susceptibility of the Rocky Mountain Bighorn Sheep to potential diseases, adopting the most protective management approach available—identifying Rocky Mountain bighorn sheep as an SCC—is necessary and within the authority and inherent capability of the agency.

Associated Comments: #12515-27

Changes made to Plan or EIS: None

WILD071 Response: See Response to WILD032 and WILD063

WILD072: The Forest Service must account for the risk posed by herd isolation on the forest. Managing the Rocky Mountain Bighorn Sheep as an SCC will allow the agency to implement the proper plan components necessary for achieving that goal.

Associated Comments: #12515-29

Changes made to Plan or EIS: None

WILD072 Response: See Response to WILD032 and WILD063

WILD073: Plan components are insufficiently protective of the Rocky Mountain Bighorn Sheep. Forest-wide plan components for terrestrial species and habitats are not sufficient to ensure the unique needs of the RMBS are met, nor are the few RMBS components outlined in the Draft Plan. The Plan should increase its plan direction for this species, and list it as an SCC so SCC-related protections and monitoring requirements outlined in the Plan will apply.

Associated Comments: #12515-31, #9387-3

Changes made to Plan or EIS: None

WILD073 Response: See the response to WILD032 and WILD063

RNG013/023/033/042/052: There should be stronger protections for bighorn sheep in the Plan with regards to potential disease transmission between domestic sheep and bighorn sheep, along with language stating the Forest Service will work with the NMDG on identifying areas of the forest occupied by bighorn sheep.

Associated Comments: #498-14, #12528-90, #12665-72, #12698-95, #12727-17, #12752-34 (g)

Changes made to Plan or EIS: Plan

RNG013/023/033/042/052 Response: The Forest Plan has been adjusted to address this concern. Language about bighorn sheep and collaboration with New Mexico Department of Game and Fish on bighorn sheep placement and management has been added to FW-TERRASH-MA-1. While this language will help clarify how we plan to work toward collaborative management of bighorn sheep herds on the Santa Fe NF, New Mexico Department of Game and Fish manages bighorn sheep introductions and the herds on public lands in New Mexico. There are no domestic sheep allotments on the forest from which the current bighorn sheep herds need protection. Additionally, Forest Service regulation allows permits to be cancelled for resource management purposes (36 CFR 222.4). In this event, permittees are notified.

Non-native Invasive Species

WILD017: Standards for nonnative invasive species should be expanded to include decontamination of equipment used in aquatic environments to control aquatic diseases and pathogens, such as whirling disease and chytrid fungus.

Associated Comments: #12665-56 (a)

Changes made to Plan or EIS: Plan

WILD017 Response: We modified FW-INVASIVE-S-1a to read: “Forest management actions must apply best management practices (e.g., Forest Service Handbook, Region 3 Soil and Water Conservation Practices Handbook) to minimize the introduction or spread of invasive species, including:

- a) Decontamination procedures on vehicles and equipment used in terrestrial and aquatic environments.”
- b) **WILD018:** The final plan should include a new management approach for nonnative-invasive species to follow protocols such as the Declining Amphibian Task Force Fieldwork Code of Practice.

Associated Comments: #12665-56 (b)

Changes made to Plan or EIS: None

WILD018 Response: This protocol would be considered under FW-INVASIVE-MA-1, as well as any other new protocols. Additionally, FW-INVASIVE-S-1a addresses decontamination, for which we prefer to use the PARC protocol.

WILD019: The final plan should include guidelines for nonnative-invasive species to reference state-level efforts to prevent non-native species introduction and infestations, including the Department's Aquatic Invasive Species Program and Clean, Drain, and Dry" guidelines.

Associated Comments: #12665-57

Changes made to Plan or EIS: Plan

WILD019 Response: We revised guideline 4 to read, “Management activities should implement procedures to prevent the spread of insects and diseases that impact ecosystem function (e.g., the New Mexico Department of Game and Fish’s Aquatic Invasive Species Program and Clean, Drain, and Dry guidelines),” and modified MA1 to coordinate with New Mexico Department of Game and Fish and others.

WILD033: The Forest Service should treat National Forest Lands to remove invasive species, including cattle.

Associated Comments: #12651-9, #12750-2, #12941-6, #197-70

Changes made to Plan or EIS: None

WILD033 Response: The Non-Native and Invasive species section has plan components that are designed to reduce invasive species from the forest (e.g., FW-INVASIVE-O-1). Cattle are not considered an invasive species and are not handled like free-ranging wildlife. Livestock grazing is

an authorized use on National Forest Lands, as directed by the Multiple Use Sustained Yield Act (MUSYA).

See also: RNG072 for more on why we cannot remove livestock from the forest.

WILD053: The Santa Fe should develop and implement a weed management plan.

Associated Comments: #12503-6

Changes made to Plan or EIS: None

WILD053 Response: The draft Plan provides for forestwide plan components developed to address invasive and undesirable non-native species (see the Non-Native Invasive Species subsection of the final Plan's Wildlife, Fish, and Plants section). The Forest has a strategy on weed management. Developing the management plan is an ongoing process and outside the forest plan revision process.

WILD066: The Plan's objectives for invasive plant treatment (pg 88 of the draft Plan) should be increased.

Associated Comments: #12503-31

Changes made to Plan or EIS: None

WILD066 Response: The objectives listed in the proposed action are balanced with each other and the Forest's capacity (e.g., current budgets, personnel, etc.). Alternative 3 is able to propose higher objectives for restoration, such as invasive plant treatments, because it does not propose any mechanical vegetation treatments and thus has more funding for other treatments. To maintain both the combination of mechanical and fire treatments, 600 acres of invasive plant treatments annually is feasible given current capacity. The Planning Rule provides direction that the planning process and plan components and other plan content should be within the Agency's authority and the fiscal capability of the unit (36 CFR § 219.1(g)). Forest budgets (that affect expenditures and salaries) are distributed by an act of Congress and may fluctuate over the life of the management plan, but are not dictated by the management plan or alternatives.

WILD067: A collaborative approach should be used to ensure early detection and rapid response in weed management.

Associated Comments: #12503-7

Changes made to Plan or EIS: None

WILD067 Response: FW-INVASIVE-MA-1 states, "Coordinate with the NMDGF and other agencies and pursue partnerships to manage terrestrial and aquatic invasive species." Also see the Partnership section.

WILD068: The Forest Service should use native plant seed mixes.

Associated Comments: #12503-8

Changes made to Plan or EIS: None

WILD068 Response: This concern is covered under FW-INVASIVE-G-1: "Certified, weed-free native seed mixes of local species varieties should be used for revegetation when commercially

available. Sterile, nonnative, non-invasive plant material that does not persist long term may be used in limited situations where considered necessary to protect resources and stabilize soils in a timely fashion.”

WILD084: In the FEIS, smooth brome (*Bromus inermis*) should be included in the list of non-native invasive species (DEIS, Vol 1, p. 247).

Associated Comments: #12543-8

Changes made to Plan or EIS: None

WILD084 Response: We acknowledge that smooth brome is a non-native invasive species. In developing the non-native invasive species list we used the state invasive species list, which does not include smooth brome. While we do acknowledge the grass as a non-native invasive species, we do not manage for it as it is pervasive across the forest, having once been used for erosion control and not being identified as an invasive species that is particularly ecologically harmful at this time. Current best management practices are that the grass should no longer be used for erosion control; FW-INVASIVE-S-3 directs managers to use native species when possible, and sterile, nonnative, non-invasive species when it is not possible to find appropriate native seed mixes.

WILD089: In order to be consistent with FW-INVASIVE-S-3, FW-INVASIVE-MA-8 should read: “Require public pack-animal users to use pelletized, weed-free feed.”

Associated Comments: #12575-12

Changes made to Plan or EIS: None

WILD089 Response: FW-INVASIVE-S-3 requires pelletized feed for agency and permitted pack animals. But the Forest Plan guides the actions of the agency, not the public. Any constraint on the public needs to be imposed by law, regulation, or through an order issued by the responsible official under 36 CFR part 261, Subpart B. Thus, we are not able to mandate that the public use a specific type of feed. FW-INVASIVE MA-8, however, does suggest that forest personnel, “Consider encouraging public pack-animal users to use pelletized, weed-free feed.”

WILD098: An objective should be added to the Nonnative Invasive Species section of the Plan for inventory and mapping of invasive species populations.

Associated Comments: #12640-8

Changes made to Plan or EIS: None

WILD098 Response: This concern is covered by FW-INVASIVE-G-5: “As part of project implementation, new populations of invasive species found within the project area should be reported and recorded.”

WILD112: The Forest should consult and reference the NMDGF 2016 Statewide Fisheries Management Plan for details and direction on when and where non-native fish species, such as brown trout, should be considered invasive.

Associated Comments: #12665-55

Changes made to Plan or EIS: None

WILD112 Response: See plan components and management approaches that address consultation with state agencies on the issue of aquatic species and non-native species management:

- FW-AQUASH-MA-2: Work with partners to develop and implement conservation strategies beneficial to aquatic habitats (e.g., Rio Grande Cutthroat Conservation Strategy, the State Wildlife Action Plan, etc.).
- FW-INVASIVE-G-4: Management activities should implement procedures to prevent the spread of insects and diseases that impact ecosystem function (e.g., the New Mexico Department of Game and Fish's Aquatic Invasive Species Program and Clean, Drain, and Dry guidelines).
- FW-INVASIVE-MA-1: Coordinate with the NMDGF and other agencies and pursue partnerships to manage terrestrial and aquatic invasive species.

WILD113: Management Approach 1 in the Nonnative Invasive Species section of the Plan should promote collaboration on native fish restoration efforts for controlling undesirable nonnative species.

Associated Comments: #12665-58

Changes made to Plan or EIS: None

WILD113 Response: In addition to FW-INVASIVE-MA-1, see FW-AQUASH-MA-1 and MA-2 that address fish restoration with partners.

6. FW-AQUASH-MA-1: Work collaboratively with the New Mexico Department of Game and Fish, government institutions (local, state, tribal and federal), and other organizations, individuals, and groups to plan and implement projects for the management and research of fish and other aquatic species and their habitats.
7. FW-AQUASH-MA-2: Work with partners to develop and implement conservation strategies beneficial to aquatic habitats (e.g., Rio Grande Cutthroat Conservation Strategy, the State Wildlife Action Plan, etc.).

WILD127: The DEIS has insufficient actions for limiting the spread of invasive species via vector management (e.g., livestock, roads, equipment, OHVs).

Associated Comments: #12717-2, #197-5

Changes made to Plan or EIS: None

WILD127 Response: The plan includes an entire section related to managing for and mitigating risk for invasive species. Many specific methods are lined out in Forest Service policy, which is referenced in FW-INVASIVE-S1. Also see FW-INVASIVE-G2 and G4.

At-Risk Species, Species of Conservation Concern, and Focal Species

WILD020: Desired conditions for at-risk species should be written to include the term “well-connected” when discussing desired habitat conditions.

Associated Comments: #12665-59

Changes made to Plan or EIS: Plan

WILD020 Response: FW-ATRISK-DC-3 was changed to read, "At-risk species, including rare and endemic, populations and habitats are known (locations), intact, functioning, well-connected, and sufficient for species' persistence."

WILD034: The DEIS is deficient and needs to be revised to include the Southwest Willow Flycatcher. The Santa Fe's determination that the ESA Endangered Southwest Willow Flycatcher (*Empidonax traillii extimus*) does not merit consideration in the Forest Plan is in error, since it does not take into account the best and most recently available scientific information (BASI) confirming the species' presence, existence of critical habitat, and likelihood of establishment, all of which are supported in the 2018 DOI paper 2017 Middle Rio Grande Southwestern Willow Flycatcher Study Results.

Associated Comments: #13416-41

Changes made to Plan or EIS: None

WILD034 Response: According to the report referenced, there were no flycatcher breeding territories documented in the Frijoles reach (page 49 of the 2017 Middle Rio Grande Southwestern Willow Flycatcher Study Results), which is the section of territory on the Santa Fe NF. Although some males were noted, no breeding pairs were found. Since the Rio Grande is a migratory corridor, presence of unmated pairs does not indicate this species is present on the forest. Additionally, the Santa Fe NF does not have nesting habitat that is attractive to this species. Sections of the Rio Grande where these birds have been seen typically are comprised of high cliffs without much riparian vegetation, which are not documented as preferred breeding habitat.

WILD074: Guideline 4 in the At-Risk species section should be modified to read, "Within critical habitat for threatened and endangered species, footprints of ground-disturbing fire suppression activities should be as small as possible or located where ground disturbance has previously occurred. **Fire prescriptions should be written in these critical habitats with the future goal of restoring their historical optimal functions (such as supporting a natural fire cycle, healthy tree density, etc.)."**

Associated Comments: #12519-5, #12528-18

Changes made to Plan or EIS: None

WILD074 Response: In both our vegetation and fire sections, we have extensive plan direction that supports habitat restoration (e.g., FW-FIRE-DC-2 and FW-FIRE-G-1). In addition, FW-ATRISK-DC-1 and DC-2 move the forest toward functioning habitats. Thus, we do not feel that it is necessary to add this statement to the guideline.

WILD078: The Santa Fe NF should employ a botanist to work on protecting endangered plants, and to review and contribute to the Forest Plan and EIS.

Associated Comments: #12543-1

Changes made to Plan or EIS: None

WILD078 Response: The analysis conducted within the DEIS looks at how threats and issues contributing to the downward trend of at-risk species or their habitats, will be addressed by the new Forest Plan. This analysis is atypical of standard species-by-species analysis that is routinely used for project-level analysis. It is, however, appropriate for plan-level analysis since at-risk species can change throughout the life of the plan. This is particularly useful since much is unknown regarding rare plants and can change drastically within a short period of time.

Addressing common threats to other at-risk plants is the most practical way to ensure persistence for all species.

WILD079: The DEIS is inadequate in listing threats to At-Risk plant species, failing to mention such threats as climate change or grazing. It should refer to the New Mexico Rare Plant Conservation Strategy and the Rare Plant Conservation Scorecard.

Associated Comments: #12543-3, #12543-4, #12543-5

Changes made to Plan or EIS: None

WILD079 Response: Grazing impacts are captured under Threat J – Ground/Soil Disturbance. Climate change is analyzed as a stressor under each resource in the EIS (see the Drivers and Stressors section of the Wildlife chapter of the EIS (Vol 1) for this analysis as it pertains to at-risk species).

See also: WILD029 for more on how we have incorporated grazing into the At-Risk Species Issues and Threats analysis in the EIS.

WILD080: The Plan should include direction on the management of the Holy Ghost Ipomopsis and improve its documentation of threats to this species so that management direction can be implemented in a meaningful way.

Associated Comments: #12543-6

Changes made to Plan or EIS: None

WILD080 Response: Guidance for the management of Holy Ghost ipomopsis comes from the U.S. Fish and Wildlife Service. There is a Holy Ghost ipomopsis working group that the Santa Fe NF is a part of; this is an ongoing collaborative process outside of plan revision.

WILD081: The Plan should adopt the Holy Ghost Ipomopsis Botanical Area from Alternative 3 and list the Holy Ghost Ipomopsis as an At-Risk species impacted by human-made threats in the EIS Vol 1, pg 274.

Associated Comments: #12543-6

Changes made to Plan or EIS: None

WILD081 Response: See HG001 for more on the HGI Botanical Area.

WILD082: It is unclear how the Forest Service has concluded populations of At-Risk species on the forest are stable or increasing (EIS, Vol.1, section 3.5.2.2, p 210), as there is no population trend data cited. Only one species, the Holy Ghost Ipomopsis, is consistently monitored and it has showed continued population declines.

Associated Comments: #12543-7 (a)

Changes made to Plan or EIS: EIS

WILD082 Response: The conclusion that wildlife populations are stable or increasing is for general wildlife and should not include at-risk species. We have modified this assumption to specify this idea. In the FEIS, the assumption reads, “Species that are not classified as At-Risk species (Threatened and Endangered species and Species of Conservation Concern) in the Santa Fe NF are assumed to have stable or increasing populations.”

WILD083: The impacts of short-lived ground-disturbing activities, such as forest thinning and prescribed fires, needs to be considered a management threat to At-Risk plant species in the absence of data showing otherwise.

Associated Comments: #12543-7 (b)

Changes made to Plan or EIS: None

WILD083 Response: See the response to WILD126.

WILD085: There should be more plan direction on the management, protection, and monitoring of native and At-Risk plant species in the Plan, including a list of BMPs for projects operating in At-Risk plant habitat and direction for plant surveys in all known habitats for At-Risk plant species before ground-disturbing management activities.

Associated Comments: #12543-9 (a)

Changes made to Plan or EIS: None

WILD085 Response: Best management practices are part of project design, thus, these are outside the scope of the plan revision process. In addition, many best management practices are already part of existing policy and thus, repeating them in the plan is redundant.

WILD086: The EIS should include an additional Issue Statement concerning management for At-Risk species, including At-Risk plants.

Associated Comments: #12543-9 (b)

Changes made to Plan or EIS: None

WILD086 Response: Issues were identified from public comments, specifically comments on the NOI published in the Federal Register on June 30, 2016, but additional public comments received since then as well. The public, other agencies, and tribes submitted 40 comments in response to the NOI and initial plan components. Scoping comments were analyzed and divided into 32 initial categories that were then grouped into the 5 categories presented here. Although we did not identify At-Risk species specifically in this section, we discuss wildlife habitat and connectivity as important issues the forest plan addresses under Issue A: Restore Vegetation Resilience.

WILD087: There is support for increasing protections and monitoring of at-risk species (including threatened and endangered), focal species, and their habitats, including from the effects of climate change

Associated Comments: #12551-2, #12699-2, #12717-28, #13502-1 (a), #197-71, #9-6

Changes made to Plan or EIS: None

WILD087 Response: The Forest Plan thoroughly addresses our wildlife resources. Plan components addressing these concerns are found within multiple resource areas such as vegetation, riparian and wetland ecosystems, sustainable range land and grazing, all wildlife sections, and the Chapter 5 Monitoring Plan. In addition, we have multiple management areas throughout the plan that provide additional protections for wildlife, e.g., the Caja del Rio Wildlife and Culture Interpretive Management Area, recommended wilderness, as well as our Oil and Gas Leasing Management Area.

WILD090: The Forest Service should review BASI concerning New Mexican bird species, wildlife, and plants; including, the New Mexico Avian Conservation Partners (Partners in Flight) species conservation lists as presented in the NM Bird Conservation Plan (NM-BCP), the New Mexico Department of Game and Fish State Wildlife Action Plan, the Xerces Society for Invertebrate Conservation, and the New Mexico Rare Plant Conservation Strategy.

Associated Comments: #12575-13 (a)

Changes made to Plan or EIS: None

WILD090 Response: The development of the At-Risk bird species list drew on the expertise of New Mexico's state agencies, as well as other conservation organizations. We also encourage on-going collaboration with other expert organizations and adjacent landowners (see FW-TERRASH-MA-1, MA-2). Oftentimes birds are not listed as At-Risk when data are lacking, or information suggests they are not found on our forest. The Forest Service has a specific process for identifying at-risk species, which requires this information.

WILD093: Guideline 1.a in the At-Risk species section of the Plan should be more consistent with the Migratory Bird Treaty Act; it should be modified to read, "restrict vegetation modification to avoid negative impacts on nesting bird species seasonally (April 15-August 15)."

Associated Comments: #12575-15 (a)

Changes made to Plan or EIS: None

WILD093 Response: See WILD088 for more on the MBTA.

WILD094: A Guideline should be added to the At-Risk species section: "Potential impacts to at-risk species and their habitats should be evaluated prior to any management activities to minimize impacts. If existing data are inadequate, the evaluation should include conducting surveys of the project area to determine species presence."

Associated Comments: #12575-15 (b)

Changes made to Plan or EIS: None

WILD094 Response: FW-ATRISK-G-1 provides direction to consider at-risk species and mitigation measures during project design and implementation.

WILD095: The Plan should include as a BMP direction to restrict vegetation treatments during nesting season for birds (mid-April through mid-August), in alignment with Region 3 Regional Office direction on migratory bird analysis.

Associated Comments: #12575-3

Changes made to Plan or EIS: None

WILD095 Response: See WILD088 for more on the Migratory Bird Treaty Act.

WILD103: The narrative of the Wildlife, Fish, and Plants section of the Plan should mention the threatened, endangered, and at-risk species on the Forest, including those listed by the NMDGF as Species of Greatest Conservation needs.

Associated Comments: #12665-30

Changes made to Plan or EIS: Plan

WILD103 Response: We discuss At-Risk species in the narrative of the At-Risk species section. We do not specify at-risk species by name as this list is meant to be dynamic throughout the life of the Plan. We realize that this is confusing based on the sentence, “A total of 36 at-risk species were identified—4 federally recognized and 32 SCC.” Due to the confusion this sentence may cause about the at-risk species identification process, we removed this sentence from the narrative.

WILD114: Guideline 1.b in the At-Risk species section of the Plan should be modified to read, “Prevention of new introductions of invasive, competing, or predatory species (these are animals or plants shown to directly and negatively impact at-risk species populations).”

Associated Comments: #12665-61

Changes made to Plan or EIS: Plan

WILD114 Response: FW-ATRISK-G-1b was modified to read, “Prevention of introduction of non-game invasive, competing, or predatory species (these are species directly and negatively impacting at-risk species populations), and prevention of introduction of nonnative game species to novel locations.”

WILD115: Guideline 1.d in the At-Risk species section of the Plan should be modified to read, "Removal of obstructions that may alter natural migration or directly cause mortality to wildlife."

Associated Comments: #12665-62

Changes made to Plan or EIS: None

WILD115 Response: The term “creation” is used in this guideline because management activities to protect at-risk species sometimes require the use of barriers (e.g., fish barriers).

WILD116: There is support for the plan components in the At-Risk species section of the Plan.

Associated Comments: #12665-63

Changes made to Plan or EIS: None

WILD116 Response: Plan components in the At-Risk Species section of the draft Plan are carried forward into the final Plan.

WILD117: Guideline 5.c in the At-Risk species section of the Plan should be revised to protect the largest diameter and oldest Vegetation Structural Stage (VSS) 5-6 class trees for reserve trees.

Associated Comments: #12665-64

Changes made to Plan or EIS: Plan

WILD117 Response: We have added this clarification to the guideline. The revised guideline reads, “In goshawk foraging areas and post-fledging family areas, groups of three to five reserve trees should be retained within management-created openings greater than 1 acre in ponderosa pine-, and six reserve trees (VSS class 5 or 6) should be retained within management-created openings greater than 0.5 acre in spruce-fir communities.”

WILD118: Management Approach 6 in the At-Risk species section should include distributing sylvatic plague vaccine to prairie dogs.

Associated Comments: #12665-65

Changes made to Plan or EIS: Plan

WILD118 Response: This change has been implemented in the final Plan.

WILD119: A Management Approach should be added to the At-Risk species section that asks FS employees to consider working with grazing permittees to reduce impacts and protect Riparian Management Zones and New Mexico water quality standards.

Associated Comments: #12665-66

Changes made to Plan or EIS: None

WILD119 Response: There is a management approach within the Rangelands and Livestock Grazing section that states, “Consider using an adaptive management strategy to manage livestock grazing in a manner that promotes ecosystem resiliency, sustainability, and species diversity, based on changes in range conditions, climate, and other resource conditions. Using the adaptive management strategy provides more flexibility to grazing management, while improving or maintaining rangeland health.”

WILD120: The Plan should include a discussion of the need for focal species, how focal species were identified, and a table identifying focal species in the Wildlife, Fish and Plants section of Chapter 2.

Associated Comments: #12665-97

Changes made to Plan or EIS: None

WILD120 Response: Focal species are specific to the monitoring plan (include references or citations from 2012 Planning Rule and Directives). More on how focal species were determined specifically for the Santa Fe NF revised plan can also be found in FEIS Appendix F: Focal Species Determination.

WILD121: The Holy Ghost campground should be by reservation only, trailers and RVs should be prohibited, the road should have bollards installed to protect all known occurrences of the plant along the road, traffic control should be installed, pullouts developed and other measures taken to prevent vehicle incursion on this plant.

Associated Comments: #12673-2

Changes made to Plan or EIS: None

WILD121 Response: Since the recovery plan for Holy Ghost ipomopsis is still under development by USFWS, the plan does not specify actions so that it remains flexible enough to adopt any specific actions. That being said, the plan is also flexible enough to allow us to include any of the recommendations you specifically mention Outside of the Forest Plan, we are working with the Holy Ghost Ipomopsis Recovery Group to develop strategies to protect the plant in this area.

WILD122: A full habitat characterization should be developed for the HGI, and alternative sites (rather than just the HG Canyon) should be found for it.

Associated Comments: #12673-3

Changes made to Plan or EIS: None

WILD122 Response: Management of endangered species is specified by the recovery plan developed by USFWS. The Plan directs following the recovery plans for endangered species, including Holy Ghost ipomopsis, with FW-ATRISK-G2. See also response to WILD078.

WILD092/123: The Santa Fe NF should add the following species to its Species of Conservation Concern (SCC) list because the best available science suggests there is substantial concern regarding these species' capability to persist over the long-term in the Santa Fe National Forest: Townsend's Big-Eared Bat (*Corynorhinus townsendii*); Pinyon Jay; Lewis's Woodpecker; Northern Leopard Frog; Gunnison's Prairie-Dog, Grace's Warbler (*Setophaga graciae*), Bendire's Thrasher (*Toxostoma bendirei*), Virginia's Warbler (*Leiothlypis virginiae*), Flammulated Owl (*Psiloscoops flammeolus*), Brown-capped Rosy-Finch (*Leucosticte australis*), and Black Rosy-Finch (*Leucosticte atrata*). The Forest should also include all species listed by the following organizations or plans that also occur, or are likely to occur, on the SFNF: New Mexico Avian Conservation Partners Species Conservation Level 1 (SC1) list; the New Mexico Department of Game and Fish Species of Greatest Conservation Need List; Xerces Society for Invertebrate Conservation list of at-risk species; at-risk species listed in the New Mexico Rare Plant Conservation Strategy; the International Union for the Conservation of Nature (IUCN) Red List.

Associated Comments: #12688-10, #12688-4, #12688-5, #12688-6, #12688-7, #12688-8, #12688-9, #12575-13 (b)

Changes made to Plan or EIS: None

WILD092/123 Response: Pinyon jay; Lewis's woodpecker; northern leopard frog; and Gunnison's prairie-dog are all already included on the species of conservation concern list for the Santa Fe NF. The remaining species were considered but determined to not meet the criteria. Rationale for selected species can be found in Appendix F of the FEIS.

The Forest Service Directives for the 2012 Planning Rule specifies sources to use to identify species of conservation concern for consideration, primarily NatureServe. Additional resources, such as the NMDGF Species of Greatest Conservation Need were used as a resource and species from it were added to our species of conservation concern list when they met the criteria laid out in the 2012 Planning Rule and Forest Service directives. Literature submitted by our public on different species was reviewed, but did not change our assessment of species of conservation concern. Documentation of this review can be found in the project record.

WILD091/124: For higher density piñon-juniper woodlands, it's recommended the FS use Juniper Titmouse (*Baeolophus ridgwayi*) and Woodhouse's Scrub-Jay (*Aphelocoma woodhouseii*) as focal species. Other species that, based on BASI, should be listed as SCC, or at least focal species, include Grace's Warbler (*Setophaga graciae*), Bendire's Thrasher (*Toxostoma bendirei*), Virginia's Warbler (*Leiothlypis virginiae*), Flammulated Owl (*Psiloscoops flammeolus*), and the Brown-capped Rosy-Finch (*Leucosticte australis*).

Associated Comments: #12688-11, #12575-14

Change made to Plan or EIS: Plan and EIS

WILD091/124 Response: In the final Plan, we switched from the grey vireo (*Vireo vicinior*) to the juniper titmouse (*Baeolophus ridgwayi*) as a focal species for the piñon-juniper habitat. This change is reflected in the Plan's monitoring chapter (chapter 5) and in the FEIS, appendix F. The remaining species were considered but determined to not meet our needs for focal species (see the

FEIS appendix F for more on how focal species were chosen) or the criteria for a species of conservation concern. The Forest Service Directives for the 2012 Planning Rule specifies resourced to use to consider species of conservation concern, primarily NatureServe. Additional resources, such as the NMDGF Species of Greatest Conservation Need were used as a resource and species from it were added to our species of conservation concern list when they met the criteria laid out in the 2012 Planning Rule and Forest Service directives.

WILD126: Guideline 4 in the At-Risk species section should be modified to read, “Within critical habitat for threatened and endangered species, footprints of ground-disturbing fire suppression activities should be as small as possible or located where ground disturbance has previously occurred. Fire prescriptions should be written in these critical habitats with the future goal of restoring their historical optimal functions (such as supporting a natural fire cycle, healthy tree density, etc.).”

Associated Comments: #12698-23

Changes made to Plan or EIS: None

WILD126 Response: We believe that the level of ground-disturbance and its impact, particularly to critical habitat, is best analyzed at the project level because that is where more site-specific analysis can occur. The Biological Assessment for the Forest Plan also has a programmatic analysis of the effect of the Forest Plan on ground disturbance on endangered species.

WILD130: The Plan should identify a 4th primary goal: restoration of native trout to their historic range.

Associated Comments: #12752-14

Changes made to Plan or EIS: None

WILD130 Response: The three overarching goals for the Santa Fe NF Vision were carefully selected to serve as umbrella goals—more specific project goals can be tiered underneath. We have incorporated multiple plan components to address native trout, however trout restoration cannot occur unless we have resilient forests, clean water, and a connection of the land to the people, which are repeatedly emphasized in our ecosystem (coarse-filter) plan components.

WILD132: The Forest Plan must provide direction to manage the presence and movement of cattle as it relates to At-Risk species, not only through infrastructure maintenance, but through allotment closures and retirements. In particular, the Plan should provide direction to close or retire high elevation allotments to protect current At-Risk and future ESA listed species that are threatened by alpine cattle grazing, including the Rio Grande cutthroat trout, the white-tailed ptarmigan, and Heil's alpine whitflow grass.

Associated Comments: #13416-40

Changes made to Plan or EIS: None

WILD132 Response: There are multiple plan components in the Sustainable Rangelands and Livestock Grazing and At-Risk Species sections of the final Plan that provide direction that can be applied to managing cattle and at-risk species (e.g., FW-RANGE-S-1, FW-ATRISK-G-14). Many of these may not reference grazing specifically because it is only one of the multiple uses that need to be considered in at-risk species management.

See also: RNG005 and RNG072 for more on allotment management.

WILD135: Commenters expressed concern that the DEIS has insufficient fine-filter monitoring to assess the effectiveness of the coarse-filter approach, as required by the 2012 Planning Rule. Monitoring plans

must include enforceable species-specific trigger points that initiate a review of management actions and provisions to ensure species-specific (fine filter) monitoring will be well-funded and implemented.

Some commenters suggested that the following methods should be applied to all at-risk species, species of conservation concern (SCC), and focal species in the project area:

- Focusing on distribution, rather than traditional measures of population size and growth rate, which greatly increases the efficiency of broad-scale monitoring programs.
- Advancements in wildlife monitoring, based on detection/non-detection data, including the use of sign surveys, genetic evaluation, and historical presence-absence survey data decrease the cost of monitoring changes in distribution, which can be inferred from the proportion of sample units at which the species is detected.
- Area occupied by a species can be used as an effective measure of a species' spatial distribution.
- Temporal and spatial patterns in detection/non-detection monitoring data allow inference to changes in animal abundance, the single most influential parameter that provides insights into likelihood of species persistence.

Associated Comments: #197-48, #12522-34, #12685-12b

Changes made to Plan or EIS: None

WILD135 Response: As we discuss in the monitoring chapter of the Forest Plan, (chapter 5), "Monitoring provides feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the responsible official to determine if a change in plan components or other plan content that guides management of resources on the plan area may be needed, forming a basis for continual improvement and adaptive management."

While the monitoring chapter of the Plan is meant to facilitate adaptive forest management, it is not intended to depict all monitoring, inventorying, and data-gathering activities to be undertaken in the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in this chapter of the Plan. Following the release of the Plan, an implementation guide for monitoring will be developed which will contain greater detail surrounding monitoring practices and may lend greater clarity on monitoring to address concerns such as connectivity. Additionally, consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions beyond the Forest boundary for at-risk species.

The full scope of monitoring protocol for the focal species have not yet been developed, and it is not the purpose of SCC to be monitored. Monitoring these species would many times be "beyond the financial and technical capabilities of the Agency" (36 CFR § 219.12(a)(4)(ii)) because they are so rare. Rather, SCC are identified so that we can ensure that we have developed plan components that would provide the ecological conditions for maintaining species persistence.

See also: WILD134 for more on how we use fine-filter and course-filter plan components to support species habitat.

WILD138: The Forest Service should fully disclose incidental take, as required under the ESA.

Associated Comments: #197-59

Changes made to Plan or EIS: None

WILD138 Response: Biological assessments given to the U.S. Fish and Wildlife Service are part of project-level planning. If the USFWS renders a biological opinion with “take,” the Forest Service will report that incidental take to the USFWS. As this process is part of project-level planning, it is outside the scope of the final Plan.

WILD140: Desired condition 3 in the At-Risk species section of the Plan should be modified to state that, “Habitats for at-risk species, including rare and endemic populations are known to be intact, functioning, and sufficient for species persistence.”

Associated Comments: #12665-60

Changes made to Plan or EIS: Plan

WILD140 Response: Thank you for your comment. We agree with this rewording and implemented it in the final Plan.

WILD199: In order to meet the Planning Rule's requirements, it is necessary for the Forest Service to provide a logic trail for each species, from its (1) necessary ecological conditions, to (2) specific plan components, to (3) conditions that would result from the plan components, and to the (4) legal sufficiency of those conditions. The documentation must show that because of the plan components, the at-risk species will meet all of the regulatory criteria. Specifically, for SCC viability, the documentation must show that the SCC will (1) continue to persist over the long term, (2) with sufficient distribution to be (3) resilient and (4) adaptable to stressors and likely future environments, as per the definition of a viable population in 36 CFR 219.19.

Associated Comments: #12522-6

Changes made to Plan or EIS: None

WILD199 Response: The Threats and Issues section in the Wildlife, Fish, and Plants portion of the DEIS identifies the ecological conditions required for at-risk species. If these conditions are not being met than plan components have been developed to address those shortfalls. A crosswalk identifying all the plan components that will help restore those ecological conditions is included in Appendix E of the EIS.

WILD153/154: The DEIS does not address the impacts of livestock grazing disturbance regimes on the Arizona willow or the northern leopard frog, nor how the plan components affect these impacts. Any subsequent NEPA document prepared during the forest plan revision process must do this and include the best available science cited here (at a minimum) that documents the impacts of livestock grazing on Arizona willow and northern leopard frogs and the ecological integrity of their riparian habitat.

Associated Comments: #12522-26, #12522-25

Changes made to Plan or EIS: EIS

WILD153/154 Response: Both the Arizona willow and the northern leopard frog are included in Appendix E of the EIS. We acknowledge that grazing can be a threat to these species, and in the final EIS we have added grazing as part of the Issues and Threats analysis, under Ground/Soil Disturbance. Additionally, each species' table in Appendix E has been updated to match Table 51 in the final EIS and we have included new literature references for Predusi et al. (1996) under the At-Risk Wildlife Indicator, Threat J – Ground or Soil Disturbance.

WILD158: All at-risk species must be evaluated in terms of the negative direct and indirect effects of livestock grazing. This analysis is especially necessary in areas where multiple at-risk species co-occur.

Associated Comments: #12522-29

Changes made to Plan or EIS: EIS

WILD158 Response: Not all at-risk species are impacted by grazing. However, we acknowledge that grazing can be a threat to some species, and in the final EIS we have added grazing as part of the Issues and Threats analysis, under Ground/Soil Disturbance. Additionally, each species' table in Appendix E has been updated to match Table 51 in the final EIS and we have included new literature references for Predusi et al. (1996), Frey (2005), and USFWS (2020) under the At-Risk Wildlife Indicator, Threat J – Ground or Soil Disturbance.

WILD159: The fine-filter plan components listed in Appendix E of the DEIS are not sufficiently species-specific to offer the management certainty needed to protect populations and habitat, and relying primarily on overly-general coarse-filter plan components will not lead to species recovery and persistence. The final Plan should have plan components that detail the specific structural, compositional, functional, and connectivity conditions, within their natural range of variation needed for the viability of at-risk species and SCC (e.g., the NMMJM, northern leopard frog, native fish, etc.).

Associated Comments: #12522-32, #12522-35, #12522-46

Changes made to Plan or EIS: None

WILD159 Response: The revised Forest Plan provides a long-term framework for resource use and management, including species conservation. The details for single species management are not included specifically in this framework, but are included as plan components that reference current recovery plans and allows for incorporating the best available science for the species.

WILD160: The desired conditions FW-ATRISK-DC-1, FW-ATRISK-DC-2, and FW-ATRISK-DC-3, which the Appendix E of the DEIS lists as fine-filter plan components, are so overly broad that they provide no framework for meaningful management direction on the ground.

Associated Comments: #12522-38

Changes made to Plan or EIS: None

WILD160 Response: The at-risk species list is dynamic. Because of this, we do not provide specific management direction on individual species. Rather we provide direction that focuses on restoring ecological conditions to whatever species are currently considered at-risk. The Forest Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides.

WILD210: The final Plan must have species-specific restoration objectives that prioritize suitable and potentially suitable habitat for at-risk species (e.g., the Arizona willow, the NMMJM, and the northern leopard frog).

Associated Comments: #12522-43, #12522-44, #12522-45

Changes made to Plan or EIS: None

WILD210 Response: Plan components do not directly address specific species; they collectively improve aquatic and riparian habitats for all species. Species-specific restoration work occurs at

the project level and is detailed in project design. The Forest Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides.

WILD180: There is support for FW-RWE-G-5, FW-RWE-G-10, FW-ATRISK-G-8, FW-RANGE-S-2, and FW-RANGE-S-3.

Associated Comments: #12522-47

Changes made to Plan or EIS: None

WILD180 Response: Thank you for your comment.

WILD182: Without specific ecological conditions laid out clearly in the plan for the at-risk species (i.e., in desired conditions), FW-RWE-G-3 does not provide adequate management direction for projects and other activities.

Associated Comments: #12522-49

Changes made to Plan or EIS: None

WILD182 Response: Plan components do not directly address specific species; they collectively improve aquatic and riparian habitats for all species. Species-specific restoration work occurs at the project level and is detailed in project design. The Forest Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides. Specificity will be achieved as part of project specific mitigations and design criteria, allowing for flexibility and adaptive management while protecting riparian resources.

WILD170: FW-ATRISK-G-1 is trying to do too much yet provides insufficient management direction. Guidelines must be specific enough to allow a project manager to understand and determine how to design projects to mitigate threats, and FW-ATRISK-G-1 does not satisfy this requirement.

Associated Comments: #12522-56

Changes made to Plan or EIS: None

WILD170 Response: As stated in chapter 1 of the Forest Plan, guidelines are required technical design features or constraints on project and activity decision making that help make progress toward desired conditions. Ultimately the intent of any guidelines is to ensure that during project implementation progress is made toward desired conditions. This guideline achieves that intent.

WILD172: The final Plan should explicitly articulate and incorporate the direction provided in the critical habitat listing rule to protect PCEs (81 Fed. Reg. 14264) and conservation actions recommended in the Recovery Outline.

Associated Comments: #12522-57 (c)

Changes made to Plan or EIS: None

WILD172 Response: If PCEs are within the Recovery Plan of a species, then that is the direction we will follow (see FW-ATRISK-G-2).

WILD173: Management direction for such signed agreements as those referenced in FW-ATRISK-G-3 must be incorporated into the final Plan as plan components.

Associated Comments: #12522-58

Changes made to Plan or EIS: None

WILD173 Response: The guideline will ensure we will follow the management direction in the agreement. By not writing out the agreement in the Forest Plan, we have flexibility to keep our management up to date with the latest wording of the agreement.

WILD174: There is concern FW-ATRISK-G-4 cannot be actualized during a wildfire.

Associated Comments: #12522-59

Changes made to Plan or EIS: None

WILD174 Response: Even in emergency situations we do our best to protect all other resources, including wildlife. FW-FIRE-DC-3 addresses our goals for wildland fire, stating that, “Wildland fire protects, maintains, and enhances resources. It is allowed to function in its natural ecological role on a landscape scale and across administrative boundaries, under conditions where safety and values at risk can be protected.” Additionally, FW-FIRE-G-3 directs that fire management activities should be coordinated with other resource specialists, thus helping to mitigate negative fire impacts on those resources. In all instances of wildfire on the forest, human safety is our highest priority.

WILD175: FW-ATRISK-G-7 should be a standard, as there is no way to achieve the guideline's intent than to follow its wording exactly.

Associated Comments: #12522-60

Changes made to Plan or EIS: None

WILD175 Response: As stated in chapter 1 of the Forest Plan, guidelines are required technical design features or constraints on project and activity decision making that help make progress toward desired conditions. Ultimately the intent of any guidelines is to ensure that during project implementation progress is made toward desired conditions. The guideline in question achieves that intent. We default to guidelines in our direction to allow for adaptive on-the-ground management. We use standards only if there is a specific reason that word-for-word must-do direction is needed.

WILD176: FW-ATRISK-G-9 should be written in a way that provides a constraint

Associated Comments: #12522-61

Changes made in Plan or EIS: None

WILD176 Response: As stated in chapter 1 of the Forest Plan, guidelines are required technical design features or constraints on project and activity decision making that help make progress toward desired conditions. Ultimately the intent of any guidelines is to ensure that during project implementation progress is made toward desired conditions. The guideline in question achieves that intent.

WILD177: FW-ATRISK-G-12 should be deleted from the final Plan as it is similar to, but less clear than, FW-RWE-G-10.

Associated Comment: #12522-62

Changes made to Plan or EIS: None

WILD177 Response: These guidelines are similar and can supplement each other. As there is no contradiction between the two plan components, they will both remain in the final Plan.

WILD178: It is inappropriate for FW-ATRISK-G-13 to provide just a couple of examples of recreational activities with an “e.g.,” There are other recreational activities known to cause harm, such as off-highway and over-the-snow vehicle use. These activities should also be subject to closure.

Associated Comments: #12522-63

Changes made to Plan or EIS: None

WILD178 Response: There are many recreational activities that go on across the forest. We used the term “e.g.” to preface our parenthetical statement to indicate that the following list is simply a collection of several examples and not exhaustive. Just because a recreational activity is not listed in a non-exhaustive list does not mean it is excluded from the strictures of the guideline.

WILD163: If at-risk species are strongly influenced by ecological conditions outside National Forest System boundaries, the plan should include additional management requirements to offset the effects of those conditions and these effects should (either negative or positive) should be accounted for in the EIS.

Associated Comments: #12522-74

Changes made to Plan or EIS: None

WILD163 Response: We are not responsible for ecological conditions outside of our boundaries, nor can we control the actions of other landowners. We address the impacts of regional-scale stressors and drivers in the Cumulative Impacts section of each resource in the EIS, and the final Plan encourages partnerships and collaborative efforts to improve landscape-scale management across ownership boundaries to find solutions to ecological and societal issues (FW-PARTNER-DC-3).

WILD208: On p. 206 the DEIS makes an interesting and ambiguous statement that has implications for making viability determinations: "it is imperative that all ERUs are in or approaching reference conditions" (emphasis added). For the viability of at-risk species, it may not be sufficient to be approaching reference conditions, particularly if the timeline for achieving them is long. The EIS should clarify this point. Similarly, on p. 226 the DEIS notes that "(f)our ERUs (ALP, PJO, MCW, and SFF) are at moderate to low seral state departure and are not expected to trend away from desired condition between alternatives or within the life of the plan." This seems to endorse the idea that perpetual moderate departure can provide for viability.

Associated Comments: #12522-75

Changes made to Plan or EIS: None

WILD208 Response: The desired conditions in the Forest Plan are meant to guide the forest toward reference conditions as much as possible. We acknowledge that for some species, "approaching reference conditions" may not be sufficient, however ecosystems do not change overnight. Often, it takes many years of management for an ERU to return to reference conditions, let alone approach them. We focus our efforts in ERUs that are highly departed from reference conditions, as these ERUs contain the most habitat for the most species (including at-risk) and have the highest risk of continued degradation. Due to limited capacity, we must triage our restoration efforts, although we use partnerships and collaborations to cover more ground (see the Partnership section of the Forest Plan).

WILD165: The DEIS sends mixed signals on the effects of thinning activities. The effects analyses concerning mechanical thinning should clarify that the same negative effects noted for alternative 4 mechanical thinning will occur with the mechanical thinning proposed in alternative 2. The documented effects and effectiveness of past thinning activities should also be applied to the analysis within the EIS to support the presumptive benefits. Furthermore, the effects of alternative 2's mechanical thinning do not appear to be evaluated in the Intrusive Human Activity Analysis on p. 265 of the DEIS, despite the fact that elsewhere, the DEIS declares that mechanical treatments will threaten wildlife "because of increased human uses" (DEIS, p. 220).

Associated Comments: #12522-77

Changes made to Plan or EIS: EIS

WILD165 Response: We have added mechanical thinning as an example of additional intrusive human activity under the Intrusive Human Activity analysis. The impacts of mechanical thinning, both beneficial and negative, are analyzed in multiple places in the wildlife analysis, rather than just in one place. Beneficial impacts are analyzed as part of the risk presented by uncharacteristic fires, while negative impacts are analyzed in other areas. For example, soil compaction from machinery is in the Ground Disturbance subsection (Threat J).

Additionally, the potential impacts of mechanical thinning are analyzed extensively in the vegetation section of the EIS. In section 3.2.5.1.7, we discuss how mechanical thinning, no matter what alternative it occurs under, may include soil compaction, soil disturbance and erosion, noise pollution, the degradation of water quality, the introduction or spread of invasive species, disrupting landscape continuity and fracturing vegetative communities, and negatively impacting vegetative species and wildlife habitat. Throughout the vegetation analysis, these negative effects are indicated with the parenthetical citations of V48, V49, and V50.

While in all cases mechanical thinning may be discussed more under alternative 4 than alternative 2, this is because alternative 4 proposes the most mechanical thinning treatments out of all the

alternatives. Thus, whatever the effects of mechanical thinning are, those effects are more significant under alternative 4 simply because they are more prevalent and occur at greater magnitudes than in the other alternatives.

WILD150: The RFSS analysis fails to incorporate the risks that mechanical thinning poses under Alternative 2 poses to RFSS.

Associated Comments: #12522-79 (b)

Changes made to Plan or EIS: None

WILD150 Response: The goal of the RFSS analysis is to look at the effects of the whole plan on RFSS. It does not go into detail on the risks of mechanical thinning to RFSS, as it is one of many management strategies that may have impacts. In the vegetation section of the EIS, we clearly detail the impacts of mechanical thinning to habitat, and impacts of the effects of different vegetation treatments are also analyzed in the Wildlife section of the EIS.

See also: WILD041 for more on wildlife-related plan components in alternative 3.

WILD151: Alternative 3 should rank higher in the Ground or Soil Disturbance Analysis (DEIS, Wildlife, Fish, and Plants) as it does more to rectify existing and ongoing degraded conditions due to its emphasis on decommissioning roads and thus reducing the threats posed by the entire road system.

Associated Comments: #12522-80

Changes made to Plan or EIS: EIS

WILD151 Response: The purpose of the EIS is to disclose indirect and cumulative environmental impacts that would result from the proposed action (draft forest plan) and alternatives. Thus, the EIS focuses on those elements of forest management that change among alternatives; the publicly available road system was determined during the Travel Management process and does not change among alternatives.

That being said, the effects of road management, which does change among alternatives via road decommissioning objectives and the amount of land removed from consideration for new road building (e.g., recommended wilderness acres), is analyzed in multiple sections of the EIS. We have expanded on the effects of the different levels of road decommissioning among alternatives in the “Threat J – Ground or Soil Disturbance” section (section 3.5.4.2.12, FEIS, Vol. 1) of the EIS. As part of this, we discuss how Alternative 3 would result, along with Alternative 2, in the greatest reduction of ground and soil disturbance with relation to roads.

WILD207: The EIS must evaluate the negative effects on the viability of at-risk species due to the lower levels of recommended wilderness acreage in alternatives 1, 2, and 4, as opposed to alternative 3.

Associated Comments: #12522-82

Changes made to Plan or EIS: None

WILD207 Response: In the Wilderness section of the EIS, we discuss the effects of wilderness in general: “Recommended wilderness increases areas without motorized disturbance which would provide greater protection for wildlife and wildlife habitats. Restrictions on roads and trails would enhance wildlife connectivity. These activities would improve the ability to maintain wilderness characteristics in recommended wilderness areas evenly across alternatives, even though recommended wilderness acres vary.” We then discuss how each alternative's recommended

wilderness acreage would impact these effects. We believe this is sufficient to provide understanding that less wilderness may have negative effects on some species and more wilderness may have positive effects. That being said, we are a multiple-use agency and manage for a balance of needs.

WILD162: Many of the desired conditions in the draft Plan are aspirational but perhaps not attainable or enforceable. The EIS cannot simply assume that desired conditions will occur; their likelihood of occurring must be disclosed and the final EIS should examine the impacts of not achieving these types of desired conditions. It must project future necessary ecological conditions under the plan compared to the desired conditions for viability. This should include an actual “result” in terms of ecological conditions relevant to the at-risk species.

Associated Comments: #12522-86

Changes made to Plan or EIS: None

WILD162 Response: Desired conditions describe the vision for the Santa Fe NF. They are the ecological, cultural, and socioeconomic aspirations toward which management of the land and resources of the plan area is directed. They are not commitments or final decisions approving specific projects or activities; rather, they guide the development of projects and activities. Projects are designed such that they do not preclude the attainment of desired conditions and are consistent with the plan over the long term. The desired conditions in this forest plan have been written to contain enough specificity so that progress toward their achievement may be determined. In some cases, desired conditions may already be achieved, while in other cases, they may only be achievable over hundreds of years.

WILD206: The EIS must disclose the rate of improvement in ecological conditions. The longer an undesirable (departed) condition remains, the longer the negative impacts on conditions for species viability remain in effect.

Associated Comments: #12522-87

Changes made to Plan or EIS: None

WILD206 Response: We cannot predict how long habitat improvement may take. Analyzing the impact of the rate of improvement on at-risk species is a level of detail that is beyond the scope of a programmatic analysis; we may be able to address improvement rates at the project level for specific species or actions, but not at the level of the entire forest.

WILD161: The final EIS must show how the specific plan components affect each ecological condition needed by the at-risk species. The DEIS relies on Appendix E to catalog the plan components affiliated with the at-risk species, but it is important to understand the interpretation of the effects of each relevant plan component. It is not sufficient for the EIS to simply restate the plan components and compare them across alternatives.

Associated Comments: #12522-88

Changes made to Plan or EIS: None

WILD161 Response: We focused our analysis on objectives (the only action items in the Plan) and differences among alternatives. We do not analyze other plan components at the level of the Forest Plan because they direct how projects will be designed. The impacts of individual projects

will be analyzed during project-level NEPA. We analyze the difference among alternative to facilitate an informed decision on which alternative to choose.

WILD198: The DEIS asserts that "degraded ecological conditions" will be identified within ERUs to allow "forest staff to best direct their management actions to maintain or improve conditions for at-risk species" (DEIS, p. 223). It is important that the plan actually guide this identification of areas. It is not appropriate for the EIS to claim planning benefits that are not actually part of the plan.

Associated Comments: #12522-89

Changes made to Plan or EIS: None

WILD198 Response: The phrase in question states that, "Identifying degraded ecological conditions within ERUs allows forest staff to best direct their management actions to maintain or improve conditions for at-risk species." We do not state that we will identify specific locations with ERUs that degraded ecological conditions in the Forest Plan, only that being able to understand when an ERU is degraded is a method by which we can direct management actions. The At-Risk Species analysis that the phrase refers to analyzes the different types of Issues and Threats occurring on the forest and in different ERUs that may impact at-risk species, and that can be used as ways in which to identify degraded ecological conditions that may have negative effects. The Forest Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides. Nor does the Plan identify specific areas for project work. This is done as part of project design and implementation. Project planning translates the desired conditions and objectives in the plan into proposals that identify specific actions, design features, and project-level monitoring. Projects address site-specific needs developed locally with input from experts and stakeholders and consideration of the most current and relevant information.

WILD166: The DEIS makes a key presumption that logging is better for the viability of at-risk species than more passive approaches such as prescribed and managed wildfire, and that long-term benefits of logging outweigh short-term damage. These assertions must be better supported in the FEIS and ROD.

Associated Comments: #12522-92

Changes made to Plan or EIS: None

WILD166 Response: We do not presume that logging is better for the viability of at-risk species. In our analysis, we show that the alternatives with more mechanical thinning and less fire results in fewer benefits for wildlife (e.g., Alternative 4 has the least benefits for wildlife and the most mechanical thinning). However, we also note that a combined approach of prescribed fire and mechanical thinning will, over the long-term, result in the most improved habitat conditions while also supporting other forest uses (necessary, since we are a multiple use agency).

WILD152: The Forest Plan should have desired conditions for the Arizona willow.

Associated Comments: #12522-97

Changes made to Plan or EIS: None

WILD152 Response: We don't develop desired conditions for individual species, but rather develop desired conditions to support wildlife habitat and at-risk species. This is to be able to address the needs of as many species as possible, and to retain management flexibility as the status and needs of species change on-the-ground.

See also: WILD134 for more on our use of course-filter and fine-filter plan components to support wildlife.

WILD155: The Forest Plan should have desired conditions for the northern leopard frog.

Associated Comments: #12522-98

Changes made to Plan or EIS: None

WILD155 Response: We don't develop desired conditions for individual species, but rather develop desired conditions to support wildlife habitat and at-risk species. This is to be able to address the needs of as many species as possible, and to retain management flexibility as the status and needs of species change on-the-ground.

See also: WILD134 for more on our use of course-filter and fine-filter plan components to support wildlife.

Mexican Spotted Owl

WILD069: The Plan and EIS should include the following plan components and analysis to support MSO recovery:

1. The Forest Service must delineate a plan for long-term, range-wide population and habitat monitoring consistent with the 2012 Recovery Plan.
2. The Forest Service must identify, map, and manage for MSO recovery habitat as defined in the 2012 Recovery Plan.
3. The Forest Service must delineate required pre- and post-project monitoring consistent with the 2012 Recovery Plan for all activities, including, but not limited to, forest management activities (thinning, logging, prescribed burns...), livestock grazing, oil and gas development, mining, and recreation (in particular, motorized recreation). This is especially relevant to the agency's unsupported claim that timber management will benefit MSO and its habitat. Such scientific experiments remain unproven.
4. The Forest Service must use the best available science and information, and share that science and information with the public as part of the required processes under the National Environmental Policy Act (NEPA).
5. The EIS must analyze the cumulative impacts of all management activities on MSO, and include the results of any and all monitoring data collected as part of those activities, as required by the existing Forest Plan and MSO Biological Opinions. This includes pre- and post-project monitoring and population and habitat monitoring.

Associated Comments: #12509-1

Changes made to Plan or EIS: None

WILD069 Response: The Southwestern Region of the Forest Service is committed to implementing all applicable parts of the most recent Mexican spotted owl Recovery Plan. The revised Forest Plan provides a long-term framework for resource use and management, including species conservation. The details for single species management are not included specifically in this framework but are included as plan components that reference current recovery plans and allows for incorporating the best available science for the species.

WILD136: As habitat destruction from logging, not fire, is the main factor involved in MSO decline, thinning units need to be dropped from MSO critical habitat.

Associated Comments: #197-49

Changes made to Plan or EIS: None

WILD136 Response: The Southwestern Region of the Forest Service is committed to implementing all applicable parts of the most recent Mexican Spotted Owl Recovery Plan. The revised Forest Plan provides a long-term framework for resource use and management, including species conservation. The details for single species management are not included specifically in this framework but are included as plan components that reference current recovery plans and allows for incorporating the best available science for the species.

WILD137: The importance of mixed severity wildfires for maintaining MSO foraging habitat should be discussed in the EIS

Associated Comments: #197-58

Changes made to Plan or EIS: EIS

WILD137 Response: We acknowledge that mixed-severity wildfire may be beneficial to wildlife habitat. This clarification has been made in the FEIS.

See also: response to WILD035.

WILD139: The DEIS inadequately addresses critical habitat needs and population dynamics of the MSO. The Forest Service should conduct site-specific and regional MSO population monitoring to assess demographics and population trends, as required by the ESA.

Associated Comments: #197-6

Changes made to Plan or EIS: None

WILD139 Response: The Southwestern Region of the Forest Service is committed to implementing all applicable parts of the most recent Mexican Spotted Owl Recovery Plan. The revised Forest Plan provides a long-term framework for resource use and management, including species conservation. The details for single species management are not included specifically in this framework but are included as plan components that reference current recovery plans and allows for incorporating the best available science for the species.

New Mexico Meadow Jumping Mouse

WILD131: The At-Risk species narrative for the NMMJM in the EIS should be corrected to indicate that current, not legacy, grazing is a major threat to the mouse.

Associated Comments: #13416-34

Changes made to Plan or EIS: None

WILD131 Response: The impacts of historical overgrazing (i.e., “legacy grazing”) have had lasting negative impacts on riparian habitats. While grazing is currently allowed in riparian areas, there are protection measures in place (see FW-RANGE-G-2; WATER-G-1; and FW-RWE-DC-2, G-2, and G-7) that ensure grazing is balanced with ecological needs.

See also: RNG073 for more on grazing in riparian areas.

WILD181: FW-RWE-G-2 is written more like a desired condition than a guideline and will not work to alleviate the threat to at-risk species from its parenthetically listed activities. Trade-offs allowing detrimental uses in NMMJM designated critical, other suitable, and restorable recovery habitat are not acceptable. There must be constraints on these activities that managers can understand and apply on the ground. The Forest Service should revise this guideline to prioritize occupied and suitable habitat for restricting and decreasing uses in sensitive areas.

Associated Comments: #12522-48

Changes made to Plan or EIS: None

WILD181 Response: Plan components do not directly address specific species; they collectively improve aquatic and riparian habitats for all species. Species-specific restoration work occurs at the project level and is detailed in project design. The Forest Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides. Although this guideline does not provide specific restrictions, it does require that project-specific actions do not preclude the attainment of desired conditions. Therefore, specificity will be achieved as part of project specific mitigations and design criteria, allowing for flexibility and adaptive management while protecting riparian resources.

WILD171: FW-ATRISK-G-2 should be a standard. Moreover, because there is no recovery plan yet available for the jumping mouse, the revised plan should detail management direction to mitigate threats to the species and stressors to its habitat.

Associated Comments: #12522-57 (a)

Changes made to Plan or EIS: None

WILD171 Response: The recovery plan for the NMMJM is under development by the USFWS, and the Forest Service is assisting with gathering data with which to inform it. Once it is approved it will be our guidance, as directed by FW-ATRISK-G-2.

WILD200: Because there is no recovery plan yet available for the NMMJM, the final Plan should detail management direction to mitigate threats to the species and stressors to its habitat. Critical habitat for the species should be designated as a management area with such prescriptions.

Associated Comments: #12522-57 (b)

Changes made to Plan or EIS: None

WILD200 Response: The Forest Service is currently conducting research on the extent of NMMJM habitat. Identifying a management area would be premature, and following the recovery plan (FW-ATRISK-G-2), once it is developed, will allow us to adjust our management within mouse habitat.

WILD201: The Santa Fe NF can play a substantial role in contributing to the NMMJM recovery through management. It is essential that the final Plan provide a framework for restoring or maintaining the ecological conditions necessary for the species and for mitigating threats and stressors to the species' habitat.

Associated Comments: #12522-7

Changes made to Plan or EIS: None

WILD201 Response: We don't develop plan components for individual species, but rather develop plan components to support wildlife habitat and at-risk species (e.g., by following USFWS recovery plans, as directed in FW-ATRISK-G-2). This is to be able to address the needs of as many species as possible, and to retain management flexibility as the status and needs of species change on-the-ground.

See also: WILD134 for more on our use of course-filter and fine-filter plan components to support wildlife.

WILD202: "Riparian areas" with the features of "springs" and "permanent water" is too general a portrayal of the ecological conditions needed by the NMMJM, and this limiting description has contributed to the failure of the draft Plan to provide the conditions necessary to contribute to the species' recovery. The final Plan should include the Primary Constituent Elements (PCEs) for designated critical habitat, as identified in the USFWS' 2014 Species Status Assessment, and the suggested adjustments to these made by Frey (2013).

Associated Comments: #12522-8, #12522-9

Changes made to Plan or EIS: None

WILD202 Response: We don't develop plan components for individual species, but rather develop plan components to support wildlife habitat and at-risk species (e.g., by following USFWS recovery plans, as directed in FW-ATRISK-G-2). This is to be able to address the needs of as many species as possible, and to retain management flexibility as the status and needs of species change on-the-ground.

See also: WILD134 for more on our use of course-filter and fine-filter plan components to support wildlife; WILD172 for more on PCEs

WILD203: Habitat connectivity is important for supporting the recovery and maintenance of resilient populations of the NMMJM.

Associated Comments: #12522-10

Changes made to Plan or EIS: None

WILD203 Response: See WILD001/022/052 for more on habitat connectivity.

WILD204: The final Plan should have desired conditions based on necessary ecological conditions for at-risk species and SCC, such as the NMMJM. Suggested language includes: The Forest supports at least 6 New Mexico meadow jumping mouse populations resilient to the effects of uncharacteristic fire, drought, and climate change. Each population consists of at least 68-181 acres of suitable habitat across 15 contiguous miles of perennial flowing waterways. Designated critical and potentially suitable recovery habitat is characterized by dense herbaceous vegetation dominated by sedges and forbs, which provides shelter, hiding cover, nesting materials, and food (seeds and insects). Vegetation stands an average of 24 inches high. Suitable habitat patches are no greater than 650 feet apart to enable daily and seasonal movements. Intact upland areas that stretch well over 330 feet laterally from the streambank to provide dryer habitat for nesting, giving birth, and hibernating.

Associated Comments: #12522-94

Changes made to Plan or EIS: None

WILD204 Response: We don't develop plan components for individual species, but rather develop plan components to support wildlife habitat and at-risk species (e.g., by following USFWS recovery plans, as directed in FW-ATRISK-G-2). This is to be able to address the needs of as many species as possible, and to retain management flexibility as the status and needs of species change on-the-ground. Refer to the crosswalks on at-risk species in appendix E.

See also: WILD134 for more on our use of course-filter and fine-filter plan components to support wildlife.

WILD205: Designate management areas for critical habitat for at-risk species and SCC (e.g., the NMMJM) that includes additional suitable and potentially suitable habitat areas. For the NMMJM, a critical habitat management area should include areas recommended by Dr. Jennifer Frey in her "Peer Review of Proposed Critical Habitat for *Zapus hudsonius luteus*," and prescriptions for the recommended management area should be based on the designated critical habitat PCEs (81 Fed. Reg. 14264) with modifications recommended by Dr. Frey.

Associated Comments: #12522-95, #12522-96

Changes made to Plan or EIS: None

WILD205 Response: We don't develop plan components for individual species as part of the Forest Plan. Rather, we develop plan components to support wildlife habitat across the forest (course-filter plan components) and to support at-risk species specifically where necessary (fine-filter plan components). The Forest Plan also directs managers to follow USFWS recovery plans, (FW-ATRISK-G-2). These recovery plans outline where current critical habitat lies, and we will use these habitat recommendations to help us manage mouse habitat. This strategy allows us to address the needs of as many species as possible, and to retain management flexibility as the status and needs of species change on-the-ground (recovery plans are dynamic and may change more frequently than the Forest Plan). Although the recovery plan for the NMMJM is still under development by the USFWS, the Forest Service is assisting with gathering data with which to inform it. Work on the NMMJM is ongoing, and the most current science will be used going forward. For best available science on the NMMJM, we have drawn on the work of both Dr. Jennifer Frey and Dr. Carol Chambers. Citations to their research have been added to the FEIS (FEIS, Volume 2, appendix E. At-Risk Species Crosswalk).

See also: WILD134 for more on our use of course-filter and fine-filter plan components to support wildlife.

RNG065: The New Mexico Meadow Jumping Mouse (NMMJM) should not be identified as a "risk to rangelands" in the Draft Plan and DEIS, and must instead acknowledge that it is livestock grazing that is a threat to the NMMJM. To fail to do this is a violation of the Forest's mandate under the ESA and indicates a bias on the Forest's part towards the grazing industry.

Associated Comments: 13416-36

Changes made to Plan or EIS: EIS

RNG065 Response: The language in section 3.11.3 Drivers and Stressors of the FEIS has been changed to acknowledge that NMMJM protection is a potential conflict with livestock grazing, rather than a "risk to rangelands." Outside of the Forest Planning process, the Forest Service is working with non-profit organizations like Trout Unlimited in collaboration with permittees to implement NMMJM protections that avoid or mitigate conflict with livestock grazing.

WILD156: Any subsequent NEPA document prepared during the forest plan revision process must include the best available science cited here (at a minimum) that documents the impacts of livestock grazing on the New Mexico meadow jumping mouse and the ecological integrity of its riparian and adjacent upland habitats. Further, the Draft Plan fails to include critical habitat rules for both the NMMJM and the Jemez Mountains Salamander in Appendix E. Relevant Laws, Regulations, and Policy (Draft Plan, p. 322). These rules must be listed in this section.

Associated Comments: #12522-27

Changes made to Plan or EIS: EIS

WILD156 Response: We acknowledge that grazing is a threat to the NMMJM. In the final EIS, we have added grazing as part of the Issues and Threats analysis, under Ground/Soil Disturbance. Additionally, each species' table in Appendix E has been updated to match Table 51 in the final EIS and we have included new literature references for Predusi et al. (1996), Frey (2005), and USFWS (2020) under the At-Risk Wildlife Indicator, Threat J – Ground or Soil Disturbance.

FW-ATRISK-G-2 directs the use of the “most recent approved U.S. Fish and Wildlife Service (USFWS) recovery plan.” We do not cite specific elements of the other plans in the Forest Plan, as we always want to be following the direction in the most recent and update-to-date versions.

In addition, the Forest Plan follows all law, regulation, and policy. Appendix E in the Forest Plan contains a selection of relevant laws, but not necessarily every law the forest is required to follow.

WILD209: Most of the objectives in the draft Plan are either not sufficient to contribute to jumping mouse recovery and maintain other at-risk species persistence or conflict with the ecological needs of at-risk species. For restoration objectives to improve ecosystem conditions for the Arizona willow, jumping mouse, and leopard frog, objectives must be prioritized and targeted to occupied and/or suitable habitat that has the potential to be reoccupied.

Associated Comments: #12522-40

Changes made to Plan or EIS: None

WILD209 Response: Plan components addressing watershed health and restoration include FW-WATER-DC-1, DC-4, DC-5, DC-6; FW-WATER-O-1 and O-2; FW-WATER-S-1 and S-2; and FW-WATER-G-1, G-2, G-3, G-4, and G-5. Plan components addressing water quality include FW-WATER-DC-3, FW-WATER-S-1 and S-2, and FW-WATER-G-1 and G-5. Objectives for riparian restoration can be found in FW-RWE-O-1. FW-RWE-MA-1 and MA-2 encourage managers to work collaboratively with partners to manage riparian areas. While these plan components do not directly address specific species, they collectively improve aquatic and riparian habitats for all species. Species-specific restoration work occurs at the project level and is detailed in project design. The Forest Plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides.

Rio Grande Cutthroat Trout

WILD021: To ensure protection and restoration of Rio Grande cutthroat trout habitat, the Santa Fe should couple restoration efforts with stream buffers for native trout streams and other waterways on the forest through riparian management zones (RMZs). In addition, the final plan should establish quarter-mile “no surface occupancy” zones for all oil and gas leases adjacent to streams containing Rio Grande cutthroat trout or identified as suitable expansion habitat.

Associated Comments: #12708-2, #12708-3

Changes made to Plan or EIS: None

WILD021 Response: On the Santa Fe NF, the only area that has oil and gas leasing potential is the Oil and Gas Leasing Management Area. The overwhelming majority of the Oil and Gas Leasing Management Area occurs at lower elevations where it is unlikely to find Rio Grande cutthroat trout. There are a few streams west of San Pedro Parks that have been known to contain Rio Grande cutthroat trout that do occur within the management area. The headwaters of these streams are primarily protected by an inventoried roadless areas within the Oil and Gas Leasing Management Area, so no surface occupancy should occur within those inventoried roadless areas, as per MA-OGLEASE-G-1b.

"No surface occupancy should be allowed in the following areas:

Inventoried roadless areas. An exception, modification, or waiver may be granted if the forest plan designation changes so that the area is no longer classified as semi-primitive non-motorized (ROS), or if the operator can demonstrate in a surface use plan of operations that the activity can be conducted with minimal impacts on the semi-primitive non-motorized characteristics within a site-specific locale. A public notice and comment period is required prior to waiver, exception, or modification waiver of this stipulation."

Additionally, in the final Plan, FW-OGLEASE-S-1f protects and limits disturbances from drilling activities to at-risk species (with timing restrictions aligned with Federal recover plans) and FW-OGLEASE-G-2 protects riparian and wetland resources by directing that access roads and pipelines should not be located in riparian terrestrial ecosystem units (or equivalent survey system). If there is no practicable alternative, project design features must minimize adverse impacts.

The Aquatic Species and Habitats section and the At-Risk Species section also have numerous plan components that protect species and habitats from adverse impacts (e.g., FW-AQUASH-G-3, G-4, and G-5; FW-ATRISK-G-1, G-2, G-8, and G-9) and support restoration measures (e.g., FW-AQUASH-O-1 and O-2).

See also: WRS020/024/032/039/044 for more on how riparian ecosystem are protected from adverse impacts from mining or drilling.

WILD024: The final Plan should improve protections for Rio Grande cutthroat trout. It should include plan components from alternative 3 that will: restore native trout to their historic range and reconnect isolated populations occurring in headwater streams; improve water quality, stream habitat, and aquatic connectivity; and protect high-value riparian habitat and free-flowing rivers and streams.

Associated Comments: #12551-1, #12752-13, #12752-15a, #12941-8, #4095-2, #4174-2

Changes made to Plan or EIS: None

WILD024 Response: The Forest Plan has an objective (FW-AQUASH-O-2) to restore native fish to 20 miles of stream every 10 years. We have an objective (FW-AQUASH-O-1) in our Aquatic Species and Habitat Section that requires the forest to restore 30 miles of aquatic habitat every 10 years while another objective (FW-AQUASH-O-2) requires the forest to restore native fish species to 20 miles of streams in that same time period. The plan also has numerous plan components addressing connectivity, including that of aquatic habitats (FEIS, appendix E, section C). Where restoration projects take place is not directed by the plan since priority areas may change over the life of the plan.

These objectives were carefully chosen to balance reasonable expectations with current funding and staffing levels.

WILD025: The following plan components should be included in the final plan to benefit Rio Grande cutthroat trout:

1. Establish strong protective stream buffers along all perennial rivers and streams.
2. Include intermittent and ephemeral waters in the final plan's definition of riparian management zones.
3. No Surface Occupancy stipulations for up to one-quarter mile for areas containing native RGCT or identified as suitable expansion habitat for RGCT.
4. Guidelines for mineral development to limit mining impacts to RGCT, including from suction dredge mining activities, as done in the Rio Grande National Forest's final management plan.
5. Decommission or eliminate redundant or unnecessary roads in key watersheds or where impacts to water quality and aquatic habitat are occurring, especially where such roads overlap with RGCT.
6. Timing restrictions for any active management that can have a negative impact to fish habitat and behavior to coincide with spawning cycles of native fish.
7. Monitor flow and temperature regimes in stronghold habitats and future planned restoration zones.
8. Work in conjunction with other resource concerns (grazing permittees, water right holders, forestry project leads, etc.) to prioritize and develop mutually beneficial projects, such as pairing upland restoration projects with improvements to streams and habitat.
9. Develop recreational RGCT fishery opportunities intended to engage Forest users with native fish.
10. Work with New Mexico Game & Fish to identify opportunities to secure and protect RGCT populations from non-native fish by erecting fish migration barriers and improve connectivity between isolated RGCT populations by creating sustainable meta-populations where feasible.
11. Create educational experiences around RGCT, their natural history and importance.

Associated Comments: #12752-23, #4095-2

Changes made to Plan or EIS: Plan

WILD025 Response:

1. FW-RWE-G-1 defines the riparian management zone, and FW-RWE-G-2, and G-6 define specific protections within the RMZ. These protections apply within the 100ft buffer around the RMZ.
2. FW-RWE-G-1 is the definition of riparian management zones, which includes both intermittent and ephemeral waters and channels.
3. On the Santa Fe NF, the only area that has oil and gas leasing potential is the Oil and Gas Leasing Management Area (OGLMA). FW-RWE-G-2 protects riparian management zones (RMZ) from management activities that adversely impact them in the long-term. FW-RWE-G-1 defines RMZs as the area within a 100-foot buffer from the edge of all perennial and intermittent streams, lakes, seeps, springs, and other wetlands or 15 feet from the edges of the ephemeral channels. See WILD021 for more on RGCT streams in the OGLMA, and WRS020/024/032/039/044 for more on how riparian ecosystem are protected from adverse impacts from mining or drilling.

4. On the Santa Fe NF, the only area that has oil and gas leasing potential is the OGLMA. The overwhelming majority of the OGLMA occurs at lower elevations where it is unlikely to find Rio Grande cutthroat trout (RGCT). See WILD021 for more on RGCT streams in the OGLMA.
5. FS-WATER-O2 discusses road decommissioning, as do FW-ROADS-DC3, FW-ROADS-G5.
6. FW-ATRISK-G1 includes timing restrictions on active management.
7. In the monitoring plan (final Plan, Chapter 5 Forest Plan Monitoring Program) stream temperature is one of the indicators for aquatic habitats, as is the number of stream barriers created or removed. Additionally, the RGCT is identified as a focal species for Riparian Habitat—healthy trout populations require specific aquatic habitat conditions, and by monitoring the trout we may be able to infer the state of riparian and aquatic habitat features such as temperature and flow.
8. There are management approaches throughout the Plan, as well as the Partnership section, which encourage collaboration between the Forest and other entities. Additionally, restoration objectives in the Vegetation section of the Plan will benefit riparian and stream ecosystems, as will riparian restoration objectives and road decommissioning objectives in the Riparian and Wetland Ecosystems section and the Water Resources section, respectively.
9. The Forest Plan supports healthy aquatic ecosystems and native fish recovery efforts (see the Aquatic Species and Habitats section and the At Risk Species section). FW-AQUASH-DC-2b highlights this: “Aquatic habitats and waterbodies (e.g., lakes, ponds, and reservoirs) support a complete assemblage of native aquatic species and are resilient to natural and human disturbances including projected warmer and drier climatic conditions. Habitat resiliency is maintained or increased when: ... (b) Desirable nonnative fish exist in less than 50 percent of aquatic habitats across the forest and provide for a broad range of sport-fishing opportunities.”
10. FW-AQUASH-O2 outlines objectives for native fish restoration and references fish barriers that keep nonnative fish species from native fish habitat. FW-AQUASH-MA-1 and MA-2 encourage collaborative work with the NMDGF and other organizations around implementing projects for aquatic species management and developing and implementing conservation strategies (e.g., the Rio Grande Cutthroat Conservation Strategy).
11. See FW-AQUASH-MA-5. There is a typo that says “terrestrial” that we fixed to read “aquatic.”

WILD102: The descriptions of Rio Grande cutthroat trout contain factual errors that should be addressed. The recent status assessment showed that although the species declined historically, populations have increased over the past 10 years due primarily to restoration activities. Rio Grande cutthroat trout now occupies over 11 percent of its historic range, not 10 percent as stated in the EIS. Current information on Rio Grande cutthroat trout status can be found in the Range-wide status of Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*): 2016. Rio Grande Cutthroat Trout Conservation Team Report (Bakevich et al. 2019).

Associated Comments: #12665-116

Changes made to Plan or EIS: EIS

WILD102 Response: We have adjusted the description of Rio Grande cutthroat trout to say they now occupy 11 percent of their historic range, citing Bakevich et al. (2019). However, on-forest resource specialists indicate that cutthroat trout have declined in distribution on the Santa Fe NF

due to uncharacteristic fire events (e.g., the Los Conchas, Pacheco, and Thompson's Ridge fires) that have had major impacts on cutthroat-inhabited streams.

WILD157: If the SFNF is to successfully protect the Rio Grande cutthroat trout, or any native fish, domestic livestock grazing must be limited and reduced in riparian areas and RMZs, especially in potential trout recovery areas. Riparian enclosure fencing should be used to encompass riparian areas on the Forest occupied by at-risk species and important potential recovery habitat. Construction of grazing enclosures to prevent livestock from entering RGCT streams is an immediate funding need, supported by the best available science.

Associated Comments: #12522-28

Changes made to Plan or EIS: None

WILD157 Response: The Rio Grande cutthroat trout is included in appendix E of the FEIS, the At-Risk Species Crosswalk. These crosswalks compile forest plan guidance intended to increase viability of at-risk species. Plan components consist of coarse-filter and fine-filter approaches and demonstrate the widespread but detailed attention the forest plan provides for managing ecosystems for the persistence of each at-risk species (Section A). Plan components that address the issues and threats that are impacting at-risk species are also compiled (Section B). Finally, wildlife connectivity is addressed through a variety of coarse- and fine-filter plan components in multiple resource areas (Section C).

We acknowledge that grazing can be a threat to the trout, and at-risk species in general. In the final EIS, we have added grazing as part of the Issues and Threats analysis (see section 3.5.4.2.12 Threat J – Ground or Soil Disturbance). Additionally, the trout's table in Appendix E has been updated to match Table 51 in the final EIS.

Plan components, such as FW-RANGE-DC-2, DC-4, DC-6, S-1, G-1 and others in the Sustainable Rangelands and Livestock Grazing section, will help us to manage healthy grazing on the forest. To discontinue grazing in any particular place on the forest is beyond the scope of the Forest Plan, and cannot be done without further allotment level analysis. For example, any enclosures that are put in place on the forest will be developed through allotment-level NEPA.

See also: Concern RNG073 for more on grazing in riparian areas.

WILD212: The final Plan should contain plan components for the ecological conditions needed by the Rio Grande cutthroat trout.

Associated Comments: #12522-99, #12522-100, #12522-101

Changes made to Plan or EIS: None

WILD212 Response: We don't develop desired conditions for individual species, but rather develop desired conditions to support wildlife habitat and at-risk species. This is to be able to address the needs of as many species as possible, and to retain management flexibility as the status and needs of species change on-the-ground.

See also: WILD134 for more on our use of coarse-filter and fine-filter plan components to support wildlife.

Connectivity

General

WILD001/022/052: The Forest Plan should provide a greater focus on connectivity. It should include additional plan components and monitoring components that protect wildlife corridors and habitat connectivity (e.g., from roads, development, and climate change impacts). Forest connectivity should incorporate connectivity among the three northern New Mexican National Forests.

Associated Comments: #1563-4b, #12028-10, #12030-6, #12665-103a, #12717-11, #12720-3, #13262-3, #13659-1, #13659-2, #1718-1, #197-4, #197-6, #197-60, #20-1, #3-3, #3943-1, #12502-1, #12503-13, #6-1, #12717-16, #11109-1, #12028-10, #12647-18, #12669-1, #12717-11, #12729-1, #12748-4, #13262-3, #13416-58, #13659-1, #1563-1, #1718-2, #197-68, #271-3, #4517-1, #4685-1, #5187-1, #6-1, #12504-2, #12515-3, #9686-1

Changes made to Plan or EIS: None

WILD001/022/052 Response: Wildlife connectivity plan components are found throughout the Forest Plan. There are over 150 plan components related to wildlife connectivity and corridors. Most of the plan components refer to restoration efforts which will improve habitat conditions making it easier for animals to move about. There are however certain plan components specifically addressing wildlife connectivity. For example, direction is provided to mitigate infrastructure and road impacts habitat connectivity (FW-LANDSU-G-1 and G-3; FW-FAC-G-3; FW-ROADS-DC-5; FW-RAODS-G-9). There are also numerous desired conditions that reference maintaining connectivity and species movement (e.g., FW-VEG-DC-1a and DC-3a; FW-WATER-DC-1c; FW-RWE-DC-4; FW-AQUASH-DC-4a; FW-TERRASH-DC-2 and DC-3; FW-XBOUND-DC-1; MA-CAJA-DC-1; etc.). Plan components addressing wildlife connectivity are found within all sections of Vegetation, Riparian Management Zones, Fire, Water, Soil, Aquatic Species and Habitats, Terrestrial Species and Habitats, Partnerships, Range, Recreation, Roads, Cross Boundary Management, Lands, Minerals, and Designated Areas sections as well. The entire suite of plan components addressing this issue are listed in Appendix E and are analyzed in the Wildlife, Fish, and Plants section of the FEIS.

We do not identify specific corridors or migration routes in the Forest Plan, as we take a fine-filter/coarse filter approach to species conservation. This approach “is a well-developed concept in the scientific literature and has broad support from the scientific community and many members of the public. This requirement retains the strong species conservation intent of the 1982 rule but with a strategic focus on those species that are vulnerable paired with a focus on overall ecosystem integrity and diversity” (36 CFR 219). In the Plan, we interpret wildlife corridors as a course-filter concept that guides how the forest should be managed, rather than planning around concrete physical locations for each individual species. This choice is based on the dynamic qualities of connectivity corridors--wildlife movement varies over time based on a changing conditions both within and outside of the bounds of the forest (e.g., development, climate change, wildfire, natural shifts in habitat, etc.) and exact data on where different species are at any given time is not readily available. Management areas, such as the Caja del Rio Wildlife and Cultural Interpretive Management Area, multiple recommended wilderness management areas, inventoried roadless areas, and research natural areas all serve to provide refuges with reduced potential for human impacts and obstructions that may affect wildlife movement, and promote increased connectivity across the landscape.

Wildlife connectivity is analyzed in section 3.5.4.1 of the FEIS. This analysis includes an examination of the impacts of physical obstructions (e.g., facilities, roads, fencing, etc.) and ecological conditions on connectivity. Additionally, wildlife connectivity science is continuously

being developed. Management approaches recommend that we work with outside agencies and universities to adopt connectivity strategies (FW-TERRASH-MA-7).

While the final Plan does not contain plan components that directly support multi-forest connectivity, the Partnership section emphasizes how the Santa Fe NF is working toward improving management across ownership boundaries (FW-PARTNER-DC-3). We have also worked with the other two northern New Mexican forests during the forest plan revision process in recognition of our geographic continuity and shared history with the other forests. While only some aspects of the three plans have identical direction, aspects regarding connectivity have been coordinated among the three forests.

WILD055: A number of County Commissions expressed support for the Santa Fe NF to adopt and establish special management areas that provide wildlife with habitat connectivity. These management areas should balance traditional land use values, especially farming and ranching, with wildlife and habitat connectivity needs.

Associated Comments: #12515-41, #12515-42, #12515-43, #12515-44, #12515-45, #12515-46, #12515-48, #12515-49, #12515-50, #12515-51

Changes made to Plan or EIS: None

WILD055 Response: We detail how our Plan addresses habitat connectivity under the response to WILD001/022/052. The Northern New Mexico Traditional Communities and Uses sections of the final Plan contain multiple plan components and strategies that focus on the social and economic sustainability of communities around the Santa Fe NF. Access for traditional uses is addressed in the final Plan by FW-TRIBES-DC-1, DC-3, and DC-4; FW-RURALH-DC-1, DC-3, DC-4, and DC-5; FW-RURALH-G-1 and G-3. Additionally, plan components in the Sustainable Rangelands and Livestock Grazing section of the Plan address managing livestock on the forest in balance with other resources (e.g., FW-RANGE-DC-1, DC-2, DC-3, and DC-4).

Outside of the plan revision process, the Santa Fe NF is also working with New Mexico Department of Game and Fish and New Mexico Department of Transportation to consider wildlife crossing under the Wildlife Corridor Conservation Act. This work will continue under the new Forest Plan (FEIS Volume 2, Appendix F).

See also: WILD001/022/052 for more on how we address wildlife connectivity in the Forest Plan.

WILD065.5: There is support for infrastructure management that minimizes impacts to wildlife movement and improves habitat connectivity.

Associated Comments: #12503-27, #459-6

Changes made to Plan or EIS: None

WILD065.5 Response: Plan components in the Wildlife, Fish, and Plants section and the Sustainable Rangelands and Grazing section address infrastructure management with regards to wildlife movement and habitat connectivity.

WILD062.5: The draft Plan and DEIS does not meet the BASI requirement for connectivity which is a key element in ensuring ecological integrity as defined in NMFA Planning Rule Section 219.19. The documents are also deficient in analyzing negative impacts to forest connectivity, e.g., by roads, thinning, development, mining, grazing, OHVs, etc. Connectivity cannot simply be maintained at the coarse-filter level via vegetation management and very general site-specific measures incorrectly presented as a fine-

filter approach. Connectivity maintenance requires species-specific trigger points and population viability analysis, as well as direction that is specific enough to maintain or restore habitat connectivity (especially for riparian-associated species).

Associated Comments: #12492-7, #12720-3, #197-3, #197-4, #197-45, #197-5, #197-6, #197-60, #12522-73, #12522-81

Changes made to Plan or EIS: None

WILD062.5 Response: The 2012 Planning Rule states that, “the plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, composition, and connectivity” (36 CFR § 219.9 (a)(1)). Plan components that support wildlife connectivity are found throughout the Forest Plan--there are over 150 plan components related to wildlife connectivity and corridors (see Section C of Appendix E in Volume 2 of the FEIS). We do not identify specific corridors or migration routes in the Forest Plan, as we take a fine-filter/coarse filter approach to species conservation. This approach “is a well-developed concept in the scientific literature and has broad support from the scientific community and many members of the public. This requirement retains the strong species conservation intent of the 1982 rule but with a strategic focus on those species that are vulnerable paired with a focus on overall ecosystem integrity and diversity” (36 CFR 219). In the Plan, we interpret wildlife corridors as a course-filter concept that guides how the forest should be managed, rather than planning around concrete physical locations for each individual species. This choice is based on the dynamic qualities of connectivity corridors--wildlife movement varies over time based on a changing conditions both within and outside of the bounds of the forest (e.g., development, climate change, wildfire, natural shifts in habitat, etc.) and exact data on where different species are at any given time is not readily available. When necessary to protect wildlife, corridors may be identified as part of project design using the expertise of resource specialists who are familiar with the forest’s dynamic landscape and species.

Wildlife connectivity is analyzed in section 3.5.4.1 of the FEIS. This analysis includes an examination of the impacts of physical obstructions (e.g., facilities, roads, fencing, etc.) and ecological conditions on connectivity. Additionally, wildlife connectivity science is continuously being developed. Management approaches recommend that we work with outside agencies and universities to adopt connectivity strategies (FW-TERRASH-MA-7).

The 2012 Planning Rule (see section 219.9) require plans to adopt a complementary ecosystem and species-specific approach to maintain the persistence of native species in the plan area. We use a fine-filter/course-filter approach based on best available scientific information to achieve this requirement. According to the Planning Rule, “this [approach] is a well-developed concept in the scientific literature and has broad support from the scientific community and many members of the public. This requirement retains the strong species conservation intent of the 1982 rule but with a strategic focus on those species that are vulnerable paired with a focus on overall ecosystem integrity and diversity.”

See also: WILD134 and WILD135 for more on how we use fine-filter and course-filter plan components to support species habitat and monitoring.

See also: WILD001/022/052 for more on how we address wildlife connectivity in the Forest Plan.

WILD041: The final Plan should incorporate components from alternative 3 that provide for maximum improvements to connectivity and species viability (via habitat benefits, especially for SCC and Regional Forester Sensitive Species).

Associated Comments: #12030-6, #12665-103b, #12522-79 (b)

Changes made to Plan or EIS: None

WILD041 Response: The plan components between alternative 2 and 3, in terms of connectivity, are the same (see Section C of Appendix E in the FEIS). However, alternative 3 has more acres of recommended wilderness and higher vegetation restoration objectives, which improves its overall habitat connectivity rating.

The objectives in alternative 3 were developed with the intent that there would be fewer resources going toward thinning and other human-use driven management interventions. Thus, replacing vegetation objectives in alternative 2 with those in alternative 3 would require a reduction in objectives in other sections of the final Plan to remain within current Forest capacity (e.g., current budgets, personnel, etc.). We determined that the balance of objectives in alternative 2 met our multiple-use mandate better than those in alternative 3, while still maintaining sufficient habitat connectivity and moving the forest toward long-term habitat improvement and resiliency.

The 2012 Planning Rule (36 CFR §§ 219.8 and 219.9) requires that we address habitat connectivity but doesn't require that we select an alternative that would have the most connectivity. Our rationale for our decision to select alternative 2 as the final Plan is found in the record of decision.

WILD146: The final Plan should identify where climate refugia and large core protected areas currently exist, both within the forest and larger landscape, and the connections that exist between them. These connections should be maintained or restored where necessary

Associated Comments: #12522-113, #12685-14

Changes made to Plan or EIS: None

WILD146 Response: We have identified a number of large areas beneficial to wildlife connectivity in the management areas section of the Forest Plan. These include the Caja del Rio Wildlife and Cultural Interpretive Management Area, which has been identified as a key area for wildlife connectivity (MA-CAJA-DC-1). The final Plan also recommends five areas of the forest as recommended wilderness. This represents managing 1.54 percent of the Santa Fe NF as recommended wilderness and in combination with designated wilderness represents just over one-fifth (20.1 percent) of the forest. All recommended wilderness areas are also adjacent to existing wilderness, enhancing existing wilderness characteristics by providing larger acres of uninterrupted land and its beneficial effects (e.g., fewer physical obstructions, decreased human presence, and restrictions on certain development). Revisions to the final Plan based on comments received resulted in the addition of FW-VEG-DC-3c: Habitats and refugia for rare, endemic, and culturally important species, are resilient to stressors and support species' persistence or recovery.

WILD147: To improve aquatic habitat connectivity, the final Plan should utilize the existing Watershed Condition Framework as a base to establish and execute metrics and water quality standards in the context of "geomorphic, hydrologic and biotic integrity" as defined in the Forest Service Manual.

Associated Comments: #12522-114 (a)

Changes made to Plan or EIS: None

WILD147 Response: The Santa Fe NF follows the Forest Service's Watershed Condition Framework (WCF) to assess watershed condition and identify priority watersheds. Priority watersheds have been identified as areas where plan objectives for restoration focus on maintaining or improving watershed condition. Plan components in the Water Resources section address the use of WCF metrics (FW-WATER-DC-1 and FW-WATER-O-1). WCF classifications and priority watersheds may change over the life of the forest plan, reflecting changes in watershed conditions.

WILD148: To improve aquatic habitat connectivity, the final Plan should create or expand the definition of Riparian Management Zones (RMZs) and apply a set of standards designed to assure riparian protection.

Associated Comments: #12522-114 (d)

Changes made to Plan or EIS: None

WILD148 Response: FW-RWE-G-1 defines the RMZ, and plan components within the Riparian and Wetlands Ecosystem section of the Plan provide for protection or riparian ecosystems.

WILD057: The Santa Fe should use the recent Final Report: New Mexico Wildlife Habitat Linkage Assessment tool for corridor modeling. This new tool is significantly more comprehensive and explicit than earlier studies.

Associated Comments: #12647-17

Changes made to Plan or EIS: None

WILD057 Response: This report/tool is something we are aware of and are using. We also are working with other agencies and organizations to stay up-to-date on the most current research. See FW-TERRASH-MA7.

WILD059:

- Recommendation: The Draft Plan should include discussion and assessment of a wildlife corridor between Pecos Baldy and Rowe Mesa.
- Recommendation: The Draft Plan should specifically cite methods of collaboration with the New Mexico State Transportation Department and New Mexico State Game and Fish Department on wildlife corridors.
- Recommendation: The Draft Plan should include a timeline for conducting research which identifies pathways, habitat, and breeding areas of all wildlife, particularly relating to climate change.

Associated Comments: #12607-4

Changes made to Plan or EIS: None

WILD059 Response:

- We do not identify corridors in the Plan. We interpret wildlife corridors as a concept in how the forest should be managed; we choose not to plan around concrete physical locations as wildlife movement varies over time based on a variety of dynamic forest conditions.

Rather, we manage for habitat improvement forestwide and have extensively documented how plan direction will support wildlife connectivity (see Appendix E, Section C).

- Our Partnership section notes that we encourage partnership and coordination with other agencies and groups. In addition, in most sections of the Plan we have management approaches that encourage project managers to collaborate with other organizations, including state agencies.
- FW-TERRASH-MA-4 states that, “During project planning, consider mitigations to wildlife habitat resulting from the effects of long-term and short-term climate fluctuations (e.g., global climate change, drought, El Niño Southern Oscillation), and subsequent effects of management activities.” In addition, we identify climate change as an ongoing stressor as part of our analysis in the EIS. Beyond this, these issues are outside the scope of the forest planning process.

WILD097: The Forest Service should collaborate with multiple partners, including the state, recreation and conservation organizations, and private landowners to identify and protect wildlife corridors.

Associated Comments: #12601-1, #20-2

Changes made to Plan or EIS: None

WILD097 Response: Our Partnership section notes that we encourage partnership and coordination with other agencies and groups. In addition, in most sections of the Plan we have management approaches that encourage project managers to collaborate with other organizations, including state agencies. FW-TERRASH-MA-2 and MA-7 both support collaboration with other entities and organizations to improve habitat connectivity.

Plan Components

WRS009: The final Plan should include plan components that ensure riparian and aquatic ecosystem connectivity and watershed health, and restore aquatic connectivity where it has been lost.

Associated Comments: #10185-2, #12522-114 (a)

Changes made to Plan or EIS: None

WRS009 Response: Wildlife connectivity plan components are found throughout the Forest Plan. There are over 150 plan components related to wildlife connectivity and corridors. Most of the plan components refer to restoration efforts that will improve habitat conditions making it easier for animals to move about. There are, however, certain plan components specifically addressing wildlife connectivity. For example, direction is provided to design infrastructure so as not to disrupt habitat connectivity. There are also numerous desired conditions that reference maintaining connectivity. Plan components addressing wildlife connectivity are found within all sections of Vegetation, Riparian Management Zones, Fire, Water, Soil, Aquatic Species and Habitats, Terrestrial Species and Habitats, Partnerships, Range, Recreation, Roads, Cross Boundary Management, Lands, Minerals, and Designated Areas sections as well. Plan components that specifically address aquatic and riparian connectivity include FW-WATER-DC-1c, FW-WATER-DC-4, FW-RWE-O-1, and FW-AQUASH-DC-4a. The entire suite of plan components addressing this issue are listed in Appendix E and are analyzed in the Wildlife, Fish, and Plants section of the FEIS.

In addition to these components, the Monitoring Plan (Forest Plan, Chapter 5) cites beavers as a focal species that will be used to monitor aquatic habitats to ensure they are connected and free from alterations (e.g., temperature regime changes, lack of adequate streamflow, or barriers to

aquatic organism passage) to allow for species migration, connectivity of fragmented populations and genetic exchange.

There are restoration objectives in the Water Resources and Riparian and Wetland Ecosystems sections of the Plan (FW-WATER-O-1 and O2, FW-RWE-O-1). As noted above, these restoration efforts will improve aquatic and riparian habitat conditions, which in turn will improve wildlife mobility.

WRS026: A Desired condition should be added to the RWE section about riparian habitat connectivity, similar to the connectivity language in the aquatic and terrestrial habitat sections.

Associated Comments: #12665-26

Changes made to Plan or EIS: Plan

WRS026 Response: We agree that habitat connectivity is an important component of riparian ecosystems. We added connectivity language to FW-RWE-DC-4 so that it now reads, “Riparian areas and wetland ecosystems meet the standards defined by proper functioning condition metrics (e.g., Prichard et al. 1998). RE and WE are supported by surface and subsurface flow regimes that contribute to stream-channel and floodplain development, maintenance, and function; which maintain soil moisture necessary for riparian connectivity and for the regeneration of native plants that depend on flooding or high water tables.”

WILD015: FW-AQUASH-MA-4 habitats should include restoring aquatic habitat connectivity as a rationale for prioritizing projects.

Associated Comments: #12665-46, #4095-2

Changes made to Plan or EIS: Plan

WILD015 Response: We modified FW-AQUASH-MA-4 so that it reads, “Prioritize restoration projects based on factors such as watershed conditions, at-risk species, **restoring aquatic habitat connectivity**, restoration after disturbances (e.g., fire or flood), partner interest, and other immediate needs.”

WILD142: The final Plan should include the following desired conditions for terrestrial connectivity management:

1. Protected wildlife corridors provide areas for: landscape-scale movement, migration, and dispersal of wide-ranging wildlife species, and they offer security from intensive recreational and other human disturbances. This is an important step in providing for the maintenance of biodiversity across the forest.
2. Corridors/linkage areas and associated approach areas provide secure habitat conditions for wildlife movement between large blocks of habitat and/or seasonal habitats at localized and landscape scales, especially across valley bottoms and other fragmented areas. These areas provide cover and often connect key habitat components for those species that use that particular area. NFS lands contribute to linkages between landscapes, unless such landscape isolation is determined to be beneficial.
3. Corridors/linkage areas enable genetic interactions.
4. Communication and collaboration occurs between federal, tribal, state, and local governments and private landowners to develop, coordinate, improve, and implement common management objectives,

including maintaining and enhancing the habitat, habitat connectivity and viability of terrestrial and aquatic wildlife species.

5. Willing adjacent landowners, planners, and other interested parties work together to improve wildlife connectivity opportunities across multiple jurisdictions (e.g., cooperative agreements, land consolidations, exchanges, acquisitions, easements, etc.).
6. Core habitat areas (including but not exclusively Wilderness Areas, Wilderness Study Areas, Research Natural Areas, some Inventoried Roadless Areas, and Special Zoological Areas) are not isolated so as to maintain functional connectivity between and among these areas. Such areas, and the connections between them, contain relatively intact ecosystems where natural processes dominate, provide habitat for native biota, and constitute part of a system that helps to preserve the native biological diversity at the planning unit scale and larger landscape scale.
7. Long-term connectivity and integrity of habitat utilized for movement through public lands is restored and maintained to provide for ecological integrity in order to contribute to the recovery of threatened and endangered species, conserve species proposed or candidates for listing under the Endangered Species Act, assure the persistence of Forest Service Species of Conservation Concern, conserve Bureau of Land Management special status species, priority species identified in Colorado and New Mexico State Wildlife Action Plans, and game species.
8. Forest infrastructure (e.g., roads, fences) does not impede large landscape-scale species (e.g., big game and large carnivore) movement and seasonal habitat use. Infrastructure is designed and located to facilitate wildlife movement. Secure habitat occurs in big game migration corridors to facilitate big game movement
9. To the maximum extent possible, intact, contiguous, secure habitat is provided to support multidirectional seasonal movements of native ungulates. Human disturbance levels (especially in fall and winter ranges, and on calving/fawning grounds) are limited to provide for effective habitat, as defined by State agency partners. These support critical life cycle functions and seasonal needs, including seasonal migration corridors between ranges, for sustaining herds capable of meeting State population objectives.
10. Motorized route density standards or guidelines that consider open and closed USFS roads, USFS motorized trails, and non-USFS roads (e.g., county roads and state highways) are based on best available science for maintaining and/or restoring functional habitat conditions for wildlife that occur in the area.

Associated Comments: #12522-105

Changes made to Plan or EIS: None

WILD142 Response: Wildlife connectivity plan components are found throughout the Forest Plan. There are over 150 plan components related to wildlife connectivity and corridors. Most of the plan components refer to restoration efforts which will improve habitat conditions making it easier for animals to move about. There are however certain plan components specifically addressing wildlife connectivity. For example, direction is provided to design infrastructure so as not to disrupt habitat connectivity. There are also numerous desired conditions that reference maintaining connectivity. Plan components addressing wildlife connectivity are found within all sections of Vegetation, Riparian Management Zones, Fire, Water, Soil, Aquatic Species and Habitats, Terrestrial Species and Habitats, Partnerships, Range, Recreation, Roads, Cross Boundary Management, Lands, Minerals, and Designated Areas sections as well. Plan components that specifically address terrestrial connectivity can be found in the FEIS, Appendix E, Section C. Wildlife Connectivity Crosswalk.

Our Partnership section notes that we encourage partnership and coordination with other agencies and groups. In addition, in most sections of the Plan we have management approaches that encourage project managers to collaborate with other organizations, including state agencies. FW-TERRASH-MA-2 and MA-7 both support collaboration with other entities and organizations to improve habitat connectivity.

The minimum publicly accessible road system was identified and established during the implementation of the Travel Management Rule (36 CFR §212), which occurred as a process separate from the forest planning process. Road density and road impacts are analyzed throughout the EIS, however, both in section 3.13, Roads and Infrastructure, and under various resources that are impacted by roads (e.g., section 3.4, Watersheds and Water Resources).

See also: RD012/RD046 for more on road densities

See also: WILD001/022/052 for more on how we approach wildlife habitat connectivity in the final Plan.

WILD143: The final Plan should include the following standards to improve, maintain, and restore habitat connectivity:

1. Winter, including over-snow vehicle use, and summer recreation activities should conform to best available scientific knowledge for mitigating impacts to big and small game, federally protected species, Forest Service Species of Conservation Concern, and other special status and sensitive wildlife species.
2. Optimize fencing for livestock to make all fences wildlife friendly (i.e., fences to not create unreasonable or unnecessary movement barriers or hazards for wildlife) to the maximum extent possible. Coordinate with permittees to identify fencing that is not critical for livestock operations; any fencing that is not critical for livestock operations and that is impeding wildlife movement is removed. Any new livestock fencing that is installed should be constructed in a manner that will minimize disruption to wildlife movement, taking into consideration seasonal migration and water resources.
3. Motorized route density standards within the management area to conform to the best scientific recommendations, generally less than one mile per square mile.¹¹³ Ensure that there will be no net increases in densities above a scientifically credible threshold. If these densities do not exist today, the Forest Service will develop a strategy to achieve them. Motorized route density will consider open and closed USFS roads, USFS motorized trails, and non-USFS roads (e.g., county roads and state highways) and be based on best available science for maintaining and/or restoring functional habitat conditions for wildlife that occur in the area.
4. All temporary roads are removed and the lands on which they were located are restored to natural conditions, and moving toward their Natural Range of Variability, within one year of the termination of the purpose for which they were established.
5. Decommission and reclaim unauthorized routes and system roads that the agency determines are no longer needed for public motorized use.

Associated Comments: #12522-106, #12522-107, #12522-108, #12522-109, #12522-110

Changes made to Plan or EIS: None

WILD143 Response:

1. The intent of this standard is covered by direction in the final Plan. Plan direction for both recreation and wildlife mitigates impacts to wildlife from recreation activities. The Developed Recreation section provides direction on preventing human-wildlife conflict (FW-DEVREC-G-4), and the Dispersed Recreation section has direction addressing the need to prevent recreation from having adverse effects on ecological resources (FW-DISREC-DC-1, FW-DISREC-G-3, G-4, and G-6).

Similarly, direction in the Wildlife, Fish, and Plants sections address mitigating adverse impacts from various other forest activities or uses. For instance, plan direction address the need for seasonal restrictions and closures in some cases:

- FW-TERRASH-G3. Activities negatively impacting wildlife reproduction or other vital functions should be minimized (e.g., closures during elk calving), except if management activities are implemented to control wildlife populations to protect the overall health of the habitat or other populations (e.g., NMDGF regulations).
- FW-TERRASH-MA3. Consider seasonal road restrictions and area closures to provide refuge in small and large blocks of land for a wide range of species.
- FW-ATRISK-G13. Closures or other means to reduce the threat to at-risk species should be implemented in areas where recreational activities (e.g., target shooting or climbing) are known cause harm.

Other plan components direct that wildlife are free from harassment and human disturbance (FW-TERRASH-DC-3), and that authorized activities on the forest should be designed and implemented to address threats to at-risk species and their habitats (FW-ATRISK-G-1). Appropriate routes for off-highway vehicle use have been and continue to be addressed through the implementation of the Travel Management Rule (TMR; 36 CFR §212), which makes decisions on road and trail use based on site-specific information.

As required through the 2012 Planning Rule, the best available science, as determined by the responsible official, was used to develop the Plan (36 CFR § 219.3). Additionally, the monitoring program “document(s) whether a change to the plan or change to the monitoring program is warranted based on new information” (36 CFR § 219.5). It is not necessary to restate the need to use existing or new scientific information within a plan component.

2. The intent of this standard is covered by direction in the final Plan. Direction addresses wildlife-friendly fencing and infrastructure:
 - FW-TERRASH –G-1. Human-made structures (e.g., fences, steel posts, or vent pipes) should be constructed and maintained to minimize wildlife mortality (e.g., capped fence posts) and removed when no longer needed.
 - FW-TERRASH-G-2. Infrastructure (e.g., fences and roads) should be designed, modified, or removed to minimize impacts on wildlife movement and improve habitat connectivity
 - FW-ATRISK-G-1d. All authorized activities should be designed and implemented
 - FW-RANGE-O-1. Annually remove, improve, or reconstruct at least 5 percent of the forest’s range infrastructure that is no longer necessary or in poor or non-functional condition.
 - FW-RANGE-S-2. New or reconstructed fencing must allow for wildlife passage, except where specifically intended to exclude wildlife (such as elk enclosure fence) or to protect human health and safety, while maintaining its effectiveness for livestock management.

- FW-RANGE-S-3. New and reconstructed range improvements must be designed to prevent wildlife entrapment and provide safe egress for wildlife (e.g., escape ramps in water troughs and cattleguards).
- 3. This standard is outside the scope of the Forest Plan. The minimum publicly accessible road system was identified and established during the implementation of the Travel Management Rule (36 CFR §212), which occurred as a process separate from the forest planning process. Road density and road impacts are analyzed throughout the EIS, however, both in section 3.13, Roads and Infrastructure, and under various resources that are impacted by roads (e.g., section 3.4, Watersheds and Water Resources). See also: RD012/RD046 for more on road densities.
- 4. The intent of this standard is covered by direction in the final Plan. Plan components in the Roads section of the Forest Plan mitigate road impacts (FW-ROADS-DC-2, DC-3, and DC-5; FW-ROADS-G-1, G-2, G-3, G-4, G-8, G-9, and G-10) and direct the closure of temporary roads (FW-ROADS-G-8). Objectives in the Water Resources section set goals for road decommissioning. These objectives are based on current Forest capacity (e.g., personnel, current budgets, etc.).
- 5. The intent of this standard is covered by direction in the final Plan. In the final Plan, there is an emphasis on maintaining or decommissioning roads, which are part of a series of objectives to move watersheds toward desired conditions. Objectives include:
 - FW-WATER-O-2. Over 10 years, improve watershed function by decommissioning or mitigating impacts (e.g., maintenance, improvements, reroutes) on at least 100 miles of route (e.g., system roads, unauthorized routes, trails) to the point of restoring hydrologic and ecological function.

Objectives for road and trail maintenance, reconstruction, improvement and decommissioning miles are minimums and additional miles would be accomplished as funding allows.

In addition, guidelines ensure that roads are not added to the system.

- FW-ROADS-G-5. Decommissioning of roads at the project level should be based on resource needs.
- FW-ROADS-G-8. Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects should be closed and rehabilitated (restored to more natural vegetative conditions) upon project completion to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use.

WILD108: Guideline 2 in the Terrestrial species section should clarify that maintaining habitat connectivity is necessary to facilitate gene flow and interbreeding populations, in addition to connecting important seasonal areas for terrestrial wildlife (i.e., maintaining connectivity between ungulate wintering grounds and parturition areas).

Associated Comments: #12665-51

Changes made to Plan or EIS: None

WILD108 Response: As it is worded now, FW-TERRASH-G-2 emphasizes connectivity for all wildlife. It is not necessary to discuss gene flow or single out ungulates at this juncture.

WILD144: The final Plan should include the following guideline: Where possible, augment wildlife habitat through land purchase from willing sellers, exchange, transfer or donation of additional acreage of

crucial wildlife habitat for their migration, movement and dispersal in recognized and designated wildlife corridors.

Associated Comments: #12522-111

Changes made to Plan or EIS: None

WILD144 Response: This intent of this guideline is covered by direction in the final Plan. In the Cross-Boundary section of the Plan, FW-XBOUND-G-1, G-2b, G-2c, G-2e, G-2f, and G-2h all guide managers to consider recreation and ecological health that supports habitat and connectivity. FW-PARTNER-DC-3 also addresses landscape-scale management and how partnership opportunities should be used to promote cross-boundary management to find solutions to ecological and societal issues. Finally, FW-XBOUND-MA-3 asks managers to consider working, “with interested stakeholders to identify suitable parcels for acquisition and explore funding opportunities that leverage the Land and Water Conservation Fund, grant opportunities, and private financing,” and FW-TERRASH-MA-2 asks managers to consider collaborating, “with other adjacent land ownership to encourage and all-lands approach at a scale that improves connectivity across mixed ownerships where natural systems span multiple administrative boundaries.”

WILD111: Management Approach 7 in the Terrestrial species section should add maintenance of habitat connectivity to facilitate gene flow and interbreeding populations, in addition to connecting important seasonal areas for terrestrial species and local ungulate herds (i.e., maintaining connectivity between wintering grounds and parturition areas)

Associated Comments: #12665-54

Changes made to Plan or EIS: None

WILD111 Response: This intent of this management approach is covered by direction in the final Plan. We address terrestrial gene flow and seasonal movement in FW-VEG-DC-3a and FW-TERRASH-DC-2.

WILD064: The Santa Fe should carry forward guidance related to wildlife habitat connectivity and conservation management within the region and should add plan components to develop partnerships throughout the region, such as with New Mexico Game & Fish, to implement proactive measures to actively restore habitat within priority corridors, and mitigate and/or remove barriers to wildlife movement.

Associated Comments: #12499-1, #12503-29, #12647-18, #12540-3

Changes made to Plan or EIS: None

WILD064 Response: Collaboration with other agencies or organizations must be listed under management approaches. See FW-Terrash-MA1 and FW-AQUASH-MA1.

WILD149: The final Plan should incorporate more direction on connectivity within desired conditions for RMZs.

Desired Condition.

- RMZs reflect a natural composition of native flora and fauna and a distribution of physical, chemical, and biological conditions appropriate for natural ecosystems. The species composition and structural diversity of native plant communities in riparian management zones, including

wetlands, provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration. RMZs supply amounts and distributions of nutrients, coarse woody debris, and fine particulate organic matter sufficient to sustain physical complexity and stability.

- RMZs feature key riparian processes and conditions, including slope stability and associated vegetative root strength, wood delivery to streams and the associated RMZs, input of leaf and organic matter to aquatic and terrestrial systems, solar shading, microclimate, and water quality, operating consistently within local disturbance regimes.
- RMZs should have highly diverse structure and composition to support terrestrial riparian-associated plants and animals.

Guideline.

- Allow only activities that advance RGCT connectivity and aquatic ecological health allowed.
- Prioritize partner projects for restoration and rehabilitation including replacement of non-native vegetation such as tamarisk with appropriate native plantings or seedings.

Standard.

- Prohibit surface disturbance from oil and gas development within a buffer from the ordinary high water mark from perennial and intermittent streams and other riparian areas; apply a larger setback from Gold Medal streams.

Associated Comments: #12522-115

Changes made to Plan or EIS: None

WILD149 Response: Wildlife connectivity plan components are found throughout the Forest Plan. There are over 150 plan components related to wildlife connectivity and corridors. Most of the plan components refer to restoration efforts which will improve habitat conditions making it easier for animals to move about. There are however certain plan components specifically addressing wildlife connectivity. For example, direction is provided to design infrastructure so as not to disrupt habitat connectivity. There are also numerous desired conditions that reference maintaining connectivity. Plan components addressing wildlife connectivity are found within all sections of Vegetation, Riparian Management Zones, Fire, Water, Soil, Aquatic Species and Habitats, Terrestrial Species and Habitats, Partnerships, Range, Recreation, Roads, Cross Boundary Management, Lands, Minerals, and Designated Areas sections as well. Plan components that specifically address aquatic and riparian connectivity include FW-WATER-DC-1c, FW-WATER-DC-4, FW-RWE-O-1, and FW-AQUASH-DC-4a. The entire suite of plan components addressing this issue are listed in appendix E and are analyzed in the Wildlife, Fish, and Plants section of the FEIS.

In addition to these components, the Monitoring Plan (Forest Plan, Chapter 5) cites beavers as a focal species that will be used to monitor aquatic habitats to ensure they are connected and free from alterations (e.g., temperature regime changes, lack of adequate streamflow, or barriers to aquatic organism passage) to allow for species migration, connectivity of fragmented populations and genetic exchange.

There are restoration objectives in the Water Resources and Riparian and Wetland Ecosystems sections of the Plan (FW-WATER-O-1 and O2, FW-RWE-O-1). As noted above, these restoration efforts will improve aquatic and riparian habitat conditions, which in turn will improve wildlife mobility.

Monitoring

WILD128: The Plan should include specific questions and indicators to monitor terrestrial and aquatic habitat connectivity, ecological conditions, public use and enjoyment of wildlife and fish, and how those uses support the Santa Fe NF's contributions to economic and social sustainability.

Associated Comments: #12720-2, #12522-114 (c)

Changes made to Plan or EIS: None

WILD128 Response: The monitoring plan (Chapter 5, final Plan) includes questions and indicators related to habitat connectivity in the Aquatic Habitats and Terrestrial Habitats sections, and in the Wildlife Connectivity section. Beyond these, ecosystem condition is further monitored using questions and indicators in the Grassland Ecosystems, Forested Ecosystems, and Species Conservation sections of the monitoring plan.

Additionally, we identify beaver as a focal species to specifically help monitor connectivity. Although wildlife connectivity does not rely on a specific ecological condition within a single ecosystem, it consists of a multitude of ecological conditions that make movement within or between ecosystems easier. Besides removing or mitigating physical obstructions to movement, in-reference ecological conditions increase the likelihood that wildlife will not be impeded by connectivity issues. In other words, if habitats are restored and functioning properly, animals should be able to acquire all the basic life-cycle needs (i.e., food, water, and shelter) as well as the need to find suitable mates. Monitoring a species that is known to repopulate an area that have been successfully restored (in this case, the North American beaver) will provide useful information that ecosystems connecting those areas are functioning properly. See appendix F of the FEIS for more on focal species.

Ecological condition and contributions to economic and social sustainability are woven throughout the ecological and social and economic resources. Examples for ecological include acres of fuels and restoration treatment returning ecological conditions to within the natural range of variability, acres of invasive treated, acres improved to wildlife habitat. Examples of socioeconomic resources include visitor satisfaction surveys and campsite reservations (recreation) fuelwood permits sold (Forest products), consultation with tribes (cultural resources and traditional use), volunteer hours logged (cultural resources and traditional uses). Finally, although public enjoyment of wildlife and fish is not specifically mentioned, it could be a component of visitor satisfaction (for recreation). The specifics of monitoring protocol for the indicators are yet to be developed and therefore we cannot speak to that at this time.

WILD145: The final Plan should include the following connectivity monitoring direction:

1. Monitor for trends in landscape integrity and permeability of the forest, and larger landscape, over time. Landscape integrity will be assessed by considering human modification that contributes to fragmentation, including roads, residential development, energy development, transmission corridors, and other development.
2. Work with governments and private partners, including adjacent national forests, BLM, state wildlife agencies, universities, and non-profits, to monitor wildlife movement within and across the forest.
3. Ensure that the plan is responsive to the information gathered and evaluated during monitoring by establishing triggers that, once reached, lead to a change in management that improves connectivity and permeability of the forest.

4. Designate elk and pronghorn as focal species and develop monitoring questions that help assess effectiveness of plan direction related to connectivity.

Associated Comments: #12522-112

Changes made to Plan or EIS: None

WILD145 Response:

1. The monitoring plan (Chapter 5, final Plan) includes questions and indicators related to habitat connectivity in the Aquatic Habitats and Terrestrial Habitats sections, and in the Wildlife Connectivity section. Beyond these, landscape integrity is further monitored using questions and indicators in the Grassland Ecosystems, Forested Ecosystems, and Species Conservation sections of the monitoring plan.

Additionally, we identify beaver as a focal species to specifically help monitor connectivity. Although wildlife connectivity does not rely on a specific ecological condition within a single ecosystem, it consists of a multitude of ecological conditions that make movement within or between ecosystems easier. Besides removing or mitigating physical obstructions to movement, in-reference ecological conditions increase the likelihood that wildlife will not be impeded by connectivity issues. In other words, if habitats are restored and functioning properly, animals should be able to acquire all the basic life-cycle needs (i.e., food, water, and shelter) as well as the need to find suitable mates. Monitoring a species that is known to repopulate an area that have been successfully restored (in this case, the North American beaver) will provide useful information that ecosystems connecting those areas are functioning properly. See appendix F of the FEIS for more on focal species.

2. Under the 2012 Planning Rule, monitoring consists of two elements: the plan monitoring program developed by the forest, and broader-scale monitoring strategies developed by the Regional Forester. Although not required to follow state laws, we work collaboratively with state agencies, such as NM Department of Game and Fish and NM Department of the Environment, to manage public lands. Partnership and collaboration goals are outlined in the Partnership section of the Plan, and can be found in the management approaches of most sections. Consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions beyond the forest boundary. Project and activity monitoring may also be used to gather information for the plan monitoring program.
3. As we discuss in Chapter 5 of the Plan, "Forest Plan Monitoring Program": "Monitoring provides feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the responsible official to determine if a change in plan components or other plan content that guides management of resources on the plan area may be needed, forming a basis for continual improvement and adaptive management."

While the monitoring chapter of the Forest Plan is meant to facilitate adaptive forest management, it is not intended to depict all monitoring, inventorying, and data-gathering activities to be undertaken in the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in this chapter of the Plan. Following the release of the Plan, an implementation guide for monitoring will be developed which will contain greater detail surrounding monitoring practices and may lend greater clarity on monitoring to address concerns such as connectivity. Additionally, consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and

coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions beyond the Forest boundary.

4. From appendix F (EIS vol. 2), “Focal species are selected because they are believed to be responsive to ecological conditions in a way that can inform future plan decisions. Forest Service handbook direction (FSH 1909.12 chapter 30, section 32.13c) for focal species further specifies that every plan monitoring program must identify one or more focal species and one or more monitoring questions and associated indicators addressing the status of the focal species.” The Santa Fe NF chose 7 focal species for assessing ecosystem conditions over the life of the plan. At this time, an interdisciplinary team has decided not to add additional focal species (e.g., elk and/or pronghorn suggested by a commenter) for plan scale monitoring on the forest. Those species may still be monitored at the project scale to gain valuable information about terrestrial habitat and health conditions.

Analysis

WILD005: The FEIS needs to clarify why alternative 3 will provide the most improvements to connectivity.

Associated Comments: #12752-15 (a), #12665-103 (a)

Changes made to Plan or EIS: None

WILD005 Response: Alternative 3 provides the most improvement in connectivity because it provides for the most forest restoration and recommended wilderness. This is explained in section 3.5.4.3.4 of the EIS.

WILD030: The FEIS must analyze connectivity. A connectivity analysis needs to incorporate cumulative impacts (e.g., livestock, thinning, roads), importance of intact areas (especially connecting life zones along gradients for species movements), and barriers to terrestrial and aquatic focal species, at-risk species, and species of conservation concern along with specific measures for reconnecting habitat.

Associated Comments: #197-7

Changes made to Plan or EIS: None

WILD030 Response: Wildlife connectivity plan components are listed in appendix E and the issue is analyzed in the Wildlife, Fish, and Plants section of the FEIS (section 3.5.4.3 Indicator: Wildlife Connectivity). This includes Table 69, which compares connectivity amongst alternatives. Habitat connectivity is also addressed in other sections of the FEIS (including the Vegetation section, Riparian and Wetland Ecosystem section, and the Watersheds and Water Resources section), as changes in management of multiple resources (e.g., vegetation, riparian and wetland ecosystems, watershed and water resources, roads and infrastructure, wilderness) affect connectivity.

WILD129: Management areas should be designated for big game that minimize surface disturbance in migration corridors and seasonal habitats.

Associated Comments: #12720-3

Changes made to Plan or EIS: None

WILD129 Response: See responses to WILD001/022/052 and WILD063

WILD141: It is unclear how the Santa Fe NF's dynamic approach to wildlife habitat connectivity will provide the necessary connected conditions for at-risk species. The EIS must evaluate the reasonably foreseeable impacts of the proposed action. It can't say instead that it will monitor to see what the effects are. Monitoring cannot be a substitute for effects analysis. Also, unless there is a monitoring trigger included in a mandatory standard, the monitoring program has no effects and it should not be assumed to mitigate effects. The Forest should designate known connectivity areas now and amend them when needed.

Associated Comments: #12522-93

Changes made to Plan or EIS: None

WILD141 Response: See the responses to WILD134 and WILD135 for more on how we use fine-filter and course-filter plan components to support species habitat and monitoring, and the responses to WILD001/022/052 for more on how we address wildlife connectivity in the Forest Plan.

Air Quality

Air001: The plan should "consider monitoring air quality impact during prescribe burns," as mobile units can be used to monitor air quality.

Associated Comments: #24-2

Changes made to Plan or EIS: Plan

Air001 Response: We added "instrument smoke monitors" to FW-AIR-MA-2, so that it reads, "Consider deploying instrument smoke monitors when there is potential for significant impacts to the public." We also added a footnote clarifying the state requirements for air quality monitoring that we must follow.

Smoke management is administered by the New Mexico Air Quality Bureau. The Forest Service complies with the New Mexico State Smoke Management Program, which is described in New Mexico Section 309(g) Regional Haze State Implementation Plan. New Mexico's administrative code (20.2.65 New Mexico Administrative Code, Smoke Management) stipulates that all burners must comply with requirements of the Clean Air Act and Federal Regional Haze Rule, as well as all city and county ordinances relating to smoke management and vegetative burning practices. There are specific requirements for prescribed fires and wildfires managed for multiple objectives that exceed 10 acres, which include registering the burn, notifying State and nearby population centers of burn date(s), visual tracking, and post-fire activity reports (emissions tracking also applies to wildfires greater than 100 acres that are fully suppressed) (20.2.65 New Mexico Administrative Code, Smoke Management).

The decision to use mobile units to monitor air quality is made at the project-level; the Forest has limited monitoring resources and deploys them with care, focusing on communities that are being impacted that are without their own permanent monitors. Decisions on monitoring are made in conjunction with the New Mexico Department of Health.

Air002: The DEIS needs to analyze direct, indirect, and cumulative emissions impacts from livestock grazing and infrastructure, road building and maintenance, thinning, logging, and other project activities in addition to emissions presented on wildfire. This information should be used so that air quality and CO₂ contributions to climate change can be identified and the alternative that minimizes these emissions can be chosen.

Associated Comments: #197-11, #197-36, #197-50, #197-61, #12526-5, #12717-19 (a)

Changes made to Plan or EIS: EIS

Air002 Response: Emissions from livestock grazing and infrastructure, road building and maintenance, thinning, logging, and other project activities were considered negligible compared to smoke associated with fire. In the DEIS, emissions from roadwork and mechanical treatment of vegetation are discussed in section 3.7.4.1.1 *Emissions from Management Activities (predominately fire)*. We have added a discussion of emissions due to livestock to this same section; these emissions were found to be a relatively small source of emissions from the forest (an estimated equivalent to 0.04 percent of greenhouse gas emissions from fire over a 10-year average).

We have also added the following analysis table to the EIS Appendix B, Air section:

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
AUM min	64,339	66,229	61,429	63,877
AUM max	93,500	102,192	71,616	89,711
AUM avg	78,920	84,211	66,523	76,824
Tons CH4 min	383	394	366	380
Tons CH4 max	557	608	426	534
Tons CH4 avg	470	501	396	457
Equivalent Tons CO2 min	7,661	7,886	7,314	7,606
Equivalent Tons CO2 max	11,133	12,168	8,527	10,682
Equivalent Tons CO2 avg	9,397	10,027	7,921	9,147
10 year average % comp fire	0.04%	0.04%	0.03%	0.04%
<i>Change from Current (Alt 1) in Equivalent Tons CO2 avg</i>		-630	1,476	250

* assumed worst case scenario is that a cow grazing on grass produces approximately 300g CH4/day (141±147 g CH4/day-cow). From: McGinn, S.M., Turner, D., Tomkins, N., Charmley, E., Bishop-Hurley, G. and Chen, D. (2011), Methane Emissions from Grazing Cattle Using Point-Source Dispersion. J. Environ. Qual., 40: 22-27. doi:10.2134/jeq2010.0239

Air003: There are concerns with using the LANDFIRE program to analyze fire emissions. Specifically, fuel loadings were higher or lower than when modeled in FOFEM and therefore led to differences in modeled consumption and emissions. The DEIS needs to disclose how errors in fuel loading consumption were addressed in emissions determinations for wildfires and how those errors were corrected.

Associated Comments: #197-52

Changes made to Plan or EIS: EIS

Air003 Response: We modified the Air section of the EIS to be more descriptive of our analysis process and how we dealt with model error. There is also a detailed description of process in the EIS (Vol II, Appendix B). We acknowledge that emissions vary significantly depending on the type of emission model used. However, the trend is consistent whether you use FOFEM or CONSUME (the model used in the DEIS), and thus, our analysis focused more on the relative difference between alternatives rather than the absolute emissions generated. Project specific emissions are evaluated at the project planning stage rather than during the forest planning process, as there are many unknowns at the broad scale used in in the programmatic analysis used for forest planning.

Air005/006: The Forest Plan should only include desired conditions for air that pertain to system attributes that the USFS has direct control over. FW-AIR-DC-1 is not a desired condition because it is required as part of NFMA, CAA, and NAAQS. FW-AIR-DC 1, 2, and 4 cannot be met because they are outside the control of the Forest Service and should be rewritten to say “All prescribed fires and wildfires managed for resource benefit are conducted within the requirements of New Mexico regulation 20.2.65” as this covers only ignitions, which is the only aspect the USFS has control over with respect to air quality impacts.

Associated Comments: #3266-6, #12349-1

Changes made to Plan or EIS: None

Air005/006 Response: Although the Forest Service cannot control air quality issues that stem from activities beyond NFS lands, the Clean Air Act (42 U.S.C. §7401 et seq. (1970)) and Regional Haze Rule (1999) charge the U. S. Forest Service as a Federal Land Manager of Class I areas (which include the San Pedro Parks Wilderness and the Pecos Wilderness) to protect air quality related values in these areas. In addition, the Clean Air Act sets standards for air quality to protect public health and welfare. The Forest Service must ensure that its activities, or activities it permits, comply with these national standards and any State and local requirements for air pollution control.

The Regional Haze Rule of 1999 requires states and interested tribes to address sources of pollution contributing to regional haze in the 156 mandatory Class I areas. To do this, states develop visibility State Implementation Plans (SIPs) to demonstrate to the public, the Federal Land Managers (FLMs) and EPA how they plan to address regional haze to reach the goal of natural background conditions by the year 2064. The Forest Service, as the FLM of 88 mandatory Class I areas, works closely with the states, interested tribes, EPA, and the Regional Planning Organizations in the development of the technical products and policy documents that are used by each state as they develop and revise their plans. By law, the FLMs of mandatory Class I areas have a formal consultation with each state 60 days before the draft plans go to public hearing. As stewards of the resource targeted for protection, the Forest Service has a special duty to ensure the Class I wildernesses under our responsibility are managed for the use and enjoyment of current and future generations.

Our desired conditions reflect these regulations, which give the Forest Service the authority to work together with states to manage air quality.

Air007: FW-FIRE-DC-7 should be modified to read "Restoration and fuel treatments result in ecological resources that are adaptable to the effects of changing climate conditions and are planned, designed and implemented to meet National Ambient Air Quality Standards that have been adopted and implemented."

Associated Comments: #12349-3

Changes made to Plan or EIS: None

Air007 Response: FW-AIR-DC-1 states the forest must ensure that, “Air quality meets or surpasses New Mexico and Federal ambient air quality standards.” In addition to this desired condition in the Plan, management of NFS lands is guided and constrained by laws, regulations, policies, practices, and procedures that are in the Forest Service Directive System, which are generally not repeated in a forest plan. Although some existing law, regulation, or policy is repeated in the Plan for emphasis, plan components do not need to reiterate it and the Plan generally does not reiterate higher-level direction; instead, it includes a partial list of applicable laws, regulations, executive orders, and policy for reference in appendix E. Forest projects and

activities are to be consistent with the direction in the plan and compliant with current law, regulation, and policy.

Air008: The Forest Plan should direct the use of a decision support process to guide and document wildfire management decision. This process would provide situational assessment, analyze hazards and risk (including the public respiratory health in accordance with NAAQS), define implementation actions, and document decisions and their rationale.

Associated Comments: #12349-5

Changes made to Plan or EIS: None

Air008 Response: See FW-FIRE-MA-17: “Managers should consider using a decision support process to guide and document wildfire management decisions. The process will provide situational assessment, analyze hazards and risk, define implementation actions, and document decisions and rationale for those decisions.”

Air009/010: The draft Plan’s Air and Fire and Fuels sections are not complete because they do not comply with Federal laws, regulations, and standards. Specifically, there is no analysis of the impacts to the “quality of the human environment” particularly from restoration or maintenance prescribed burns or wildfires. The final Plan needs to (1) demonstrate that management actions for implementation of planned ignitions and wildfire are consistent with maintaining air quality that meet or exceed laws and regulations and (2) consider and disclose the negative cumulative impacts from PM_{2.5} and CO₂ from management prescriptions directed under combined land management plans across the New Mexico national forests.

Associated Comments: #12349-7, #12349-18, #12349-8, #12349-9

Changes made to Plan or EIS: None

Air009/010 Response: FW-AIR-DC-1 directs that projects should aim to move the forest in a direction such that air quality meets or exceeds state and federal air quality standards, and the effects of fire on air quality are considered in FW-AIR-G-2, FW-AIR-MA-2. FW-AIR-MA-1a asks project managers to consider, “Documenting evidence of potential air quality impacts that supports initial and continued compliance with local, New Mexico, and Federal air quality regulations.” Although some existing law, regulation, or policy is repeated in the Plan for emphasis, plan components do not need to reiterate it and this plan generally does not reiterate higher-level direction; instead, it includes a partial list of applicable laws, regulations, executive orders, and policy for reference in appendix E. Forest projects and activities are to be consistent with the direction in the plan and compliant with current law, regulation, and policy

Cumulative effects across all of New Mexico, including but not limited to National Forest lands, are mitigated by adherence to the Smoke Management Program in the State Implementation Plan, as discussed in section 3.7.6.1.1 in the EIS (Volume 1, Air Quality). Quality of life, as related to health and safety, is discussed in section 3.17.1.4.2 of the EIS (Vol II, Socioeconomics). Additionally, while there are emissions associated with prescribed fire as well as wildfire, the total emissions per unit area are directly related to the amount of biomass consumed by the fire. Prescribed fire is typically lower intensity and consumes less biomass than uncharacteristic wildfire, leading to lower per unit area emissions (Wiedinmyer and Hurteau 2010). Empirical measurements of wildfire versus prescribed fire emissions show that particulate matter (PM) emissions are larger from wildfire (Liu et al. 2017). Thus, plan direction to reduce uncharacteristic wildfire through treatments that include controlled burning will, over the long-term, improve air quality and the “human environment.”

Air011: There needs to be a smoke model analysis to determine if mandatory Class 1 Federal areas are affected by project implementation; specifically, restoration projects, prescribed fires and wildland fires; and a mitigation plan for visibility if these areas are being impacted.

Associated Comments: #12349-10 (b)

Changes made to Plan or EIS: None

Air011 Response: By being compliant with the state Smoke Management Program, we avoid impacts to Class 1 areas (under the Regional Haze Rule). Updates to the RHR exclude impacts from smoke from wildland fires. We are compliant with the state Smoke Management Program via plan components; smoke monitoring is done at the project level and is outside of the scope of the planning process. Furthermore, air quality modeling of smoke depends on meteorological inputs from current forecasts (2 to 3 days in the future) to be most useful. Prospective modeling, as suggested, without current forecasts to predict smoke months or years in advance, is not a useful predictor of impacts from an individual burn.

Air012: The protection of the Public's respiratory health must be a primary value of the Santa Fe National Forest. The Santa Fe National Forest is required by law (e.g., the Clean Air Act, which includes the National Ambient Air Quality Standards (NAAQS) and the Regional Haze Rule) to comply with Federal, State, and local air quality standards, yet in the DEIS, estimated emissions of PM2.5 and CO2 from planned and wildfire ignitions could have a significant negative impact on air quality and respiratory health. Therefore, the Plan should provide guidance to:

1. control pollution from federal facilities and activities that may result in the discharge of air pollutants as per the EPA Clean Air Act,
2. provide necessary mitigation and coordination to protect individuals with sensitivity to smoke, including Environmental Justice populations in counties adjacent to the Santa Fe NF, and
3. use the EPA approved "Federal Reference or Equivalent Method air quality monitoring equipment and methodology" to demonstrate that planned and wildfire burns are consistent with maintaining air quality at levels as required by law, regulation, and policy.

Associated Comments: #12349-2, #12349-10 (a), #12349-17, #12574-4

Changes made to Plan or EIS: None

Air012 Response: Health and safety are key values of the Forest Service, and the Plan identifies that direction on air quality is a key need for change from the 1987 Plan (see Need for Change section of the Plan). Air quality is regulated by the New Mexico Environment Department, Air Quality Bureau (NMED-AQB) and the Environmental Protection Agency. PM2.5 levels are evaluated via federally regulated and approved fixed monitors that are sited in accordance with New Mexico network design objectives using federal reference methods. The Forest Service does not have any control over the Federal Reference monitoring. In addition, exceedances are not based upon short time periods, but rather a number of metrics are employed that use a 3-year average (<https://www.epa.gov/criteria-air-pollutants/naaqs-table>). The Forest Service complies with the New Mexico State Smoke Management Program, which is described in New Mexico Section 309(g) Regional Haze State Implementation Plan.

The Forest Plan includes components that tier to and require the Forest to meet all State and Federal air quality regulations and legal requirements. See FW-AIR-DC-1 and DC-2, and FW-AIR-MA-1. The Air section in the Forest Plan also includes management approaches on working collaboratively with other agencies, organizations, and tribes to reduce air pollution impacts. They ask forest managers to consider:

- a. Documenting evidence of potential air quality impacts that supports initial and continued compliance with local, New Mexico, and Federal air quality regulations
- b. Active membership in local and regional air quality protection stakeholder groups
- c. Prevention of Significant Deterioration (PSD) permit review
- d. Implementing air pollution mitigations where appropriate
- e. Monitoring ambient air quality
- f. Supporting visibility monitoring at San Pedro Parks

Management approaches in the Fire and Fuels section (e.g., FW-FIRE-MA-1, MA-2, and MA-3) also ask project managers to consider working collaboratively with stakeholders when dealing with prescribed fires and wildfires. This includes, “promoting public safety and reducing the risk of wildfire on lands of other ownership by supporting the development and implementation of community wildfire protection plans (CWPPs) or similar assessments and management plans to mitigate negative impacts of wildfire.” Public announcements are posted online (nmfireinfo.com) and as press releases.

Environmental justice, while not directly addressed in the Plan, is analyzed as part of the EIS (see section 3.17.5 in Volume 2 of the EIS). Under all analyzed alternatives, the Forest Service complies with the New Mexico State Smoke Management Program. New Mexico’s administrative code (20.2.65 New Mexico Administrative Code, Smoke Management) stipulates that all burners must comply with requirements of the Clean Air Act and Federal Regional Haze Rule, as well as all city and county ordinances relating to smoke management and vegetative burning practices. Vegetation treatments to reduce fire risk would also occur under all alternatives, as would fire control operations by Forest Service personnel that protect quality of life for all communities. FW-AIR-MA-2 asks project managers to consider deploying smoke monitors where there is potential for significant impact to communities, but the decision to monitor air quality is made at the project-level; the Forest has limited monitoring resources and deploys them with care, focusing on communities that are being impacted that are without their own permanent monitors. Decision on monitoring are made in conjunction with the New Mexico Department of Health.

Air013/019: The Draft Plan and DEIS fails to disclose and analyzed the impacts of prescribed fire smoke on public health. The Final Plan or an alternative in the EIS should eliminate or reduce the amount of burning to limit days of smoke impact on the public and allow clean air year-round. There needs to be a system that documents public health impacts, and this should be addressed in the Final Plan or FEIS.

Associated Comments: #12288-3, #12512-2, #12526-5, #12717-19 (a), #13262-6, #12685-19

Changes made to Plan or EIS: None

Air013/019 Response: Health and safety are key values of the Forest Service, and the Plan identifies that direction on air quality is a key need for change from the 1987 Plan (see Need for Change section of the Plan). We acknowledge that smoke from fires (prescribed or wild) can present a risk to public health. Wildfires often result in high levels of emissions, poor visibility, and associated violations of national ambient air quality standards. Vegetation management treatments, such as prescribed fires, provide the opportunity on a long-term basis to reduce the magnitude of wildfire air quality concerns. According to Wiedinmyer and Hurteau (2010) wide-scale prescribed fire application can reduce carbon dioxide fire emissions for the Western United States by 18 to 25 percent. The total amount of pollutants released by prescribed burning under the Final Plan would be spread out over several years and would occur when emissions would be

unlikely to have adverse effects on human health and visibility. After implementation, it is estimated that subsequent wildfires in the project area would produce less pollutants due to less fuel available to burn, thus reducing public health impacts over the long-term. The Forest Service complies with the New Mexico State Smoke Management Program, which is described in New Mexico Section 309(g) Regional Haze State Implementation Plan.

FW-AIR-DC-1 directs managers to work to meet or exceed state and federal air quality standards, which based on public and ecosystem health needs. Management approaches in the Fire and Fuels section (e.g., FW-FIRE-MA-1, MA-2, and MA-3) also ask project managers to consider working collaboratively with stakeholders when dealing with prescribed fires and wildfires. This includes, “promoting public safety and reducing the risk of wildfire on lands of other ownership by supporting the development and implementation of community wildfire protection plans (CWPPs) or similar assessments and management plans to mitigate negative impacts of wildfire.”

Alternative 4, analyzed as part of the EIS, has almost no prescribed fire treatments. Analysis of fire and fuels, air, and socioeconomic resources under this alternative address the impacts of reduced smoke due to prescribed fire. Additionally, the Air section of the EIS discusses smoke management on the forest (final EIS, Air Quality, section 3.7.1.3) and analyzes emissions from management activities, focusing on smoke emissions (final EIS, Air Quality, section 3.7.4.1.1).

Air014: In the Visibility and Regional Haze section for the EIS, the reference to 40 CFR Part 51 is a general citation and could be further updated to reflect the Regional Haze Rule.

Associated Comments: #12627-1

Changes made to Plan or EIS: EIS

Air014 Response: We updated page 362 of the EIS, Volume 1, with a new citation--40 CFR 51 subpart (iii)(F)

Air015: The reference to the Assessment in the air analysis of the DEIS is not clear.

Associated Comments: #12627-2

Changes made to Plan or EIS: EIS

Air015 Response: The citation for the Ecological Assessment can be found in the References section in Volume II of the EIS: U.S. Department of Agriculture, Forest Service. 2016a. Santa Fe National Forest Plan Final Assessment Report, Volume I. Ecological Resources, June 2016. We clarified the in-text reference in the Air Quality section of the EIS to make it clearer that the referenced document is the one being referred to.

Air016: Coordination with the AQB Smoke Management Program for planned and unplanned burning activities allows for clear and equitable regulatory management of smoke in New Mexico, reduces smoke impacts to local populations, and should ensure desired conditions for air quality will be met. Impacts of prescribed fires in the draft EIS should remain localized and have no long-term significant impacts to ambient air quality in New Mexico although potential impacts of air emissions on nearby Class 1 areas should be evaluated.

Associated Comments: #12627-3

Changes made to Plan or EIS: None

Air016 Response: This concern is a project-level assessment and outside the scope of the plan revision process.

See also: Response to Air011 for more on smoke management.

Air017: The Forest Plan needs to include dust control measures to minimize the release of particulates due to vehicular traffic, construction, and harvesting activities. Areas disturbed by these activities should be reclaimed to avoid long-term problems with erosion and fugitive dust. Project activities that increase dust and emissions should not result in non-attainment of air quality standards and should follow applicable local or county regulations for smoke, noise, and dust including attaining proper air quality permits as per 20.2.72 NMAC for asphalts, concrete, quarrying, crushing, and screening facilities used for projects.

Associated Comments: #12627-4, #12627-5

Changes made to Plan or EIS: Plan

Air017 Response: The following management approach was added to the Air section of the Plan: “Consider design features, BMPs, or mitigation measures to reduce fugitive dust where needed.”

The Plan directs that dust abatement strategies should be implemented during construction and road projects where dust is a potential effect (See FW-AIR-G-1). This is generally done on a site-specific basis, as fugitive dust was analyzed as part of the EIS and found to be an insignificant source of emissions compared to those produced by fire (see section 3.7.4.1.1 Emissions from Management Activities (predominately fire) in Volume I of the EIS). The Forest is also required to follow all local, county, and state regulations concerning dust management.

Air018: Air-FW-G-1 should stipulate that dust abatement measures only use non-potable water.

Associated Comments: #12665-68

Changes made to Plan or EIS: Plan

Air018 Response: We added a management approach asking managers to consider using non-potable water for dust abatement strategies when possible.

Air019: The DEIS should analyze the effects of volatilized fire accelerants and the impacts of smoke on public health.

Associated Comments: #12717-19 (b)

Changes made to Plan or EIS: None

Air019 Response: The plan does not direct the use of volatilized fire accelerants and so the EIS does not need to analyze it. Furthermore, the use of volatilized fire accelerants is a project-level decision and outside the scope of the plan revision process.

Smoke impacts, including to health, are analyzed throughout the EIS, in the Vegetation section, Air Quality section, and Socioeconomics section.

See also: Fire027 for more on findings from the Labat-Anderson Incorporated risk assessment that addresses fire accelerant chemicals.

Partnership

PS001: The Santa Fe NF should work more closely with the NMDGF.

Associated Comments: #271-5, #12720-11, #12720-8

Changes made to Plan or EIS: None

PS001 Response: We have several plan components that specifically identify working with NMGF, particularly in the Wildlife, Fish, and Plants sections of the plan. Other sections of the plan where we reference working with NMDGF include the Recreation Special Uses section, and Wilderness sections of the plan. We will continue to work with them to manage the land and resources within each of our authorities

PS002: The Santa Fe National Forest should continue to work collaboratively with all manner of governmental and non-governmental organizations to ensure New Mexico's values are represented in the planning process.

Associated Comments: #3-5, #565-2

Changes made to Plan or EIS: None

PS002 Response: We have several plan components that specifically identify working with partners throughout the plan. Sections of the plan where we specifically reference working collaboratively with different partners include, for example, the Wildlife, Fish, and Plants section, the Partnership section, the Northern New Mexico Traditional Communities and Uses section, the Recreation Special Uses section, and Wilderness sections of the plan. We will continue to work with them to manage the land and resources within each of our authorities.

PS003: FW-PARTNER-DC-1 should be modified to read: “Partners and volunteers are a collaborative network that increases capacity for managing forest resources, assists in communicating with and educating the public, and is a crucial component to achieve short- and long-term mutually shared goals (e.g., restoration, sustainable cultural/traditional uses, and sustainable recreation).”

Associated Comments: #12519-8

Changes made to Plan or EIS: Plan

PS003 Response: FW-PARTNER-DC-1 has been changed to “Partners and volunteers are a collaborative network that increases capacity for managing forest resources, assists in communicating with and educating the public, and is a crucial component to achieve short- and long-term mutually shared goals (e.g., restoration, traditional and cultural uses, and sustainable recreation).”

PS004: The Santa Fe National Forest should use collaboration and partnerships to minimize conflict over resource management and use.

Associated Comments: #12520-2

Changes made to Plan or EIS: None

PS004 Response: Partnerships are an important tool for forest management, including for improving relationships. Partnerships in general are emphasized throughout the Plan, and in the Partnership section. For example, FW-PARTNER-MA states that, “Management approaches related to partnerships are found throughout this plan, typically as the first management approach

for each resource.” We also specifically address user conflict in the Recreation sections of the Plan, and in the desired conditions for our Geographic Areas.

PS005: A commitment to extend public education and management actions beyond the boundaries of the national forest should be noted in the plan to show that the Forest Service is dedicated to partnerships that benefit neighboring communities and forests as well as national forest lands.

Associated Comments: #12520-3, #12520-4, #12520-5, #13501-1

Changes made to Plan or EIS: None

PS005 Response: We only have jurisdiction on National Forest System lands and the forest plan guides and constrains Forest Service personnel, not the public. Any constraint on the public needs to be imposed by law, regulation, or through an order issued by the responsible official under 36 CFR part 261, Subpart B. That being said, partnering with others, including across forest boundaries, will create a dynamic of shared work, assets, and ideas that will lead to ecological, social, and cultural projects that benefit the Santa Fe NF and its surrounding communities. In terms of educational benefits, there are multiple management approaches throughout the Plan that ask managers to consider providing various educational opportunities and materials. Supporting outside organizations is outside of the forest planning process, more in line with work done by other Forest Service branches such as State and Private Forestry.

PS006: The Partnership section of the Plan should explicitly recognize partnerships with the forest products industry.

Associated Comments: #12652-1

Changes made to Plan or EIS: None

PS006 Response: The Partnerships section is meant to provide general direction for working with all kinds of partners. The Forestry section of the Plan has direction specific to the forest products industry. For example, FW-FORESTRY-MA-1 states, “When planning and implementing projects, work collaboratively with Federal, State, local governments, Tribes, industry, environmental groups and private landowners to promote integrated ecological and social-economic goals of harvesting forest products to support a sustainable and appropriately scaled industry;” and FW-FORESTRY-O-1 states that, “provide at least 177,000 CCF per decade to contribute to local forest product industry and for personal use, including 92,850 CCF (72,539 cords) per decade of fuelwood.”

PS007: The Forest should make arrangements with local schools and colleges to have students mentor with USFS rangers in repair, clean-up and maintenance of campground facilities, signage, etc., to get youth interested in Forest management and protection. There should also be support for art projects and contests that can be displayed or sold at Ranger Stations to support the forest and establish environmental empathy.

Associated Comments: #12651-5, #12651-8

Changes made to Plan or EIS: None

PS007 Response: This is outside the scope of the forest planning process. However, there are multiple management approaches throughout the plan that encourage managers to consider providing educational opportunities and materials.

PS008/009: Local hiring and opportunities for local youth should be address in the Partnership section. This is because the citizens of local communities (such as tribes, land grants, and historical communities) that surround the Santa Fe National Forest hold local knowledge, skills, and the training necessary to be competitive nominees for employment positions in the Forest Service. The following wording should be added to the Partnership section:

- The narrative should be modified to read: “Collaborative partnerships may include identifying, planning, funding, **hiring**, and implementing projects and activities together.”

Associated Comments: #12519-7, #12528-23, #12698-27

Changes made to Plan or EIS: None

PS008/009 Response: The plan guides the Santa Fe NF in fulfilling its stewardship responsibilities to best meet the current and future needs of the American people. This plan provides forest-specific guidance and information for project and activity decision-making over the plan period, generally considered to be 10 to 15 years. It provides the vision, strategy, and constraints that guide integrated resource management, provide for ecological sustainability, and contribute to social and economic sustainability on the Santa Fe NF and the broader landscape. Managers are directed to take traditional knowledge of local peoples into account when designing projects (FW-TRIBES-G-2 and FW-RURALH-G-4). Additionally, educational opportunities for youth are supported in the plan. For example, FW-TRIBES-DC-7 states, "The forest provides a setting for educating tribal youth in culture, history, and land stewardship, and for exchanging information between tribal elders and youth." However, the plan does not set forth legal requirements for contractors, which is outside the scope and authority of a Land Management plan, as is consideration of hiring or budget details.

PS010: Management direction should align with community recommendations developed by local stakeholder groups.

Associated Comments: #565-4, #3-6

Changes made to Plan or EIS: None

PS010 Response: Within the Plan, community engagement is supported in the Partnership section and throughout the Plan in the form of management approaches. For example, FW-PARTNER-DC-3 states, "Partnerships improve landscape-scale management across ownership boundaries to find solutions to ecological and societal issues." For input on management direction within the plan, as per the 2012 Planning Rule, the SFNF went through multiple public comment periods over the course of the forest plan revision process. Comments received during this time has been taken into account at the appropriate stage of the process. Beyond this, project-level NEPA includes community input via the scoping process.

PS011: The forest service plan should specifically describe the Pecos Canyon Collaboration and describe ways it will actively and collaboratively support this joint effort, including the Pecos Canyon State Park Initiative.

Associated Comments: #12607-2

Changes made to Plan or EIS: None

PS011 Response: This is outside the scope of the forest planning process. However, there are multiple management approaches throughout the plan that encourage managers to work with a variety of local partners and groups.

PS012: The Forest Service should ensure that it continues to focus on building and maintaining respectful relationships and honoring commitments, whether or not they are documented in the Plan.

Associated Comments: #12498-4

Changes made to Plan or EIS: None

PS012 Response: Beyond the Partnership emphasis of the Forest Plan (see the Partnership section), the Forest Vision emphasizes working collaboratively with forest communities and building these relationships. The Forest Vision is included in chapter 1 of the Forest Plan.

PS013: The Plan's Partnership sections should include the following modified language in its narrative (Paragraph 2, Sentence 1): "We will continue to actively engage the forest's many public stakeholders through education, working agreements, and partnerships and volunteers, with a particular emphasis on growing the capacity for partnership collaboration around trails, roads, services, and facilities on NFS lands."

Associated Comments: #12528-21, #12698-26, #12738-6

Changes made to Plan or EIS: None

PS013 Response: We recognize that not all resources are represented in the list in the narrative. However, this does not mean that some resources are excluded from utilizing partnerships as a tool. However, for all resources, partnership opportunities are encouraged under the first management approach (and sometimes more). For instance, the Roads section of the plan has management approaches that encourage collaboration where appropriate (e.g., FW-ROADS-MA-1 and MA-4).

PS014: FW-PARTNER-DC-3 should be modified to emphasize that the Forest is committed to balancing ecological and social outcomes.

Associated Comments: #12520-7

Changes made to Plan or EIS: None

PS014 Response: This desired condition is written to allow flexibility to best manage the diverse mix of ecological and social conditions as it varies across the forest. Our Forest Vision includes both social and ecological elements. It states, "We will be a leader, both in the forest and partnering on lands across northern New Mexico, in achieving three goals: (1) **restore fire resiliency to our forest landscapes**, (2) **provide clean and abundant water**, and (3) **honor and strengthen ties to the land**." Additionally, the final Plan focuses on healthy ecological function that supports multiple uses. It maintains current levels of use while improving infrastructure and increasing the level of restoring ecological health

PS015: FW-PARTNER-DC-1 should be modified to read, "Partners and volunteers are a collaborative network that increases capacity for managing forest resources, assists in communicating with and educating the public, and is a crucial component to achieving short- and long-term mutually shared goals (e.g., restoration, sustainable traditional/cultural uses and sustainable recreation)."

Associated Comments: #12528-24, #12698-28

Changes made to Plan or EIS: Plan

PS015 Response: FW-PARTNER-DC-1 has been changed to "Partners and volunteers are a collaborative network that increases capacity for managing forest resources, assists in

communicating with and educating the public, and is a crucial component to achieve short- and long-term mutually shared goals (e.g., restoration, traditional and cultural uses, and sustainable recreation).”

Northern New Mexico Traditional Communities and Uses

General

Trad001: The Santa Fe National Forest's revised Forest Plan's direction and narrative on traditional uses and communities should be in alignment with wording found in the Carson National Forest's revised Forest Plan.

Associated Comments: #12528-26, #12528-27, #12528-29, #12555-4, #12698-31, #12698-32, #12698-34

Changes made to Plan or EIS: Plan

Trad001 Response: The Carson National Forest (NF), Cibola NF mountain districts, and Santa Fe NF have been revising their forest plans on similar timelines. As a result of their geographic continuity and shared history, the Northern New Mexico forests recognized traditional values and uses in their Forest Plans and worked together to develop consistent plan guidance that reflects the social and cultural needs of traditional communities and how they use the national forests. Plan components for the dominant traditional uses have the greatest degree of consistency across the three plans. Some of these uses include operation and upkeep of acequias; common pastures for livestock grazing; forest product gathering for fuelwood, building material, soils, and plants; and hunting and fishing. Some of these uses may be for personal use, subsistence practices, or ceremonial or religious uses.

As a result, three sections of the all three forest plans are nearly identical:

- Traditional Communities and Uses, including the narratives and sub-sections for Federally Recognized Tribes and Rural Historic Communities
- Sustainable Rangelands and Grazing
- Traditional aspects (such as fuelwood use) within the Forestry and Forest Products section

Other sections and supporting aspects of the plans are very consistent across the forests, including but not limited to:

- Vegetation for shared vegetation types (Ecological Response Units)
- Using fire to restore fire-adapted ecosystems
- Air (maintaining EPA air quality regulations and visibility standards)
- Timber requirements (as per the National Forest Management Act) within Forestry and Forest Products
- Designated Areas (specifically Designated Wilderness, Inventoried Roadless Areas, Continental Divide National Scenic Trail)
- Management Areas (specifically, recommended wilderness, Eligible Wild and Scenic Rivers)
- Supporting wildlife species, including at-risk, with healthy and connected habitat
- The concept of an “all-lands” approach to forest wide management

- General supporting information such as glossaries; relevant law, regulation, and policy; and large parts of chapter 1.

All three forests coordinated on all aspects of their plans. Sections not listed here reflect different management direction based on differences among resources and users. Sections that are more unique across forests include:

- Designated Areas and Management Areas (other than those listed above); both presence and location are unique to each Forest
- Geographic Areas – only included in Santa Fe NF

Trad005: Traditional uses should have precedence over other uses not managed "in balance" with other uses. In fact, the success of many of these other uses depends on the sustained success of northern New Mexico's traditional communities.

Associated Comments: #12510-3, #12555-1, #12690-18, #13614-1

Changes made to Plan or EIS: Plan

Trad005 Response: We agree that the successful management of the Santa Fe NF includes sustained success of northern New Mexico's traditional communities and have added this statement to the Northern New Mexico Traditional Communities and Uses section introduction (final Plan, chapter 2). The reference to balancing traditional uses has been changed to say, "Forest management supports this traditional way of life...." (final Plan, Chapter 2, Northern New Mexico Traditional Communities and Uses section introduction) The Santa Fe NF does not assign precedence to specific uses, but manages public land resources for multiple uses "so that they are utilized in the combination that will best meet the needs of the American people" as required by the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 531). "Under the Planning Rule, ecological, social, and economic systems are recognized as interdependent, without one being a priority over the other." (FSH 1909.12 section 23.2) FW-TRIBES-DC-1 and FW-RURALH-DC-1 in the final Plan direct management to ensure uses important for maintaining these cultures are recognized and valued as important.

Trad045: There is concern over how the Santa Fe National Forest has engaged with tribal governments, local governing bodies, and rural historic communities in and near the Forest during the planning process, and how their interests have been represented in the revised Forest Plan.

Associated Comments: #12684-14, #12684-15, #12684-17, #12684-19

Changes made to Plan or EIS: None

Trad045 Response: Public engagement has included over 70 general public evening meetings in local communities; technical meetings, including a symposium; and field trips. Most meetings were general public meetings, which occurred on weeknight evenings or the weekends. These meetings were typically 2 hours long and provided opportunities for people to be informed of the plan revision process and be engaged throughout that process. Technical meetings were opportunities for cooperating agencies, natural resource professionals, non-profit groups, Forest specialists, and the general public to collaboratively work on plan revision in a multi-disciplinary way. Technical meetings typically were longer than general meetings, occurred during the workday, and had more forest specialists present to answer a larger diversity of questions in more depth. A series of field trips occurred as plan development started and were opportunities for the public to see resources that were and were not meeting desired conditions, and to talk about what desired conditions for a variety of resources might look like.

Numerous New Mexican Tribes and Pueblos have been associated with the Santa Fe NF since time immemorial, and have sacred sites, cultural heritage sites, and sites for gathering traditional and cultural resources on Forest lands. In acknowledgement of their unique and ongoing relationship to Forest lands, the Santa Fe NF FPR team engaged tribes from the beginning of the FPR process. Between 2013 and 2018, there were 73 meetings between the Santa Fe NF and Tribes that incorporated Forest Plan Revision. The 73 meetings consisted of 3 USDA Cadre meetings, an All Pueblo Governor Council, 2 need-for-change Tribal meetings, an intertribal FPR Roundtable, 11 Introduction to Forest Plan Revision meetings, 6 FPR Tribal meetings, and 49 MOU meetings that included the FPR process.

The Santa Fe NF also did specific outreach to the land grant and grazing communities. These communities have a long history with the forest and depend upon forest resources and rangelands managed by the Santa Fe NF for traditional and cultural practices including cattle grazing. The FPR team held eight meetings specifically with these communities between 2014 and 2018, four with the Northern New Mexico Stockman's Association and four with land grants. Additionally, specific outreach to permittees was done for public meetings, with letters in both English and Spanish, and the Land Grant Council participated in the FPR process as a Cooperating Agency.

See also: Cmt006 for more on public participation.

Law, Regulation, and Policy

Trad003: The final Plan's Northern New Mexico Traditional Communities and Uses section should include more discussion about the history of Treaty of Guadalupe Hidalgo.

Associated Comments: #498-9

Changes made to Plan or EIS: None

Trad003 Response: The Treaty of Guadalupe Hidalgo is included in the Historical Context section of the final Plan (Chapter 1, Descriptions of the Plan Area – Historical Context). The forest plan is not intended to provide a detailed all-inclusive historical settlement history of the Santa Fe NF and surrounding communities

Trad014: The current Santa Fe NF Plan discriminates against the children of Northern New Mexico by diminishing the future of the Livestock Grazing Program. And “The rights, privileges and immunities, civil, political and religious guaranteed to the people of New Mexico by the Treaty of Guadalupe Hidalgo shall be preserved inviolate.”

Associated Comments: #496-8

Changes made to Plan or EIS: None

Trad014 Response: The Santa Fe NF maintains that grazing is one of the multiple uses it supports, in keeping with the Multiple-Use Sustained-Yield Act of 1960 (MUSY): “*It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes*” (16 U.S. Code § 528). The Assessment, draft Plan, and DEIS all acknowledge the importance of grazing as one of many uses on the Santa Fe NF. The Assessment describes the long history of grazing communities in the area and the DEIS analyzes management impacts of grazing and on grazing to establish Draft Plan components that support socially, economically, and ecologically sustainable grazing within the Forest's boundaries.

While land management plans do not themselves guarantee specific results (FSH 1909.12 section 21), the final Plan does direct management to sustain and make available those forest resources that are important for ongoing cultural and traditional needs, subsistence practices, and economic support (FW-RURALH-DC-3). The Northern New Mexico Traditional Communities and Uses sections of the final Plan contain multiple plan components and strategies that focus on the social and economic sustainability of communities around the Santa Fe NF. The final environmental impact statement describes the effects of each alternative on socio-economics (Chapter 3, Affected Environment and Environmental Consequences, Socio-Economics section).

Trad017: The Forest Plan's Rural Historic Communities -- Land Grants-Mercedes section should include language referencing the Hurst Policy Memo as evidence of the importance of including a traditional uses section in the forest plan. Suggested language is as follows: Desires for the recognition and preservation of northern New Mexico traditional uses have been an integral part of managing the Santa Fe NF, which is reflected through various documents (e.g., 1987 Santa Fe Land and Resource Management Plan (1987 Forest Plan), 1972 Regional Forester policy memo, 1968 Hassell Report, Hurst 1972 Policy Memo). This forest plan seeks to build upon past initiatives and continues to recognize and support the traditional uses associated with the forest.

Associated Comments: #12528-25, #12698-30 (b)

Changes made to Plan or EIS: Plan

Trad017 Response: The Northern New Mexico policy was never ratified into actual policy. In recognition of this, and of the nevertheless important role the document has played in the lives of Northern New Mexicans, we crafted the Traditional Communities and Uses section to closely reflect the intent of the policy. The section also drew on language from the document that remains relevant to modern communities and forest management. To better recognize that the forest plan is meant to improve upon past work, we have changed language in the Traditional Communities and uses section to: "This forest plan recognizes the intent behind this previous guidance, seeks to build or improve upon past initiatives, and continues to recognize and support the traditional uses associated with the forest."

Trad035: Certain entities have legal rights to use that predate the establishment of the Santa Fe NF. The forest plan's Northern New Mexico Traditional Communities and Uses section should include more language outlining the rights of traditional communities, including discussion of the Treaty of Guadalupe Hidalgo, Kearney's Code, and two court cases: the Supreme Court case, *US v. New Mexico 1978*; and the Court of Private Land Claims case, *USFS v. Gross*.

Associated Comments: #498-9, #12528-53, #12698-58

Changes made to Plan or EIS: None

Trad035 Response: Plan consistency requirements under NFMA are subject to valid existing rights (See 16 U.S.C. 1604(i)).

The Forest Service does not have the authority to grant rights to people on or off the forest and forest plan revision is not meant to enforce specific rights, only to dictate how Forest Service staff perform their duties in terms of ecosystem and cultural resource management. Past court actions have affirmed that:

- the Secretary of Agriculture has the authority to regulate the use and occupancy of National Forests (*United States v. Grimaud*, Supreme Court of the United States, 1911);

- an individual's right to graze on National Forest System lands only exists under the regulations issued by the Secretary of Agriculture, that these regulations have the force of law, and that grazing can be relinquished but cannot be transferred to another party by contract of sale (*Bell v. Apache Maid Cattle Co et. al.*, Circuit Court of Appeals, Ninth Circuit, 1938); and
- the privilege of grazing on National Forest System lands under a permit cannot be a property right (*Osborne et al. v. United States*, Circuit Court of Appeals, Ninth Circuit, 1944).

Land rights conveyed by the Treaty of Guadalupe Hidalgo are beyond the scope of forest plan revision and are not within the authority of the Forest Service to adjudicate. Community lands were set aside for grazing and other communal uses as part of land grants issued by Spain and Mexico. These community lands became Federal public lands when ownership passed from the Mexican government to the United States at the time the Treaty of Guadalupe Hidalgo was signed in 1848. Under the Treaty, the United States agreed to recognize and protect the existing property rights of Mexican citizens. With regard to the concern by some grantees and heirs that the confirmation process did not address community land grant claims in a fair and equitable manner, the General Accounting Office has concluded, "there does not appear to be a specific legal basis for relief, because the Treaty was implemented in compliance with all applicable U.S. legal requirements" (2004, p. 12).

Traditional Communities

Trad002: The forest plan should explicitly recognize "Hispanics" in its Rural Historic Communities section, separately from Land Grant-Mercedes and Acequia communities, and provide Desired Conditions for this socio-cultural group.

Associated Comments: #498-6

Changes made to Plan or EIS: None

Trad002 Response: If this section only includes traditional uses in the national forests, and because acequia and land grants-mercedes are historically comprised of mostly Hispanic groups, then adding a separate section is not necessary.

Trad052: The Forest Service should identify land grants by ranger district to ensure that they are contacted.

Associated comments: CNF#4873-2

Changes made to Plan or EIS: None

Trad052 Response: In the final Plan, FW-RURALH-G-4 provides direction on coordination with land grant communities. Coordination and cooperation with land grant communities is also addressed through FW-RURALH-MA-1, MA-2, and MA-6. Communication with our partners is addressed in FW-PARTNER-DC-2. While we do not have a list of specific land grants by ranger district in our final Plan, these components provide clear direction to work with land grant communities in and around the forest.

Trad006: The forest plan's narrative around Norther New Mexico Traditional Communities should identify all relevant communities and emphasize the diversity of values these communities associate with the landscape. Suggested wording for page 101, paragraph 1, and sentence 1-3 is as follows: A traditional community refers to a federally recognized tribe, a land grant-merced, and/or a land-based rural community that has a long-standing history in and around the lands managed by the Forest Service. There

are numerous small unincorporated communities within the boundaries of the Santa Fe NF, as well as several adjacent federally recognized tribes and small incorporated towns and villages. The Santa Fe NF is a community forest and each of these communities is geographically, historically, religiously, economically and culturally rooted to a particular landscape.

Associated Comments: #12519-9, #12528-25, #12698-30 (a)

Changes made to Plan or EIS: None

Trad006 Response: Land grant-mercedes are land-based rural communities with long-standing histories. A list of traditional communities is included in the 2nd paragraph of the Northern New Mexico Traditional Communities and Uses section and includes land-grant-mercedes.

Trad015: There is concern that the revised forest plan will not provide the necessary support for traditional, forest-dependent communities to sustain their way of life now and into the future.

Associated Comments: #496-9

Changes made to Plan or EIS: None

Trad015 Response: While land management plans do not themselves guarantee specific results (FSH 1909.12 section 21), the final Plan does direct management to sustain and make available those forest resources that are important for cultural and traditional needs, subsistence practices, and economic support (FW-RURALH-DC-3). The Northern New Mexico Traditional Communities and Uses sections of the final Plan contain multiple plan components and strategies that focus on the social and economic sustainability of communities around the Santa Fe NF. The final environmental impact statement describes the effects of each alternative on socio-economics (Chapter 3, Affected Environment and Environmental Consequences, Socio-Economics section).

Trad029: The revised forest plan needs to add plan components to its Rural Historic Communities section directing collaborative management of infrastructure shared between land grants and the Forest Service (e.g., fences, roads, etc.). The following plan components should be added to the section:

- Objective 6. The Forest Service, in coordination with land grant governing bodies, will annually assess the maintenance needs of any shared infrastructure (fences, roads etc.).
- Standard 4. When a shared infrastructure assessment determines a need for maintenance or improvement the Forest Service shall work collaboratively with the appropriate land grant governing body(ies) to address the need.
- Guideline 6. The Forest Service will support the maintenance of infrastructure shared with community land grants based upon assessed needs and budget.

Associated Comments: #12528-40, #12528-48, #12528-60, #12698-45, #12698-53, #12698-65

Changes made to Plan or EIS: None

Trad029 Response: We address collaborative work with traditional communities, including implementing “projects of mutual benefit across shared boundaries and with shared infrastructure,” in FW-RURALH-MA-1.

Trad030: The Forest Service should make an effort to hire local community members and support local economies when implementing forest management projects and activities. Plan direction for local hiring should be added to the revised forest plan in the Rural Historic Communities section, with the following language:

- Objective 8. At least 70% of the workforce for forest and watershed restoration projects come from adjacent local forest dependent communities.
- Management Approach 14: When establishing priorities for projects on the Santa Fe National Forest choose those projects which will employ local people and/or contribute to the local economy while meeting resource management objectives
- Management Approach 15: When implementing projects (fence construction and maintenance, trail construction, thinning projects, etc.) hire local seasonal staff where practical or split projects into units small enough to be within the grasp of small local contractors
- Management Approach 16: When implementing projects that cannot be practically split into smaller jobs (road construction, buildings, etc.) require in the contract that a specified percentage of the labor be hired locally.

Associated Comments: #12528-42, #12528-69, #12528-70, #12528-71, #12698-47, #12698-74, #12698-75, #12698-76

Changes made to Plan or EIS: None

Trad030 Response: Hiring procedures and policies are not within the authority of a forest plan, but the plan does provide desired conditions in the “Partnership” section that aims to maintain and expand partner and volunteer networks (final Plan, FW-PARTNER-DC-1, DC-2, and DC-3). The plan also contains a management approach that looks at variably sized timber contracts in support of local operations:

- FW-FORESTRY-MA-3 Consider designing variably sized timber contracts to accommodate a range of operations based in northern New Mexico communities.

Trad037: Add a standard or management approach to "Coordinate with land grant governing bodies to develop a permitting process for traditional use forest products." "Coordinate with community land grant governing bodies to develop permitting and/or wood collection processes for fuelwood derived from former land grant common land.

Associated Comments: #12528-55, #12698-60

Changes made to Plan or EIS: None

Trad037 Response: The Forest Service does not prejudice its recognition of the need for the collection of traditionally used forest products by members of rural historic communities based on their contemporary affiliation with a Spanish or Mexican era grant confirmed by Congress or the Federal courts. In FW-RURALH-G-1, the language referring to restrictions imposed by standards or guidelines required by other sections of the plan must be retained because those restrictions can exceed those imposed by existing law and regulation. The restrictions imposed by other plan components do not supersede existing laws and regulations, as plan components that are inconsistent with existing laws and regulations are prohibited, 36CFR 219.1(f).

Trad042: The forest plan should include direction that ensures land grant and acequia governing bodies are included in visits to sites on their former common lands or lands that affect their communities. The following plan components should be added or modified in the final Plan's Rural Historic Communities section:

1. A modified MA 11: Work collaboratively with land grant and acequia governing bodies, rural communities and other community leaders to maintain shared infrastructure (e.g., fencing, roads, and cattle guards); invite the appropriate land grant and/or acequia governing body(ies) on field trips

related to the planning or implementation of projects and activities with the potential to impact traditional use resources, culturally and historically significant sites, adjacent community land grant common lands or community land grant and acequia infrastructure.

2. New MA: Local Ranger Districts make every effort to invite the appropriate land grant and/or acequia governing body(ies) on field trips related to the planning or implementation of projects and activities with the potential to impact traditional use resources, culturally and historically significant sites, adjacent community land grant common lands or community land grant and acequia infrastructure.

Associated Comments: #12528-66, #12528-72, #12698-71, #12698-77

Changes made to Plan or EIS: None

Trad042 Response: The Northern New Mexico Traditional Communities and Uses sections of the final Plan contains plan components and strategies that focus on coordination with interested and affected communities at the early stages of planning and project design. Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities.

Trad022: The revised forest plan should expand on its language centered on youth education and intergenerational cultural exchange to make current plan components on the subject in the draft forest plan more feasible and culturally relevant. Suggested modification to Plan language are as follows:

1. Under Paragraph 2 on Page 101, add a New Bullet Point: Use and access of the forest to teach the history, culture, traditions and significance of place to future generations of traditional communities.
2. DC 6: The Forest provides a setting and culturally relevant programs in collaboration with Land Grant communities and Tribes for educating youth in culture, history, and land stewardship, and for exchanging information between elders and youth.
3. Add to MA 3: including cooperation, to the fullest extent possible, with cultural youth programs such as YCC or others initiated by a community land grant, pueblo, or tribe.
4. MA 18: Cooperate, to the fullest extent possible, with cultural youth programs such as YCC or others initiated by a community land grant, acequia, pueblo or tribe.

Associated Comments: #12528-32, #12528-64, #12528-73, #12698-37, #12698-69, #12698-78

Changes made to Plan or EIS: Plan

Trad022 Response: FW-RURALH-MA-3 has been edited to read, “Consider identifying forest locations that can provide a setting for educating youth in culture, history, land stewardship, and the health benefits of outdoor activities (e.g., through cooperation with cultural youth programs such as the YCC or others). We also address how the forest can provide a setting specifically for youth education in FW-RURALH-DC-6 and FW-TRIBES-DC-7. We also address partnerships in general in the Partnership section of the final Plan.

Trad002: Hispanics should be recognized similar to federally recognized tribes.

Associated Comments: #498-6

Changes made to Plan or EIS: None

Trad002 Response: In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the Forest Service, its employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, ethnicity, national origin, or other bases in any program or activity conducted or funded by USDA. Federally recognized tribes are sovereign governments with which the Federal Government has a legal trust responsibility.

Trad034: The Forest Service must use Spanish and native languages on signage within or adjacent to historical or traditional use boundaries (e.g., land grants, tribal lands), including native place names used side-by-side with the place names used on Forest Service maps and documents. This same direction should be applied to Forest Service literature created for public consumption. This direction should be included as a standard in the Rural Historic Communities section of the revised forest plan: *"All Forest Service signage for forest system lands within or adjacent to historical/traditional use boundaries of community land grants, pueblos and tribes should be written in native languages (i.e., Spanish, Tanoan, Keres, Athabaskan) as well as in English. Signage should include traditional names for these areas as identified in consultation with local communities, as well as names currently found on Forest Service maps and other literature. All relevant applications, informational brochures, pamphlets, and other Forest Service literature should be presented in English, Spanish and native languages to ensure equal access to all local traditional use communities."*

Associated Comments: #12528-52, #12698-57

Changes made to Plan or EIS: None

Trad034 Response: We address the use of Spanish and native language on Forest Service interpretive materials in FW-RURALH-MA-9, FW-TRIBES-MA-12, and FW-REC-MA-11.

Trad036: The forest plan should include the following standard in its Rural Historic Communities section: Forest Service collaborates with community land grant, acequia and tribal governing bodies to ensure that access is maintained on-forest system roads critical to traditional use.

Associated Comments: #12528-55, #12698-60

Changes made to Plan or EIS: None

Trad036 Response: The Northern New Mexico Traditional Communities and Uses sections of the final Plan contains plan components and strategies that focus on coordination with interested and affected communities at the early stages of planning and project design. Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities.

Trad040: When a community is surrounding by federal lands with little to no vacant land on which to locate community facilities or uses that provide for public health, safety, and general welfare; the Forest Service should work with local governing bodies to issue and maintain special use permits. A guideline should be added to the Rural Historic Communities section addressing this concern, with the following language: *"Forest Service works with community land grant associated forest dependent communities which are surrounded by federal lands and which have little or no vacant land for community facilities and uses (i.e., cemeteries, dumps, community water, wastewater, community centers) to issue and maintain special use permits for such uses when doing so is in the best interest of public health, safety and general welfare."*

Associated Comments: #12528-62, #12698-67

Changes made to Plan or EIS: Plan

Trad040 Response: The introduction to the Special Uses section of the final Plan discusses lands special use authorization and lists some examples of permitted uses on the Santa Fe NF. Community water systems have been added to this list. New cemeteries, liquid waste disposal areas, and solid waste disposal sites are not permitted on National Forest System lands (FSH 2709.11 section 19, exhibit 3). Any special use permit would be evaluated on a case by case basis, consistent with FW-LANDSU-DC-1 and DC-2.

Trad041: The forest plan should modify management approach 7 in its Rural Historic Communities section so it reads as follows: Consult with land grant governing bodies to assess the impact of Forest Service programs, projects and activities on the cultural integrity of forest-dependent nuevomexicano communities that are sensitive to traditional and subsistence based activities and consider environmental concerns.

Associated Comments: #12528-65, #12698-70

Changes made to Plan or EIS: None

Trad041 Response: The Northern New Mexico Traditional Communities and Uses sections of the final Plan contains plan components and strategies that focus on coordination with interested and affected communities at the early stages of planning and project design. Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities.

Trad048: The revised forest plan should add objectives and standards to the Rural Historic Communities subsection of the Northern New Mexico Traditional Communities and Uses section to ensure collaborative management and protection of forest resources that meet the needs of forest-dependent, traditional communities.

Associated Comments: #12528-34, #12528-44, #12698-39, #12698-49

Changes made to Plan or EIS: None

Trad048 Response: The Northern New Mexico Traditional Communities and Uses sections of the final Plan contains plan components and strategies that focus on coordination with interested and affected communities at the early stages of planning and project design. Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities.

Trad051: The wording of Management Approach 7 suggests that the "occupational and subsistence-based activities" are not sensitive to environmental concerns and, if followed to the letter, may unnecessarily place this management approach junior to environmental concerns. Suggested Language: *Consult with land grant governing bodies to assess the impact of Forest Service programs, projects and activities on the cultural integrity of forest-dependent nuevomexicano communities that are sensitive to traditional and subsistence-based activities and consider environmental concern.*

Associated Comments: #12698-70

Changes made to Plan or EIS: None

Trad051 Response: The Northern New Mexico Traditional Communities and Uses sections of the final Plan contains plan components and strategies that focus on coordination with interested and affected communities at the early stages of planning and project design. Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities. FW-RURALH-G-2 ensures that Forest Service management activities have minimal to no impacts on spiritually or culturally important places.

Tribes

Trad012: Support was expressed for the forest plan's language and plan components around working with Federally Recognized Tribes.

Associated Comments: #12498-11

Changes made to Plan or EIS: None

Trad012 Response: Thank you for your comment.

Trad013: The FEIS should include a comparison to tribal land management plans and the Forest should hold discussions on how to fuse tribal and forest management plans, and what collaboration exists between tribal and community land management plans.

Associated Comments: #12684-16

Changes made to Plan or EIS: None

Trad013 Response: The EIS appendix I discusses management plans from other landowners and agencies surrounding the Santa Fe NF. During the plan revision process, we reached out to multiple tribal governments requesting information about any land management plans they might have developed. We did not receive any information in response to this outreach. Multiple meetings with tribal governments have been held throughout the process; however, both to discuss plan revision specifically and MOU meetings that touched on numerous details of government-to-government consultation, including plan revision. These meetings are listed in appendix H of the EIS.

WRS013: Add plan direction to improve practices which will protect and foster healthy springs and resource values, including for the cultural values they hold for federally recognized tribes, from impacts of grazing, roads, recreation, and other forest use and management activities.

Associated Comments: #12498-8

Changes made to Plan or EIS: Plan

WRS013 Response: We added mention of water as important to religious and ceremonial uses in the Traditional Communities and Uses narrative. The revised list of traditional uses reads: "Religious and ceremonial uses of lands and waters, including for cemeteries, pilgrimages, calvarios, and shrines." Beyond this language change, the Plan has multiple components that protect and foster the health of water resources on the forest, which can be found in the Water Resources section (e.g., FW-WATER-DC-1), the Riparian and Wetland Ecosystem section (e.g.,

FW-RWE-G-2), and the Aquatic Species and Habitats section (e.g., FW-AQUASH-O-1) of the Plan.

Trad053: Best available scientific information should include traditional ecological knowledge.

Associated Comments: #12498-12

Changes made to Plan or EIS: Plan

Trad053 Response: In the final Plan a requirement to incorporate traditional knowledge into project design and decisions has been moved into FW-TRIBES-G-2. A definition of traditional knowledge has been added to the glossary to clarify that it includes traditional ecological knowledge, traditional social knowledge, native knowledge (36 CFR 219.19) and other place-based and culture-based knowledge in which people learn to live in and adapt to their environment through experiences with their ecological system.

EM003: The forest plan should consider tribal cultural concerns in its discussion of locatable, leasable, and salable minerals; tribal cultural concerns and environmental justice should be strongly considered when the Forest makes decisions regarding mineral resources.

Associated Comments: #12498-5

Changes made to Plan or EIS: None

EM003 Response: The final Plan's Federally Recognized Tribes section outlines desired conditions for the protection of important tribal resources and sites, and FW-TRIBES-G-2 directs project managers to consult with tribes early on in project planning to incorporate tribal perspectives, needs, concerns, and knowledge into project design. Site-specific minerals projects will be managed under these guidelines; decisions are made at the project level and are outside of the forest planning process. The 1872 Mining Law authorizes and governs prospecting and mining for locatable minerals on Federal lands.

Traditional Uses and Fuelwood

Trad004: There is support for creating and maintaining access to fuelwood resources on the Forest for local residents, including "dead and down" collection, collection from forest management projects, and active wood harvesting.

Associated Comments: #12497-5, #12510-27, #12860-4, #12860-5

Changes made to Plan or EIS: None

Trad004 Response: Access for traditional uses is addressed in the final Plan by FW-TRIBES-DC-1, DC-3, and DC-4; FW-RURALH-DC-1, DC-3, DC-4, and DC-5; FW-RURALH-G-1 and G-3. Fuelwood availability specifically is addressed by FW-FORESTRY-DC-1, DC-2, and DC-3, as well as FW-FORESTRY-O-1. FW-FORESTRY-MA-7 and MA-8, and FW-RURALH-MA-10 describe strategies for increasing fuel wood opportunities. Disposal of wood is a project-level decision and outside the scope of the forest plan.

Trad008: There is concern over how the forest plan accounts for and manages traditional resource uses including hunting and fishing for ceremonial uses; traditional uses of water, soils, and plants; mining by rural and tribal communities; ranching; and recreation.

Associated Comments: #12684-18

Changes made to Plan or EIS: None

Trad008 Response: The Santa Fe NF addresses traditional resource uses in the Northern New Mexico Traditional Communities and Uses section of the forest plan. Other resources are addressed in their own sections, but may still apply to traditional use of those resources.

Trad009: There is both support for the forest plan's description of Northern New Mexico Traditional Communities and desire for an expanded narrative that delves more into the history of rural traditional communities, focusing on oral and written statements made by community members.

Associated Comments: #498-8, #12690-17

Changes made to Plan or EIS: None

Trad009 Response: The Santa Fe NF addresses traditional resource uses in the Northern New Mexico Traditional Communities and Uses section of the forest plan. Other resources are addressed in their own sections, but may still apply to traditional use of those resources. The history of the forest and surrounding communities is addressed in chapter 1 of the Plan.

Trad018: The Santa Fe forest plan's narrative in the Rural Historic Communities section should align with that of the Carson National Forest. Language should be added to the revised forest plan's Rural Historic Communities section acknowledging that hunting, fishing, and pinon picking are traditional subsistence uses of the Forest, and that medicinal herbs are a traditional-use resource.

Associated Comments: #12528-26, #12528-29, #12698-31, #12698-34

Changes made to Plan or EIS: Plan

Trad018 Response: We have added this language to the Rural Historic Communities narrative.

Trad019: The Santa Fe forest plan's narrative in the Rural Historic Communities section should align with that of the Carson National Forest and acknowledge that "water for agriculture and consumption" is one of the services common lands provide land grant-merced communities. As such, additional wording should be added to the section recognizing sacred sites as a traditional use of the land. The following modified wording is suggested: *Many traditional Hispanic communities have ties to lands in the Santa Fe NF that were once common lands of community land grants-mercedes. The national forest maintains relationships with several Spanish- and Mexican-era land grant-merced communities including former common lands now administered by the Forest Service. Common lands provided land grant-merced communities access to grazing land, **water for agriculture and consumption**, stone and clay, wood, game, fish, medicinal plants and other forest products (uses that continue today), **and with areas which were made sacred (e.g. cemeteries, moradas, churches, and pilgrimage sites).** Many land grants-mercedes are actively involved in managing and preserving adjacent NFS lands for traditional and cultural use. Some have boards of trustees to fulfill this mission through a variety of activities, including managing, protecting, and regulating uses of common lands; preserving cultural and historic resources; and partnering with the Forest Service to plan and propose forest restoration projects on NFS lands.*

Associated Comments: #12528-27, #12698-32

Changes made to Plan or EIS: Plan

Trad019 Response: The suggested language has been added to the final Plan.

Trad026: The forest plan should include the following objective in its Rural Historic Communities section: *The Forest Service, in coordination with the governing bodies of active community land grants, identifies forest resources important to traditional and cultural use.*

Associated Comments: #12528-37, #12528-51, #12698-42

Changes made to Plan or EIS: None

Trad026 Response: The Northern New Mexico Traditional Communities and Uses sections of the final Plan contains plan components and strategies that focus on coordination with interested and affected communities at the early stages of planning and project design. Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities. FW-RURALH-G-2 ensures that Forest Service management activities have minimal to no impacts on spiritually or culturally important places.

Trad027: The forest plan's Rural Historic Communities section should add more plan components concerning providing and maintaining access to appropriate levels of fuelwood to support the needs of rural communities. These include the following plan components:

- Objective: Fuelwood products derived from issuance of fuelwood permits (green and dead and down) along with forest restoration programs, projects and activities meet at least 90% of the local fuel wood demand.
- Standard: Forest Service will utilize wood generated from forest restoration and utility easement maintenance projects to help meet fuelwood needs of adjacent local forest dependent communities.
- Guideline: The Forest Service will provide local fuelwood collection opportunities (green and dead and down) to meet the demand of traditional forest dependent communities on an annual basis.
- Management Approach: Coordinate with community land grant governing bodies to develop permitting and/or wood collection processes for fuelwood derived from former land grant common land.

Associated Comments: #12528-38, #12528-54, #12528-61, #12528-74, #12698-43, #12698-59, #12698-66, #12698-79

Changes made to Plan: None

Trad027 Response: Access for traditional uses is addressed in the final Plan by FW-TRIBES-DC-1, DC-3, and DC-4; FW-RURALH-DC-1, DC-3, DC-4, and DC-5; FW-RURALH-G-1 and G-3. Fuelwood availability specifically is addressed by FW-FORESTRY-DC-1, DC-2, and DC-3, as well as FW-FORESTRY-O-1. FW-FORESTRY-MA-7 and MA-8, and FW-RURALH-MA-10 describe strategies for increasing fuel wood opportunities. Disposal of wood is a project-level decision and outside the scope of the forest plan.

Trad023: The revised forest plan's Rural Historic Communities section should include plan direction on avoiding and mitigating impacts to traditional use resources and access to traditional resources and sites from forest management activities. The following plan components should be added to reflect this concern:

- Desired Condition: Forest Service projects, programs and activities do not negatively impact traditional-use resources, or access to and use of traditional-use resources for community land grants, acequias, pueblos, tribes, livestock grazing associations or permittees.

- Standard: Projects and activities do not adversely impact identified religious and spiritual sites or Forest resources important to traditional and cultural use.
- Guideline: Management activities should be analyzed and mitigated to prevent or minimize adverse impacts to forest resources important for cultural and traditional needs of rural historic communities.

Associated Comments: #12528-33, #12528-46, #12528-59, #12698-38, #12698-51, #12698-64

Changes made to Plan or EIS: None

Trad023 Response: The suggested standard would conflict with Federal law. We prioritize the protection of places of significance to rural historic communities, including historic properties, as reflected in Rural Historic Communities, FW-RURALH-G-2, and Cultural and Historic Resources, FW-ARCH-S-1. However, there are cases where places cannot be protected when undertakings are required to proceed under federal law (for example, the 1872 Mining Law). For individual projects an interdisciplinary team is used to lay out the effects to all resources for the responsible official to make a decision. While it is common practice to try and mitigate adverse resource effects, this is not always possible and therefore is not a reasonable forest plan standard. In these cases, if the place is a historic property (including a TCP), we are required to work with governing bodies or representative organizations that identify as consulting parties in the resolution of adverse effects under 36CFR 800.6.

Trad025: The revised forest plan should increase its direction on identifying, protecting, and ensuring access to sites considered significant to traditional rural communities due to spiritual, religious, or historical significance; or due to the site being a significant source of traditional use resources. Language in the revised plan should reflect existing authorities ((i.e., Public Law 39, February 23, 1932- Color of Title Claims in New Mexico, Small Tracts Act) where appropriate. Plan components with the following language should be added to the Rural Historic Communities section as part of this direction:

1. Objective 2. The Forest Service, in conjunction with the governing bodies of active community land grants, identifies religious and spiritual sites and areas of traditional use within the National Forest.
2. Standard 6. As Forest Land and Resource Management Plans are implemented the Forest Service shall consult with community land grant and acequia governing bodies and with livestock grazing associations and permittees to maintain continued access to traditional resources.
3. Guideline 9 Forest Service will work with existing authorities (i.e. Public Law 39, February 23, 1932- Color of Title Claims in New Mexico, Small Tracts Act) to convey land or provide block easements for community land grant associated cemeteries, and other culturally significant sites (i.e., moradas, chapels, churches)
4. Management Approach 12: Coordinate with land grant governing bodies to protect religious and spiritual sites and forest resources important to traditional and cultural use.

Associated Comments: #12528-36, #12528-50, #12528-63, #12528-67, #12698-41, #12698-68, #12698-72

Changes made to Plan or EIS: None

Trad025 Response:

1. The importance of religious and spiritual sites for rural historic communities, such as land grants, is addressed through FW-RURALH-DC-4 and FW-RURALH-G-2. Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and

MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities.

2. Access for traditional uses is addressed by FW-TRIBES-DC-3, DC-4, DC-5 and DC-5; FW-RURALH-DC-3, DC-4, and DC-5; FW-RURALH-G-1 and G-3; and FW-FORESTRY-DC-1, DC-2, and DC-3. Land grants are a state-recognized governmental entity that we work with differently in comparison to permittees. Permittees do not have the same standing as the acequia associations and the land grants since these entities are state-recognized entities. The grazing and range management approach FW-RANGE-MA-1 states that we will cooperate, coordinate and collaborate with permit holders to respond to changing resource conditions.
3. The introduction to the Lands Special Uses section of the final Plan discusses lands special use authorization and lists some examples of permitted uses on the Santa Fe NF. Community water systems have been added to this list. Any special use permit would be evaluated on a case-by-case basis, consistent with FW-LANDSU-DC-1 and DC-2. New cemeteries, liquid waste disposal areas, and solid waste disposal sites are not permitted on National Forest System lands (FSH 2709.11 section 19, exhibit 3).
4. In the final Plan FW-RURALH-G-2 requires the protection of spiritually or culturally important places. FW-RURALH-MA-1 and MA-6 emphasize coordination with land grant governing bodies to understand their concerns and develop proposals of mutual benefit.

Trad031: The revised forest plan's Rural Historic Communities section should provide plan direction to manage forage resources for no net loss in grazing capacity within traditional use boundaries of land grants and grazing allotments associated with land grants. The added objective should read as follows: The Forest Service will manage forage resources for fluctuations to ensure that there is no net loss in grazing capacity within the historic / traditional use boundaries of land grants or on grazing allotments affecting communities associated with land grants.

Associated Comments: #12528-43, #12698-48

Changes made to Plan or EIS: None

Trad031 Response: See RNG072 for how we manage grazing on the forest.

Trad054: There are other traditional/historic uses that predate the creation of the Forest Service in addition to those listed.

Associated Comments: #498-9

Changes made to Plan or EIS: None

Trad054 Response: The final Plan describes traditional uses as long-standing uses that are fundamental to the interconnected economic, social, and cultural vitality of many northern New Mexico inhabitants (Chapter 2, Northern New Mexico Traditional Communities and Uses). The list of traditional uses is not all inclusive, as indicated by the phrase “not limited to” (Chapter 2, Northern New Mexico Traditional Communities and Uses). The plan directs management to make available any forest resources that are important for cultural and traditional needs, subsistence practices, and economic support (FW-TRIBES-DC-3, FW-RURALH-DC-3).

Trad020/024/032: Language should be added to the Rural Historic Communities section outlining how the Forest Service will engage active community land grants and acequias in maintaining or providing meaningful access to traditional resources and uses (e.g., livestock grazing, fuelwood gathering, acequias, and hunting) on NFS lands to sustain their communities and cultural identity.

Associated Comments: #12528-28, #12528-30, #12698-33, #12698-35, #12528-35, #12528-41, #12528-49, #12698-40, #12698-46, #12698-50, #12698-54, #12698-55, #12698-56, #12528-45

Changes made to Plan or EIS: None

Trad020/024/032 Response: The final Plan includes the Northern New Mexico Traditional Communities and Uses section, which describes traditional uses and the communities that rely on those uses to sustain themselves and their cultural identity (final Plan, chapter 2).

Coordination with land grant governing bodies during the early stages of planning and project design is covered by FW-RHC-G-4 in the final Plan. In addition, Management Approaches for Rural Historic Communities-3, -7, and -10 describe an emphasis on working collaboratively and integrating perspectives of land grant communities. Land grants would be an equitable interested party that we scope with during the NEPA process for land acquisition.

Access for traditional uses is addressed by FW-TRIBES-DC-3, DC-4, DC-5 and DC-5; FW-RURALH-DC-3, DC-4, and DC-5; FW-RURALH-G-1 and G-3; and FW-FORESTRY-DC-1, DC-2, and DC-3. Land grants are a government body that we can work differently with compared to permittees. These entities are specific to New Mexico; we highlight the role of these unique entities in the final Plan.

Trad033: The revised forest plan's Rural Historic Communities section should provide plan direction stipulating land grant governing bodies have the right of first refusal on grazing permits for vacant allotments within traditional use boundaries of land grant-mercedes.

The added standard should read: Land Grant governing bodies are given the right of first refusal on grazing permits for vacant allotments within the patented or historical/traditional use boundaries of a land grant-merced.

Associated Comments: #12528-47, #12698-52

Changes made to Plan or EIS: None

Trad033 Response: The Forest Service Range Management Manual (FSM 2231.3 Grazing and Livestock Use Permit System) states that, "Qualified applicants may be issued permits with term status through prior use, the grant process, purchase of base property or livestock with waiver, or interchange of permits with other agencies."

The Grazing Permit Administration Handbook (FSH2209.13_92.13) states that, "The Forest Supervisor may issue grazing permits with term status by grant or increase existing term grazing permits to entities recognized as the logical applicants for new range, transitory range, or additional range, provided that the applicants meet requirements, and are otherwise qualified, and provided the range resource can support increased use." The Forest Service uses the grant process, which is the procedure designed to identify preferred applicants for a grazing permit to be issued, when unobligated grazing capacity becomes available. This is policy that is required to be followed.

Additionally, Management Approach for Rural Historic Communities-3 describes a strategy of coordinating with land grants to understand their needs and develop collaborative proposals and projects of mutual benefit.

Trad038: The revised forest plan should include direction under its Rural Historic Communities section stipulating the Forest Service must consult with grazing permittees when planning and prioritizing programs, projects, and activities that may impact livestock grazing.

Associated Comments: #12528-57, #12698-62

Changes made to Plan or EIS:

Trad038 Response: A management approach in the Sustainable Rangelands and Grazing section of the Plan covers this topic. FW-RANGE-MA-3 states, “Coordination with livestock grazing permit holders should occur at the early stages of planning and project design to include local perspectives, needs, concerns, and traditional knowledge.”

Trad039: The forest plan should refrain from subordinating, or implying subordination of, traditional uses to other forest uses. Guideline 1 in the Rural Historic Communities section should be modified to remove the conditional phrasing--“*except in areas with resource concerns or any areas otherwise restricted by standards or guidelines set forth in other sections of this plan*”-- in order to reflect this concern.

Associated Comments: #12528-58, #12698-63

Changes made to Plan or EIS: None

Trad039 Response: The Forest Service does not prejudice its recognition of the need for the collection of traditionally used forest products by members of rural historic communities based on their contemporary affiliation with a Spanish or Mexican era grant confirmed by Congress or the Federal courts. In FW-RURALH-G-1, the language referring to restrictions imposed by standards or guidelines required by other sections of the plan must be retained because those restrictions can exceed those imposed by existing law and regulation. The restrictions imposed by other plan components do not supersede existing laws and regulations, as plan components that are inconsistent with existing laws and regulations are prohibited, 36CFR 219.1(f).

Trad049: In the Rural Historic Communities section, management approaches should be added that provide direction on forest product removal, such as to limit adverse environmental impact. Suggest language is as follows:

- Through contract incentives and other means, encourage the transition away from skidding and to the use of forwarders in forest product and mechanical thinning operations.
- Consider limiting soil disturbing management activities to frozen/dry soil conditions.
- Consider limiting use of individual trucks in fuelwood gathering operations, by yarding forest products to central locations.

Associated Comments: #12575-16

Changes made to Plan or EIS: None

Trad049 Response: Direction on forest products is detailed in the Forest Products section of the forest plan. Adverse environmental impacts associated with forest product removal are mitigated through plan direction in this section (e.g., FW-FORESTRY-DC-4, S-1, S-2, S-6, and G-2), and in other sections. For instance, in the Soil Resources section, FW-SOIL-S-1 directs that we use

BMPS such as those in the National Core Technical Guide for BMPs (FS-990A) or FSH 2509.22 - Soil and Water Conservation Practices Handbook to minimize management impacts to soil condition and productivity. FW-SOIL-G-1 also provides direction that mitigates the impacts of ground-disturbing management activities. FW-RURALH-G-1 ensures that traditionally used products like fuelwood are not available in areas with resource concerns or that are otherwise restricted by the guidelines and standards of other resources (e.g., those in the Soil Resources section). We believe these components provide protection to ecological resources that may be impacted by forest product removal.

Acequias

Trad016/046: The forest plan should include reference to the guidance document, "Acequias on National Forest System Lands," in the Acequia subsection of the Rural Historic Communities section. To this effect, the following language is suggested: "Many acequias in the Santa Fe National Forest existed on unreserved public lands prior to the withdrawal of public lands to create the National Forest on July 1, 1908. Therefore, these acequias are afforded various rights and status under National Forest System management including the easement rights granted in federal law (RS 2339). On July 2, 2019, the Southwest Region issued an Acequia Guidance Document acknowledging these rights and providing a 'clear framework for efficient and effective administrative determinations concerning proposals for the maintenance, operation, access to, construction and reconstruction of acequia infrastructure on NFS lands.' The Santa Fe National Forest acknowledges this document and incorporates its provisions into this Plan."

Associated Comments: #12690-19 (b), #12510-4 (b), #12555-3 (a), #12677-2, #13614-2

Changes made in Plan or EIS: Plan

Trad016/46 Response: As explained in the Regional Foresters memorandum of July 2, 2019, the existing Guidance is intended to be a living document that will periodically be updated and refined to improve it. We have added a reference to the existence of the Guidance, acknowledging it. The updated introduction to the acequia subsection of the final Plan's Rural Historic Communities section reads, "*Acequias are community-operated and -organized water irrigation systems. Many of the State's acequia associations have been in existence since the Spanish Colonial period in the 17th and 18th centuries and were historically associated with land grants-mercedes. Acequia and community ditch associations are political subdivisions of the State of New Mexico and occupy a unique place in forest management (New Mexico Statutes Annotated 1978 §73-2-28). Acequias that existed on unreserved public lands for use in connection with a valid water right, prior to the withdrawal of public lands to create the national forests, are afforded valid rights and status under National Forest System management including the right codified in federal law (R.S. 2339). Much of the water diverted by acequias comes off of NFS lands and can be affected by forest management activities upstream. On July 2, 2019, the U.S. Forest Service Southwest Region issued an acequia guidance document acknowledging these rights and providing a "clear framework for efficient and effective administrative determinations concerning proposals for the maintenance, operation, access to, construction and reconstruction of acequia infrastructure on NFS lands."* Acequias are still relevant and vital water delivery and community organizing systems today. They modify the hydrology and riparian distribution across irrigated floodplain valleys, recharging groundwater and delaying return flow to streams. They serve as important water infrastructure for communities, and their associations are important community organizations throughout New Mexico."

Trad028: To improve the Forest Service's ability to manage local water needs in conjunction with local communities and governing bodies, the revised forest plan should include direction to map acequia infrastructure on Forest Service land. Language should be added as an objective to the Rural Historic Communities section: *The Forest Service, in coordination with acequia governing bodies and relevant state and local governments and political subdivisions, map acequia infrastructure located on forest system lands.*

Associated Comments: #12528-39, #12698-44

Changes made to Plan or EIS: None

Trad028 Response: The Northern New Mexico Traditional Communities and Uses sections of the final Plan contains plan components and strategies that focus on coordination with interested and affected communities at the early stages of planning and project design. Coordination with acequia governing bodies during the early stages of planning and project design is covered by FW-RURALH-G-4 in the final Plan. In addition, FW-RURALH-MA-1, MA-2, MA-6, and MA-9 describe an emphasis on working collaboratively and integrating perspectives of land grant communities. Specific projects, such as mapping acequias, is included under the umbrella of the more general language of the Plan.

Trad043: The final Plan should describe the benefits acequias provide to the ecosystem. Nowhere in the draft Plan are there any statements such as those found in the draft Plan for the Carson NF's draft Plan, at page 63 under the Watersheds and Water section, describing the benefits acequias provide to the ecosystem: *"[O]n-forest diversions have extensive effects in the irrigated floodplain valleys that are immediately adjacent to the forest. Water is dispersed across a wider area and maintains additional riparian systems and agriculture. Surface flow from unlined ditches and irrigated fields seeps into groundwater and contributes to aquifer recharge and delayed return flow to streams. Acequias provide cultural and provisioning ecosystem services. They feed water to communal agricultural lands, bring families and traditional communities together through the shared work of maintaining them, and contribute to a way of life that spans generations."*

Associated Comments: #12690-20

Changes made to Plan or EIS: Plan

Trad043 Response: The updated introduction to the acequia subsection of the final Plan's Rural Historic Communities section reads, *"Acequias are community-operated and -organized water irrigation systems. Many of the State's acequia associations have been in existence since the Spanish Colonial period in the 17th and 18th centuries and were historically associated with land grants-mercedes. Acequia and community ditch associations are political subdivisions of the State of New Mexico and occupy a unique place in forest management (New Mexico Statutes Annotated 1978 §73-2-28). Acequias that existed on unreserved public lands for use in connection with a valid water right, prior to the withdrawal of public lands to create the national forests, are afforded valid rights and status under National Forest System management including the right codified in federal law (R.S. 2339). Much of the water diverted by acequias comes off of NFS lands and can be affected by forest management activities upstream. On July 2, 2019, the U.S. Forest Service Southwest Region issued an acequia guidance document acknowledging these rights and providing a "clear framework for efficient and effective administrative determinations concerning proposals for the maintenance, operation, access to, construction and reconstruction of acequia infrastructure on NFS lands." Acequias are still relevant and vital water delivery and community organizing systems today. They modify the hydrology and riparian distribution across irrigated floodplain valleys, recharging groundwater and delaying return flow to*

streams. They serve as important water infrastructure for communities, and their associations are important community organizations throughout New Mexico."

Trad050: The NMAA appreciates and supports the Plans description of acequias on page 107. However, the NMAA urges greater description in the brief two paragraphs on acequias of the acequia's easement rights and an elucidation of the "status" granted to acequias due to their establishment prior to the Santa Fe National Forest's reservation, or proclamation date (July 1, 1915). Currently, the Plan provides the following statement: "Acequias that existed on unreserved public lands for use in connection with a valid water right, prior to the withdrawal of public lands to create the national forests, are afforded valid rights and status under National Forest System management." P. 107

Associated Comments: #13614-2, #12510-4 (a), #12555-2, #12555-5 (a), #12677-1, #12690-19 (a)

Changes made to Plan or EIS: None

Trad050 Response: The descriptive language in the Plan is meant to provide a high-level summary, not a detailed explanation of the legal rights of acequias. A detailed description is beyond the scope of this planning process.

See also: Response to CS80.

Trad021: Add the following to FW-RHC-DC 5. Suggested Language: Acequia systems on NFS lands are *easily and conveniently* accessible for operation, maintenance, repair, or improvement.

Associated Comments: #12528-31, #12690-28, #12698-36

Changes made to Plan or EIS: Plan

Trad021 Response: The Santa Fe NF cannot guarantee that acequias are easy to access due to the remote location of some of these features. The Santa Fe NF works closely with acequia governing bodies to facilitate access as directed by FW-RURALH-G-3 in the final Plan. Reference to the 2019 U.S. Forest Service Southwest Region Acequia Guidance Document has been added to the Rural Historic Communities section introduction and appendix C. This document provides a "clear framework for efficient and effective administrative determinations concerning proposals for the maintenance, operation, access to, construction and reconstruction of acequia infrastructure on NFS lands." Use of this document to clarify Forest Service authorities and responsibilities related to acequia management and governing body coordination has been added as a strategy (FW-RURALH-MA-11)

Trad010/011: The Plan fails to address R.S. 2477 roads and R.S. 2339 easements and the vested property rights to occupy and conduct certain activities on forest lands. R.S. 2477 roads are vested easements that exist by virtue of federal law, the same law that created R.S. 2339 ditch easements. The elements are similar. If a road has been in use since before the enactment of FLPMA and if it is a public use road and has not been abandoned, then federal law granted an easement for the road. The road need not have been originally an actual constructed road for wheeled vehicles but could have been a walking route. There is a whole body of case law, including *Southern Utah Wilderness Alliance v. Bureau of Land Management*, 425 F.3d 735 (2005), providing the requirements for what constitutes a R.S. 2477 road. Access along roads within the Inventoried Roadless Area could be denied for operation and maintenance of acequia infrastructure or for maintenance of the river itself. This denial violates R.S. 2477 rights. The final Plan should prohibit the unilateral closing and/or gating of Forest Service roads within the Carson National Forest without notice or warning and should provide public notice and allow prior public discussion as to

whether any proposed Forest Service action implicates R.S. 2477 rights, allowing acequias and others holding such rights to come forward with proof. The final Plan should include an inventory of all R.S. 2477 rights within the Carson National Forest and should specifically find that such roads are to remain open for the purposes associated with each specific R.S. 2477 right. Consistent with the Plan's commitment to Historic Rural Communities, like acequias, used and needed roads and trails should remain open whether or not they technically qualify as R.S. 2477 roads.

Associated Comments: #12555-5 (a) – (d), #12690-21, #13614-5, #12510-7, 12690-26, #13614-5, #12698-60, #12510-8, #12510-9, #12510-10, #12677-4

Changes made to Plan or EIS: None

Trad010/011 Response: Travel management is a separate process from forest planning and is handled under requirements of 36 C.F.R. Part 212. Any decision to close or decommission roads would be made through the public participation processes for a change to the Motor Vehicle Use Map (MVUM). The forest planning process does not change existing Travel Management Decisions or MVUMs.

Making a determination regarding rights-of-way that existed prior to reservation of the Carson National Forest, including those under RS 2477 or RS 2339 are done on a case-by-case basis. The plan is not the appropriate place to acknowledge if there is or is not a right-of-way that existed prior to reservation of the forest.

Any decision to change the existing travel management plan is a project level decision. Special use permits are issued to authorize use and occupancy of NFS lands this includes providing access to infrastructure, such as acequias, on roads that are not open to the public. If access to acequia infrastructure is on a road that is not open to the public this road should be included in a special use authorization issued to an acequia governing body to ensure that the acequia has the access needed to operate and maintain the infrastructure.

Trad055: The Plan needs to include a discussion about acequia easement rights, including in designated wilderness areas and wild and scenic rivers and should not disturb or impede easement rights. The Plan should inventory these existing rights in designated wilderness and any potentially eligible rivers. Acequias are afforded "valid rights" to access acequia infrastructure that are codified in federal law (RS 2339) that are binding on federal agencies. The Plan needs to reference the Region 3 Acequia Guidance Document.

Associated Comments: #13614-2, #12510-4 (a), #12555-2, #12677-1, #12690-19 (a), #12555-6, #12690-19 (b)

Changes made to Plan or EIS: Plan

Trad055 Response: Many acequias were established before the land on which they are located was reserved for the National Forest System. Such acequias are within valid rights-of-way (ROW) granted by the United States under laws and treaties that pre-date the Federal Land Policy and Management Act (FLPMA), and do not require Forest Service authorization for the use and occupancy of NFS land within the historic ROW.

Incorporated in the final Plan, "Acequias are community-operated and -organized water irrigation systems. Many of the State's acequia associations have been in existence since the Spanish Colonial period in the 17th and 18th centuries and were historically associated with land grants-mercedes. Acequia and community ditch associations are political subdivisions of the State of New Mexico and occupy a unique place in forest management (New Mexico Statutes Annotated 1978 §73-2-28). Acequias that existed on unreserved public lands for use in connection with a

valid water right, prior to the withdrawal of public lands to create the national forests, are afforded valid rights and status under National Forest System management including the right codified in federal law (R.S. 2339). Much of the water diverted by acequias comes off of NFS lands and can be affected by forest management activities upstream. On July 2, 2019, the U.S. Forest Service Southwest Region issued the Acequia Guidance Document acknowledging these rights and providing a “clear framework for efficient and effective administrative determinations concerning proposals for the maintenance, operation, access to, construction and reconstruction of acequia infrastructure on NFS lands. Acequias are still relevant and vital water delivery and community organizing systems today. They modify the hydrology and riparian distribution across irrigated floodplain valleys, recharging groundwater and delaying return flow to streams. They serve as important water infrastructure for communities, and their associations are important community organizations throughout New Mexico.” Also, FW-RURALH-MA-11 states, “Consider referencing the New Mexico Acequia Guidance document for clarification of authorities and responsibilities related to acequia management and governing body coordination.”

The final Plan is consistent with acequia easement rights. Clarification of routine operation and maintenance authorized under the Chief’s Policy relating to the Act of July 26, 1866 (Revised Statute 2339) is provided in the Southwestern Region Acequia Guidance Document. Recognition of the rights and status of acequias is discussed in the Rural Historic Communities section introduction (final Plan, Chapter 2) and the Regional Guidance was included in Appendix C. There are no acequias in designated wilderness on the Santa Fe NF. Any areas with known acequias have not been recommended as wilderness in the final Plan (FEIS, Vol 3, Appendix J Wilderness Process). Additionally, no eligible wild and scenic rivers contain acequia infrastructure (FEIS, Vol 3, Appendix K Wild and Scenic River Eligibility).

Inventory of privately claimed rights is not a component of the forest planning process or Congressional wilderness designation. Treatment of pre-existing valid rights is already provided for under the Wilderness Act, specific wilderness laws, and agency regulation.

Trad057: Include discussion of the benefits of acequias under RHC. “[O]n-forest diversions have extensive effects in the irrigated floodplain valleys that are immediately adjacent to the forest. Water is dispersed across a wider area and maintains additional riparian systems and agriculture. Surface flow from unlined ditches and irrigated fields seeps into groundwater and contributes to aquifer recharge and delayed return flow to streams.” The benefit of acequias should be recognized in wilderness and rec wilderness areas.

Associated Comments: #12555-4

Changes made in Plan or EIS: Plan

Trad057 Response: Additional discussion of the hydrologic modification created by acequias and the effect on irrigated floodplain valleys has been added to the Water Resources and the Rural Historic Communities sections of the final Plan. There are no known acequias in designated wilderness on the Santa Fe NF, although the culturally important Nacimiento Ditch (acequia) can be found at the southern edge of the San Pedro Parks Wilderness. The infrastructure and access requirements generally make acequia corridors incompatible with the wilderness characteristics of apparent naturalness and legal manageability. A buffer was applied to all known acequias during the recommended wilderness evaluation and none of those areas were considered for recommendation under any alternative.

Cultural Resources and Archaeology

CRA001: Due to the long-standing, pre-settlement and current ties Pueblo communities have with the landscapes and resources within New Mexico's three northern National Forests (Santa Fe, Carson, and Cibola), these forests should be identified as Traditional Cultural Properties (TCP).

Associated Comments: #12498-1

Changes made to Plan or EIS: None

CRA001 Response: We recognize the importance of the Santa Fe NF to many federally recognized tribes and traditional communities. TCPs are very specific designations that must qualify for inclusion to the National Register of Historic Places (NRHP). The NRHP has four primary criteria (A, B, C, and D) and it must be demonstrated that a potential TCP qualifies for inclusion to the NRHP based on one or more of these criteria, as well as retains sufficient integrity (there are 7 aspects of integrity).

CRA002: The forest plan should include more robust language relating to tribal priorities for sites, values, and resources that need to be considered and protected from adverse impacts. Language should be inclusive of sites and resources that may not be known at the time of Plan publication.

Associated Comments: #12498-3

Changes made to Plan or EIS: None

CRA002 Response: Federal agencies have done an inadequate job of fully accounting for impacts to resources, places, and uses important to federally recognized tribes (Dongoske et al. 2015; Ross et al. 2011). Responding to these concerns, we have included plan components that direct planners to consider impacts to the full spectrum of tribal resources and uses (Guideline 3) and to incorporate Native American perspectives, needs, and concerns, including traditional knowledge, into the planning process (Guideline 2).

CRA003: The forest plan's Cultural Resources and Archaeology section should modify its narrative and plan components to be more inclusive of rural historic communities and acknowledge current and historical uses. The following modifications are suggested:

- DC1a: Visual and aesthetic integrity and physical association with culturally significant landscapes **and communities**.
- DC2: The public has opportunities for learning about, appreciating, and understanding cultural and historic resources as well as resources significant to traditional communities. Public understanding about the past occupation, **historical and current uses** of landscapes, and cultural resources contributes to their protection.
- MA4: Work with partners such as the American Indian Tribes, Youth Conservation/Preservation Corps, land grants, acequias, New Mexico Historic Preservation Division SiteWatch program, Archaeological Society of New Mexico, the National Park Service, and local museums to identify, study, protect, and monitor sites and artifact collections.
- MA8: Consider using programs (e.g., Youth Conservation/Preservation Corps, site stewards, volunteers, and Passport in Time) that engage the public to assist in protecting, managing, and documenting cultural resources.
- Narrative: There are many cultural and historic resources that are eligible for listing on the National Register of Historic Places and sites that may not be eligible but are important to land grant mercedes, acequias and traditional communities. Such sites will be managed to the same standard

as Historic Places to insure the preservation of their historical, educational, and cultural values that they carry. Sites of Historical importance contain but are not limited to Hispanic and other traditional homesteads, cabins, jacales and other architectural structures (see National Historic Preservation Act (NHPA), Archeological and Historic Preservation Act (AHPA), The Archaeological Resources Protection Act of 1979 (ARPA), and Federal Land Policy and Management Act of October 21, 1976).

Associated Comments: #12528-75, #12528-76, #12528-77, #12698-80, #12698-81, #12698-82

Changes made to Plan or EIS: Plan

CRA003 Response:

- We do not think the suggested change is appropriate. The Forest Service does not maintain communities. Management approaches in the Cultural and Historic Resources section support working with communities to manage historical sites, landscapes, Traditional Cultural Properties, and historic properties (FW-ARCH-MA-1, MA-2, MA-3, and MA-4).
- We have made this suggested change to FW-ARCH-DC-2.
- We have included the suggested modifications to FW-ARCH-MA-4 and MA-8
- If sites are undetermined, we do treat them as eligible during project implementation. If sites are not eligible, we cannot treat them as eligible, but if it is known to be important (e.g., through public comments or discussion with Tribes or communities) treatment is determined on a case-by-case basis. Additionally, we acknowledge the importance of local structures in our narrative (see narrative).

CRA004: The forest plan should include special management areas that protect tribal ancestral sites and practices. New management areas should include: a) a closure of the Deception Peak-Lake Peak-Nambe Lake-Spirit Lake complex in acknowledgement of Tesuque and Nambe Pueblo's cultural resource protection concerns and objections regarding past ski area expansion proposals in line with the Santa Fe Ski Area Proposed Expansion Ethnographic Assessment (June 1, 1993), NEPA, the Archaeological Resources Protection Act, the American Indian Religious Freedom Act, the Native American Graves and Repatriation Act, and the National Historic Preservation Act; b) a full (rather than seasonal) closure of the Dome Road, as requested by Cochiti Pueblo to ensure protection of their cultural resources, in acknowledgment of the recent transfer of the Canada de Cochiti Grant to Cochiti Pueblo.

Associated Comments: #13416-53

Changes made to Plan or EIS: None

CRA004 Response: This suggestion is outside the scope of the forest plan. Closures are a project-level decision. However, FW-TRIBES-G-1 addresses the need to accommodate temporary closures requests for cultural and traditional purposes, and FW-TRIBES-DC-4 and G-3 address the protection of tribal sacred sites and important cultural sites.

Socioeconomics

SE001: The Santa Fe NF should focus on improving and protecting forest resources with the goal of promoting tourism, due to the positive economic impacts the industry has for the state and local communities.

Associated Comments: #12364-2, #13007-1, #13281-3

Changes made to Plan or EIS: None

SE001 Response: The forest plan is focused on protecting forest resources with the goal of supporting the multiple uses for which the national forests are preserved. Tourism and recreation is one such use, and there are multiple plan components in the Recreation sections of the final Plan that support recreation-based tourism on the forest. We also analyze economic impacts of forest activities, including recreation (which can contribute to tourism), in the Socioeconomics section of the EIS.

SE002: The Santa Fe NF should support local forest products business by developing infrastructure and access they can use. This will improve quality of life in local communities and help people become better stewards of the land.

Associated Comments: #12521-8

Changes made to Plan or EIS: None

SE002 Response: The Forest supports the production and harvest of forest products (see the Forest Products section of the Plan) and has analyzed the labor income and employment outcomes by alternative for timber activity on the forest (see Table 15 and 16 in Volume 2 of the EIS).

SE003: Expanded recreational opportunities can have a positive economic impact on local communities while allowing for more people to connect with the land.

Associated Comments: #12524-4

Changes made to Plan or EIS: None

SE003 Response: We analyze the economic benefits of recreation in the section 3.17.4.1 of the FEIS, in the Socioeconomic analysis. This is recognized in the Plan under the Recreation section, where desired conditions support varied sustainable recreation opportunities and partnerships (FW-REC-DC-3 and DC-6).

SE004: There is concern that prescribed fire does not provide for the social and economic needs of communities, beyond providing select jobs.

Associated Comments: #12526-4

Changes made to Plan or EIS: None

SE004 Response: In the narrative sections of the forest plan, ecosystem services associated with each resource are described. In the Fire and Fuels section, we discuss how planned fires, along with natural fires, can support regulating and provisioning ecosystem services that can benefit social and economic needs. For instance, the restoration of more natural fire regimes may increase forage that can support livestock grazing, increase the health and vigor of residual trees

that provide timber and fuelwood, improve aspen vistas that draw tourism and provide scenic enjoyment to residents, and can decrease the risk to life and property due to catastrophic fire.

SE005: Local community interests should be supported over corporate interests

Associated Comments: #12590-5

Changes made to Plan or EIS: None

SE005 Response: This comment is outside the scope of the forest plan revision process. We do not support any specific business interests via the forest plan. There are many management approaches throughout the Plan that discuss working with local institutions and partners to achieve shared resource management goals.

SE006: The final EIS should be amended to include the actual costs to the public and the Forest from its grazing program, rather than the income provided to individuals taking part in the program. In documenting actual costs, the EIS should include past and current AUM fees, infrastructure costs (e.g., fencing, water improvements), and a full financial accounting of the Forest's current budget as it relates to grazing.

Associated Comments: #13416-13

Changes made to Plan or EIS: None

SE006 Response: See RNG059 for more on the grazing program.

Sustainable Rangelands and Livestock Grazing

General

RNG079: The Forest Service is obligated to consider disturbances and can easily describe the livestock disturbance regime by analyzing stocking rates, rotations, season of use, and other metrics that are currently catalogued under existing range management programs. This information is required to satisfy the requirements of the planning rule.

Associated Comments: #12522-24

Changes made to Plan or EIS: None

RNG079 Response: In the FEIS, we analyze the social and ecological impacts of differing levels of stocking (AUMs) in the Watersheds and Water Resources, Soils, and Rangelands and Grazing sections of the EIS. However, we do not consider livestock grazing a “disturbance regime” in the context of the forest plan. According to the 2012 Planning Rule a “disturbance regime,” is defined as, “A description of the characteristic types of disturbance on a given landscape; the frequency, severity, and size distribution of these characteristic disturbance types; and their interactions” (36 CFR 219.19). A “disturbance” is defined as, “Any relatively discrete event in time that disrupts ecosystem, watershed, community, or species population structure and/or function and changes resources, substrate availability, or the physical environment” (36 CFR 219.19). While livestock grazing may be considered a man-made disturbance, in the context of forest management, disturbance regimes refer to large-scale natural, repetitive processes such as wildfires, storm seasons, migrations, or cyclical insect population growth. Part of our forest vision is to restore natural disturbance regimes to the forest; livestock grazing is managed and analyzed as one of the multiple-uses of the forest. Stocking rates, rotations, and season of use are all managed via allotment-level NEPA outside of the forest planning process. Allotment-level

NEPA analyses are used to authorize grazing for specific allotments, and the rangelands management and livestock grazing program has multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing conditions (as codified in the Forest Service Handbook on Grazing Permit Administration and Rangeland Decision Making—FSH 2209.13 Ch 96.2—and R3 Guidance 92.23b). Stocking decisions regarding the amount of livestock grazing authorized for each grazing allotment are also considered as part of project-level analysis (NEPA) and are similarly beyond the scope of the forest plan EIS. Project-level analysis covers changes to authorized grazing through term grazing permits (subject to forest-wide standards and guidelines); allotment management plans; and annual operating instructions.

See also: RNG074 for how we address ecological impacts of grazing on the forest and RNG072 for more on grazing management law, regulation, and policy.

Edit009: The DEIS, Volume 1, p. 5, reads correctly, as follows: "Grassland, woodland, and shrubland have significantly less grass cover and productivity as a result of the exclusion of wildfire, legacy (historical) grazing from livestock, **current livestock and wildlife grazing**, and roads." This has been altered in the Draft Plan's Need for Change section, under the "Grass Cover" paragraph, with the removal of "current livestock". The words "current livestock" must be returned to the final Plan to accurately reflect both the DEIS and reality.

Associated Comments: #13416-8

Changes made to Plan or EIS: EIS

Edit009 Response: We have changed the EIS to reflect the Need for Change in the Plan. Current grazing is a permitted activity that is managed to mitigate resource damage. It is adjusted using adaptive management, which accounts for fluctuating resource conditions and climate. Therefore, it is our position that historic grazing from livestock and wildlife grazing do not have the same impact as current livestock grazing, which is carefully managed and adjusted for based on resource conditions.

RNG004: The following quotation should be added to the beginning of the Sustainable Rangelands and Livestock Grazing section: "I am still trying to figure out why people who profess a deep attachment to their surroundings are driven to despoil them." (Frank Clifford in "The Backbone of the World" specifically in reference to Rio Arriba County)

Associated Comments: #436-1

Changes made to Plan or EIS: None

RNG004 Response: The quotes are in the Plan to show the value of each resource as a part of a multiple-use Forest. They are true statements from our Forest community members and Forest Service employees.

RNG005: There is opposition to continued support from the Forest Service for the grazing permit program. The program is considered to support the interests of a small minority, rather than the local community at large; permit and allotment management is biased management due to personal relationships of current permittees with Forest Service employees; and there is a lack of capacity in the Forest Service to properly monitor grazing. Permits on the forest should therefore be reduced overall, and

particularly in areas of high recreation or resource importance or sensitivity, such as Ski Santa Fe or the Santa Fe watershed, where livestock conflict with other forest users.

Associated Comments: #436-2, #12495-1 (a), #12521-2, #12590-2

Changes made to Plan or EIS: None

RNG005 Response: Permit eligibility and changes in permit ownership are determined by Forest Service policy (FSH 2209.13 Ch. 10, 2200 12.1, 12.2, 13.1), and beyond the scope of the forest plan revision process. Outside of the planning process, the Forest is developing program level resource objectives that will be tied to specific measures that can be monitored. If those measures are not met, adaptive management will be used to address these issues. See FSH 2209.13 Ch. 10 section 16: "changes in permit condition may be modified, suspended or cancelled to achieve resource objectives...;" Ch. 90 2209.13, 91.1 (we need to be consistent with land management plan), 92.23 (adaptive management, including limits that can be checked through monitoring), 96.2.

Policy dictates that grazing permits are to remain in families to ensure the ranching communities are able to continue grazing as both an economic and cultural tradition, the importance of which is detailed in the Assessment Volume II and analyzed in the Socioeconomics section of the EIS. These documents highlight that although it is a small number of people and a small amount of economic gain (EIS, Vol II, Sections 3.17.2.2.1.1.3; Assessment Vol II, Ch. 4, pg 104), grazing is an important part of the culture of certain forest-dependent communities (EIS, Vol II, Sections 3.17.2.2.1.2.1, 3.17.2.2.1.2.3). In the Assessment phase of the FPR process, it was noted that, "The historical significance of the tradition [of grazing] is illustrated by the fact that 76.4 percent of the permittees have had their Forest Service grazing permits over 50 years and/or received them from their fathers or grandfathers" (McSweeney and Raish 2012). Permits can be canceled by Rangers due to resource concerns (FSH 2209.13 Ch10 16.2, 36 CFR 224.4), but this is at the project-level and thus, outside of the scope of the Plan.

RNG006/025/051: The term "adaptive management" as it is used in the Plan does not reflect what actually goes on in terms of grazing on the forest, and allows the Forest to excuse grazing permit violations. Adaptive management strategies for livestock grazing, such as using vacant allotments as grass banks, should be better defined in the Plan and executed so that riparian areas and other ecosystems move toward desired conditions. This includes during stressor events and natural disturbances, such as droughts or wildfire.

Associated Comments: #436-4, #12627-8, #12752-34 (e)

Changes made to Plan or EIS: None

RNG006/025/051 Response: The forest plan defines adaptive management in the glossary, and addresses adaptive management as a livestock grazing strategy in FW-RANGE-MA-7. FW-RANGE-G-6 and MA-1 also support managing grazing to respond to changing resource conditions. Other plan components ensure that riparian ecosystem health will be met and maintained, including desired conditions that direct that departure from site potential is low (FW-RWE-DC-1). Direction in the Sustainable Rangelands and Livestock Grazing section also support ecological resource health (FW-RANGE-S-1, G-1). The monitoring plan contained in chapter 5 of the forest plan, in conjunction with project-level monitoring, will also provide the framework to support adaptive management on the forest.

Additionally, permits can be modified based on management needs (36 CFR 222.4 7). Livestock management on NFS lands has shifted to an adaptive management philosophy allowing

appropriate seasonal changes in livestock numbers (increases or decreases) or seasons of use, in response to changing ecological conditions (e.g., forage production, water availability, and precipitation patterns). Adaptive management recognizes that our knowledge about natural systems can be uncertain (e.g., climate variability, fire, or flooding), and future management needs to be flexible to adjust to meet the management objectives. When used appropriately, this flexibility better mimics natural processes and decreases the potential for undesired impacts on other resources. This adaptive management strategy is codified as policy in the Forest Service Handbook on Grazing Permit Administration and Rangeland Decision Making. When monitoring indicates that adjustments are needed, the adaptive management approach allows for changes to occur as long as they remain within the range analyzed in the NEPA analysis that authorized grazing for that allotment. Permits can be canceled by Rangers due to resource concerns (FSH 2209.13 Ch10 16.2, 36 CFR 224.4), but this is at the project-level and thus, outside of the scope of the forest plan revision process.

RNG072: There is both support for and opposition to livestock grazing on the Santa Fe National Forest. Supporters are concerned about maintaining grazing as a cultural tradition and economic driver, and for maintaining legal rights. Those in opposition voice concern that livestock grazing is incompatible with other forest uses (e.g., recreation), damages ecological resources, and harms wildlife. This group is of the opinion that grazing should be heavily reduced or eliminated on the forest.

Associated Comments: #197-37, #197-42, #197-67, #436-5, #436-6, #436-7, #498-13, #9836-8, #12028-3 (a), #12028-3 (b), #12028-9, #12030-8, #12495-1 (b), #12503-9, #12503-32, #12521-3, #12540-9, #12609-3, #12627-9, #12643-2, #12715-3, #12727-12, #12727-16, #12727-19, #12727-21, #12752-34 (e), #13262-4, #13286-1, #13416-11, #13416-5, #13416-12, #13416-20, #13416-21, #13416-23, #13416-24, #13416-26, #13416-27, #13416-4

Changes made to Plan or EIS: None

RNG072 Response: To discontinue grazing does not meet the purpose and need of the forest plan, nor does it meet Forest Service Regulation and Congressional mandates. The Forest Service operates under the Multiple Use Mandate which states, “The management of all the various renewable surface resources of the NFS should be managed so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531) (36 CFR 219.19).”

The Forest Service has supported controlled livestock grazing since the very early days of the agency. The earliest version of published policy of the Forest Service (USDA Forest Service 1905), stated:

“The Forest Service will allow the use of the forage crop of the reserves as fully as the proper care and protection of the forests and the water supply permits. In new forest reserves where the livestock industry is of special importance, full grazing privileges will be given at first, and if reduction in number is afterwards found necessary, stockmen will be given ample opportunity to adjust their business to the new conditions. Every effort will be made to assist the stock owners to a satisfactory distribution of stock on the range in order to secure greater harmony among

citizens, to reduce the waste of forage by tramping in unnecessary movement of stock, and to obtain a more permanent, judicious, and profitable use of the range. The leading objects of the grazing regulations are:

- 1. The protection and conservative use of all forest reserve land adapted for grazing.*
- 2. The best permanent good of the live-stock industry through proper care and improvement of the grazing lands.*
- 3. The protection of the settler and home builder against unfair competition in the use of the range."*

The forest plan supports grazing as a valid use of forest lands through multiple plan components in its Rural Historic Communities section and its Sustainable Rangelands and Livestock Grazing section. Example plan components include FW-RURALH-DC-1, FW-RURALH-DC-2, FW-RURALH-DC-3, FW-RURALH-G-4, FW-RANGE-DC-1, FW-RANGE-DC-2, FW-RANGE-DC-7, FW-RANGE-O-2, FW-RANGE-G-1, FW-RANGE-G-7. Plan components in other sections also provide direction to support sustainable grazing, such as FW-VEG-DC-3b, FW-MSG-DC-1c, FW-CPGB-DC-1c, FW-CPGB-DC-6, FW-WATER-DC-1e, FW-WATER-DC-2, FW-RWE-G-2, FW-TERRASH-O-1

However, it was never the intent of the Congress that all uses would occur on all areas. NEPA analyses (which are project level actions beyond the scope of the forest plan) are used to authorize grazing for specific allotments, and the rangelands management and livestock grazing program has multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing conditions (as codified in the Forest Service Handbook on Grazing Permit Administration and Rangeland Decision Making—FSH Ch 96.2—and R3 Guidance 92.23b). Stocking decisions regarding the amount of livestock grazing authorized for each grazing allotment are considered as part of project-level analysis (NEPA) and beyond the scope of the forest plan EIS. Project-level analysis would cover changes to authorized grazing through term grazing permits (subject to forest-wide standards and guidelines); allotment management plans; and annual operating instructions.

In addition to these project-level actions, the forest plan details numerous protections for recreation, ecological resources and wildlife in the face of potential grazing pressures. Example plan components include: FW-VEG-G-5, FW-RWE-G-2, FW-RWE-G-7, FW-TERRASH-S-1, FW-TERRASH-G-1, FW-TERRASH-G-2, FW-ATRISK-G-1, FW-SOIL-G-4, FW-RANGE-DC-4, FW-RANGE-DC-5, FW-RANGE-DC-6, FW-RANGE-DC-7, FW-RANGE-O-1, FW-RANGE-S-1, FW-RANGE-S-2, FW-RANGE-S-3, FW-RANGE-G-1, FW-RANGE-G-2, FW-RANGE-G3, FW-RANGE-G-4, FW-RANGE-G-5, FW-RANGE-G-8, FW-REC-DC-4,

RNG078: The Forest Service should consider the impacts of domestic livestock use on vegetation, water, and wildlife habitat, as well as competition and trade-offs between livestock and wildlife in terms of food and habitat (e.g., forage competition between cattle and elk, or cattle impact on rare or endangered species). Plan direction should be included to provide forage and residual cover for wildlife (especially following management activities or natural disturbances).

Associated Comments: #436-5, #436-6, #436-7, #498-13, #12503-9, #12503-32, #12528-92, #12698-97

Changes made to Plan or EIS: None

RNG078 Response: The potential impacts of past and present livestock grazing are described in chapter 3 of the environmental impact statement in the Watershed and Water Resources; Soil

Resources; Vegetation; Fire and Fuels; Wildlife, Fish, and Plants; Scenic Resources; and Sustainable Rangelands and Livestock Grazing sections. Since the plan does not include project and activity decisions, there are no direct impacts associated with livestock grazing to be identified. Analysis of site-specific impacts would be completed later during the National Environmental Policy Act (NEPA) process, after specific proposals are made and there is additional opportunity for public involvement.

The forest plan includes direction that will guide decisions on whether to authorize livestock grazing and, if so, under what conditions. For example, the Livestock Grazing section includes desired conditions, standards, and guidelines that will ensure that permitted livestock grazing is consistent with the desired conditions of other resources, including at-risk species, forage, and riparian health. See FW-RANGE-DC-4, FW-RANGE-S-1, FW-RANGE-G-1, FW-RANGE-G-2). When endangered species are present, the Forest Service is legally required to consult with the USFW (section 7 of the ESA) and follow their direction. In addition, RANGE-MA-10 asks managers to consider how ungulates have cumulative impacts on forest resources and FW-RANGE-MA-1 promotes collaboration with multiple stakeholders around range issues, and FW-TERRASH-MA-1 promotes collaboration with the New Mexico Department of Game and Fish to manage wildlife. The NMDGF manages wildlife populations and permits for hunting. The Forest Service manages habitat, and to this end, plan components like FW-VEG-DC-3a and DC-3b direct projects to manage for sustainable, diverse ecosystems that can support habitat and forage. Beyond this, there is no evidence of deer or elk decline, nor is habitat for these species in decline on the Forest.

RNG007/068: Competition, trade-offs, and impacts between livestock and wildlife in terms of habitat, food supply, and range infrastructure should be addressed in the Plan and EIS. The forest plan should specifically include grazing management direction that provides the greatest benefit to wildlife habitat and resources in both upland and riparian areas, such as the direction found in the BLM's NM Standards for Public Land Health and Guidelines for Livestock Grazing.

Associated Comments: #436-5, #436-6, #436-7, #498-13, #13416-33, #12720-6

Changes made to Plan or EIS: None

RNG007/068 Response: The Forest Service operates under the Multiple Use Mandate which states, “The management of all the various renewable surface resources of the NFS should be managed so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531) (36 CFR 219.19).”

The Santa Fe National Forest does not manage for wildlife, only livestock. The NMDGF manages wildlife populations and permits for hunting. Management approaches in the Terrestrial habitat section of the Proposed Action encourage collaboration with NMDGF for “the management and research of wildlife and their habitats” (FW-TERRASH-MA-1). In addition, there is no evidence of game species decline, nor is habitat for these species in decline on the Forest. At-risk species and their habitats are addressed through a number of fine and coarse-filter plan components in the FW-ATRISK section, including desired conditions for “intact, functioning, and sufficient habitat”

(FW-ATRISK-DC-2) and a guideline that authorized activities (e.g., permitted grazing) “should be designed and implemented to address threats to at-risk species and their habitats” (FW-ATRISK-G-1).

Furthermore, in the Plan there are standards and guidelines directing that livestock management should be compatible with the management of ecological resources, including at-risk species, forage, riparian health (FW-RANGE-S-1, G-2). In addition, we have RANGE-MA-10, which asks managers to consider how ungulates have cumulative impacts on forest resources. Vegetation direction aims to increase understory and forage resources on the Forest for both wildlife and livestock use, and all livestock management is directed to be compatible with ecological processes. In the Sustainable Rangelands and Livestock Grazing section of the Plan, there is also direction that addresses livestock management compatibility with wildlife management, including wildlife escape ramps for water features (FW-RANGE-S-3) and wildlife friendly fencing (FW-RANGE-O-1). However, the actions described are largely addressed at the project-level. For example, utilization is set at an allotment level NEPA, BMPs are called out at allotment level NEPA, exclosures are developed at allotment level NEPA.

RNG010: Language should be added to the Sustainable Rangelands and Livestock Grazing section addressing the "valid existing rights" of native minority ranchers, as recognized by the Treaty of Guadalupe Hidalgo, the US Kearney Code, the NM Constitution, and the courts (1933 USDA Technical Bulletin 301 with Contents 115211). The failure to address these rights puts the Forest in non-compliance with Federal Laws, 36 CFR Regulations, State Laws/Constitution, and Treaties.

Associated Comments: #496-4, #496-6

Changes made to Plan or EIS: None

RNG010 Response: The Forest Service does not have the authority to grant rights to people on or off the forest and forest plan revision is not meant to enforce specific rights, only to dictate how Forest Service staff perform their duties in terms of ecosystem and cultural resource management. Grazing on the forest is determined by FSH 2209.13 Ch 10 11.1 (Term Grazing Permit as Privilege, Not Right) and FSM 2240. Past court actions have affirmed:

- that the Secretary of Agriculture has the authority to regulate the use and occupancy of National Forests (*United States v. Grimaud*, Supreme Court of the United States, 1911);
- that an individuals’ right to graze on National Forest system lands only exists under the regulations issued by the Secretary of Agriculture, that these regulations have the force of law, and that grazing can be relinquished but cannot be transferred to another party by contract of sale (*Bell v. Apache Maid Cattle Co et. al.*, Circuit Court of Appeals, Ninth Circuit, 1938); and
- that the privilege of grazing on National Forest system lands under a permit cannot be a property right (*Osborne et al. v. United States*, Circuit Court of Appeals, Ninth Circuit, 1944).

Land rights conveyed by the Treaty of Guadalupe Hidalgo are beyond the scope of forest plan revision and are not within the authority of the Forest Service to adjudicate. Community lands were set aside for grazing and other communal uses as part of land grants issued by Spain and Mexico. These community lands became Federal public lands when ownership passed from the Mexican government to the United States at the time the Treaty of Guadalupe Hidalgo was signed in 1848. Under the Treaty, the United States agreed to recognize and protect the existing property rights of Mexican citizens. With regard to the concern by some grantees and heirs that the confirmation process did not address community land grant claims in a fair and equitable manner,

the General Accounting Office has concluded, “there does not appear to be a specific legal basis for relief, because the Treaty was implemented in compliance with all applicable U.S. legal requirements” (2004, p. 12).

RNG013/023/033/042/052: There should be stronger protections for bighorn sheep in the Plan with regards to potential disease transmission between domestic sheep and bighorn sheep, along with language stating the Forest Service will work with the NMDG on identifying areas of the forest occupied by bighorn sheep.

Associated Comments: #498-14, #12528-90, #12665-72, #12698-95, #12727-17, #12752-34 (g)

Changes made to Plan or EIS: Plan

RNG013/023/033/042/052 Response: The forest plan has been adjusted to address this concern. Language about bighorn sheep and collaboration with NMDGF on bighorn sheep placement and management has been added to FW-TERRASH-MA-1. While this language will help clarify how we plan to work toward collaborative management of bighorn sheep herds on the Santa Fe NF, NMDGF manages bighorn sheep introductions and the herds on public lands in New Mexico. There are no domestic sheep allotments on the forest from which the current bighorn sheep herds need protection. Additionally, Forest Service regulation allows permits to be cancelled for resource management purposes (36 CFR 222.4). In this event, permittees are notified.

RNG008: There are concerns that the term “sustainability” is not used appropriately in the Sustainable Rangelands and Livestock Grazing section. Some commenters expressed concern that the proposed design of the Livestock Grazing Program fails to provide either the language or the framework needed to sustain the social and economic contributions of grazing to rural historic communities living within and near the planning area. Others expressed a divergent concern that livestock grazing is inherently unsustainable, and thus the term should be removed from the section.

Associated Comments: #496-2

Changes made to Plan or EIS: None

RNG008 Response: The Santa Fe NF maintains that grazing is one of the multiple uses it supports, in keeping with the Multiple-Use Sustained-Yield Act of 1960 (MUSY): “*It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes*” (16 U.S. Code § 528). The Assessment, Draft Plan, and DEIS all acknowledge the importance of grazing as one of many uses on the Santa Fe NF. The Assessment describes the long history of grazing communities in the area and the DEIS analyzes management impacts of grazing and on grazing to establish Draft Plan components that support socially, economically, and ecologically sustainable grazing within the Forest’s boundaries.

As part of the agency’s mission, the Santa Fe NF authorizes grazing by domestic livestock under a permit system, administering this use to be compatible with other multiple-use objectives and to provide desired benefits to communities (USDA Forest Service 2016b). A key part of fulfilling this mission and providing community benefits is planning for sustainable rangeland management and livestock grazing. “Sustainable” as it is used throughout the Draft Plan and Draft Environmental Impacts Statement (DEIS) is defined as follows:

The capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For the purposes of the land management planning regulation at 36 CFR part 219 and this Handbook “ecological

sustainability” refers to the capability of ecosystems to maintain ecological integrity; “economic sustainability” refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and “social sustainability” refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities (36 CFR 219.19).

This definition applies to the concept of "sustainable grazing," which is used to describe the livestock grazing section of the Draft Plan; plan components were crafted with this definition in mind. In other words, the Draft Plan addresses grazing through the lens of long-term viability rather than short-term gain. It seeks to ensure that current grazing on the forest does not impact the ability of future generations to continue to practice grazing traditions important to social, cultural, and economic livelihoods.

These aims are in line with those expressed by ranchers interviewed by McSweeney and Raish (2012), who spoke of how making sure that cattle are not overgrazing the land and ensuring it is healthy is a key responsibility they feel—“The land must be cared for to have grass next year” (McSweeney and Raish 2012). Similar to the grazing strategies expressed by ranchers in the aforementioned report, such as moving cattle to allow for vegetation to recover, livestock management on the Santa Fe NF has used an adaptive management strategy that allows stocking levels and timing to change in response to variability in forage production, surface water availability, and rain patterns. The flexibility of adaptive management better mimics natural processes and decreases the potential for undesired impacts on the land, such as overgrazed allotments or degraded water sources. This adaptive management strategy is codified as policy in the Forest Service Handbook on Grazing Permit Administration, Rangeland Management Decision making (USDA Forest Service 2013). (USDA Forest Service 2016b)

The Draft Plan addresses sustainable grazing through its vegetation and riparian management plan components, plan components in its Rural Historic Communities section, and through plan components in its Sustainable Rangelands and Livestock Grazing section. Vegetation and riparian plan components aim to support healthy Forest ecosystems, which currently includes supporting livestock and other human-centered uses (e.g., clean, healthy waterways; recreation; healthy wildlife populations for hunting and fishing). Vegetation plan components encourage a return to more natural fire systems, which over time will reduce the risk of catastrophic fires and promote increases in understory plants such as nutrient-rich native grasses. Riparian plan components are similarly aimed at supporting water systems on the Forest that will remain viable and productive. These ecologically-based plan components promote ecological sustainability—they ensure the land is healthy enough to support cultural, economic, and social uses of the Forest for many generations. Improved grass cover and water resources will benefit livestock grazing and the communities that rely on it by ensuring long-term availability of forage resources.

However, the conditions on the Forest that support human uses can only improve if there are limits on use. No system can sustain continuous, increasing use (e.g., continuous increase in cattle grazing on a limited amount of Forest land); long-term overuse with no adaptation to ecological change (e.g., drought, fire, increased heat) is ecologically unsustainable. It will ultimately cause the collapse of the ecological system, taking the social and economic systems with it. This is true for livestock grazing on the Santa Fe NF. Unlimited amounts of cattle will not allow for the land to recover and maintain current levels of grazing. Rather, forage availability will decline, leading to declines in the amount of healthy cattle the Forest can support, and, if grazing continues regardless, would result in negative social, economic, and cultural impacts to grazing communities as allotments became unusable over time. Ecologically unsustainable practices result in an unsustainable socioeconomic landscape. There is historic evidence of what

unsustainable grazing practices can do to the land. One of the earliest changes to the Southwestern landscape was the reduction of grass cover as a result of the introduction of large numbers of domestic livestock during the early 1800s (Raish and McSweeney 2008). Grazing reduced native plant cover and facilitated the colonization of invasives, altering species composition, and reduced vegetation cover (USDA Forest Service 2016a). Lack of vegetative cover contributes to reduced ability to carry natural and prescribed fire; reduced water infiltration; accelerated erosion and declining soil productivity, especially during periods of drought; and contributes to a cycle that continues to reduce vegetative cover; declining grass cover on the Forest leads to less forage availability for cattle over time, reducing the numbers of animals that can be maintained in good health. Invasive species are also not as palatable or nutritious as native grass species, further reducing the landscape's ability to support livestock. Similar cycles can be seen in riparian ecosystems, which can contain highly nutritious forage and access to water, but are also vulnerable to being irreparably damaged in the face of unchecked use. Current vegetation analyses show that the grassland types commonly used for livestock grazing are losing productivity due to declines in herbaceous ground cover, invasive species, and drought (USDA Forest Service 2019b), highlighting the need for adaptive management strategies in grazed areas.

In keeping with the social and economic sides of sustainability, the Forest is focused on maintaining current levels of livestock grazing in the forest while improving the rangeland conditions that support grazing. Throughout the forest, the number of grazing permits, grazing allotments, and maximum permitted forage consumption (in AUMs) has remained relatively stable over time. The exception to this stability comes from the near record-breaking droughts experienced from 2002 to 2012. In 2002, precipitation was 54% below the 30-year average. Then, from 2003 to 2012 precipitation was 11% below normal based on the 30-year average for the precipitation year. During the 2002 drought, the Santa Fe NF implemented significant reductions in authorized use requiring permittees to remove livestock from allotments on the Forest. Throughout the drought period, authorized livestock use averaged about 77 percent of past permitted use (USDA Forest Service 2014; USDA NRCS). As drought conditions change, adaptive management techniques can allow for incremental restocking while allowing vegetation to recover. This allows Forest Service staff to work with permittees to improve mutual understanding of how best to manage allotments under drought conditions, avoiding long-term damage to forage resources.

Plan components in the Rural Historic Communities section ensure that traditionally used products (e.g., fuelwood, latillas, vigas, pinon, osha, and clay) are available to communities in balance with other resource management objectives. Impacts to culturally important places are also mitigated, and acequia access is ensured. Coordination to include local perspectives, needs, concerns, and traditional knowledge is supported by plan components. These components, in conjunction with the ecological plan direction described above, all work to sustain the cultures of traditional rural and grazing communities.

RNG027: The narrative in the Sustainable Rangelands and Livestock Grazing section of the Plan should match the Carson NF's. Rather than stating that, "On the Santa Fe NF, most of the land is grazed by domestic animals," the narrative should acknowledge that both livestock and wildlife consume forage by using the word "ungulates" rather than "domestic animals."

Associated Comments: #12640-9

Changes made to Plan or EIS: Plan

RNG027 Response: This change was implemented in the final Plan.

Sustainability of Rangelands and Livestock Grazing

RNG008: There are concerns that the term “sustainability” is not used appropriately in the Sustainable Rangelands and Livestock Grazing section. Some commenters expressed concern that the proposed design of the Livestock Grazing Program fails to provide either the language or the framework needed to sustain the social and economic contributions of grazing to rural historic communities living within and near the planning area. Others expressed a divergent concern that livestock grazing is inherently unsustainable, and thus the term should be removed from the section.

Associated Comments: #496-2

Changes made to Plan or EIS: None

RNG008 Response: The Santa Fe NF maintains that grazing is one of the multiple uses it supports, in keeping with the Multiple-Use Sustained-Yield Act of 1960 (MUSY): “*It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes*” (16 U.S. Code § 528). The Assessment, Draft Plan, and DEIS all acknowledge the importance of grazing as one of many uses on the Santa Fe NF. The Assessment describes the long history of grazing communities in the area and the DEIS analyzes management impacts of grazing and on grazing to establish Draft Plan components that support socially, economically, and ecologically sustainable grazing within the Forest’s boundaries.

As part of the agency’s mission, the Santa Fe NF authorizes grazing by domestic livestock under a permit system, administering this use to be compatible with other multiple-use objectives and to provide desired benefits to communities (USDA Forest Service, 2016b). A key part of fulfilling this mission and providing community benefits is planning for sustainable rangeland management and livestock grazing. “Sustainable” as it is used throughout the Draft Plan and Draft Environmental Impacts Statement (DEIS) is defined as follows:

The capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For the purposes of the land management planning regulation at 36 CFR part 219 and this Handbook “ecological sustainability” refers to the capability of ecosystems to maintain ecological integrity; “economic sustainability” refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and “social sustainability” refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities (36 CFR 219.19).

This definition applies to the concept of “sustainable grazing,” which is used to describe the livestock grazing section of the Draft Plan; plan components were crafted with this definition in mind. In other words, the Draft Plan addresses grazing through the lens of long-term viability rather than short-term gain. It seeks to ensure that current grazing on the forest does not impact the ability of future generations to continue to practice grazing traditions important to social, cultural, and economic livelihoods.

These aims are in line with those expressed by ranchers interviewed by McSweeney and Raish (2012), who spoke of how making sure that cattle are not overgrazing the land and ensuring it is healthy is a key responsibility they feel—“The land must be cared for to have grass next year” (McSweeney and Raish 2012). Similar to the grazing strategies expressed by ranchers in the aforementioned report, such as moving cattle to allow for vegetation to recover, livestock management on the Santa Fe NF has used an adaptive management strategy that allows stocking

levels and timing to change in response to variability in forage production, surface water availability, and rain patterns. The flexibility of adaptive management better mimics natural processes and decreases the potential for undesired impacts on the land, such as overgrazed allotments or degraded water sources. This adaptive management strategy is codified as policy in the Forest Service Handbook on Grazing Permit Administration, Rangeland Management Decision making (USDA Forest Service 2013). (USDA Forest Service 2016b)

The Draft Plan addresses sustainable grazing through its vegetation and riparian management plan components, plan components in its Rural Historic Communities section, and through plan components in its Sustainable Rangelands and Livestock Grazing section. Vegetation and riparian plan components aim to support healthy Forest ecosystems, which currently includes supporting livestock and other human-centered uses (e.g., clean, healthy waterways; recreation; healthy wildlife populations for hunting and fishing). Vegetation plan components encourage a return to more natural fire systems, which over time will reduce the risk of catastrophic fires and promote increases in understory plants such as nutrient-rich native grasses. Riparian plan components are similarly aimed at supporting water systems on the Forest that will remain viable and productive. These ecologically based plan components promote ecological sustainability—they ensure the land is healthy enough to support cultural, economic, and social uses of the Forest for many generations. Improved grass cover and water resources will benefit livestock grazing and the communities that rely on it by ensuring long-term availability of forage resources.

However, the conditions on the Forest that support human uses can only improve if there are limits on use. No system can sustain continuous, increasing use (e.g., continuous increase in cattle grazing on a limited amount of Forest land); long-term overuse with no adaptation to ecological change (e.g., drought, fire, increased heat) is ecologically unsustainable. It will ultimately cause the collapse of the ecological system, taking the social and economic systems with it. This is true for livestock grazing on the Santa Fe NF. Unlimited amounts of cattle will not allow for the land to recover and maintain current levels of grazing. Rather, forage availability will decline, leading to declines in the amount of healthy cattle the Forest can support, and, if grazing continues regardless, would result in negative social, economic, and cultural impacts to grazing communities as allotments became unusable over time. Ecologically unsustainable practices result in an unsustainable socioeconomic landscape. There is historic evidence of what unsustainable grazing practices can do to the land. One of the earliest changes to the Southwestern landscape was the reduction of grass cover as a result of the introduction of large numbers of domestic livestock during the early 1800s (Raish and McSweeney 2008). Grazing reduced native plant cover and facilitated the colonization of invasives, altering species composition, and reduced vegetation cover (USDA Forest Service 2016a). Lack of vegetative cover contributes to reduced ability to carry natural and prescribed fire; reduced water infiltration; accelerated erosion and declining soil productivity, especially during periods of drought; and contributes to a cycle that continues to reduce vegetative cover; declining grass cover on the Forest leads to less forage availability for cattle over time, reducing the numbers of animals that can be maintained in good health. Invasive species are also not as palatable or nutritious as native grass species, further reducing the landscape's ability to support livestock. Similar cycles can be seen in riparian ecosystems, which can contain highly nutritious forage and access to water, but are also vulnerable to being irreparably damaged in the face of unchecked use. Current vegetation analyses show that the grassland types commonly used for livestock grazing are losing productivity due to declines in herbaceous ground cover, invasive species, and drought (USDA Forest Service 2019b), highlighting the need for adaptive management strategies in grazed areas.

In keeping with the social and economic sides of sustainability, the Forest is focused on maintaining current levels of livestock grazing in the forest while improving the rangeland

conditions that support grazing. Throughout the forest, the number of grazing permits, grazing allotments, and maximum permitted forage consumption (in AUMs) has remained relatively stable over time. The exception to this stability comes from the near record-breaking droughts experienced from 2002 to 2012. In 2002, precipitation was 54% below the 30-year average. Then, from 2003 to 2012 precipitation was 11 percent below normal based on the 30-year average for the precipitation year. During the 2002 drought, the Santa Fe NF implemented significant reductions in authorized use requiring permittees to remove livestock from allotments on the Forest. Throughout the drought period, authorized livestock use averaged about 77 percent of past permitted use (USDA Forest Service 2014; USDA NRCS). As drought conditions change, adaptive management techniques can allow for incremental restocking while allowing vegetation to recover. This allows Forest Service staff to work with permittees to improve mutual understanding of how best to manage allotments under drought conditions, avoiding long-term damage to forage resources.

Plan components in the Rural Historic Communities section ensure that traditionally used products (e.g., fuelwood, latillas, vigas, pinon, osha, and clay) are available to communities in balance with other resource management objectives. Impacts to culturally important place are also mitigated, and acequia access is ensured. Coordination to include local perspectives, needs, concerns, and traditional knowledge is supported by plan components. These components, in conjunction with the ecological plan direction described above, all work to sustain the cultures of traditional rural and grazing communities.

RNG035: To achieve a sustainable rangeland and grazing program as mandated by the Public Rangelands Improvement Act, the Forest should utilize three strategies: (1) increase the cost of permits to reflect the market rate, (2) enhance and expand rangeland health monitoring to be able to quickly respond to deteriorating conditions, and (3) increase enforcement mechanisms to address violations of Annual Operating Instructions.

Associated Comments: #12681-9

Changes made to Plan or EIS: None

RNG035 Response: Federal grazing fees are congressionally mandated in PRIA and their determination is therefore outside the scope of the Plan. The monitoring section of the Plan describes how we will monitor sustainable livestock grazing in terms of achieving desired conditions. Beyond this, range monitoring work is ongoing outside of the forest planning process, and is outside the scope of the plan. Enforcement of AOIs is also outside the scope of the planning process. The authority is delegated to district rangers by the Forest Supervisor (FSH 2200) and policy directs how and when violations are dealt with. There are rangeland monitoring methods that are implemented as part of the range program, directed under FSH Range Guidance. Adaptive management is also embedded in the range program.

RNG037: The grazing section of the Plan and EIS should be revisited to acknowledge that livestock grazing on the Forest is not economically or environmentally sustainable based on the definition, "maintained at a steady level without depleting or exhausting natural or economic resources," and to address long-lasting negative environmental impacts due to grazing on the forest and the need to plan for the recovery of native predators and their habitat. As written, the section fails to apply BASI requirements (36 CFR § 219.3) to justify the "sustainability" of livestock grazing, with a lack of scientific citations for statements of livestock benefits and "ecosystem services." In terms of ecosystem services, claims that "[l]ivestock grazing today plays an essential role in providing ecosystem services," must be corrected to read, "livestock grazing permittees utilize the ecosystem services of the Santa Fe National Forest at a

greatly reduced cost compared to those same services found on privately owned and managed lands." It also fails to use BASI to identify lands suitable or unsuitable for livestock grazing (36 CFR § 219.7(e)(1)(v)).

Associated Comments: #12727-12

Changes made to Plan or EIS: None

RNG037 Response: The Plan defines Ecosystem Services in the glossary, using the definition found in 36 CFR 219.19. This definition includes cultural ecosystem services, "the nonmaterial benefits people obtain from ecosystems such as educational, aesthetic, spiritual, and cultural heritage values, recreational experiences, and tourism opportunities;" and provisioning services, "product people obtain from ecosystem, such as clean air and fresh water, energy, food, fuel, forage, wood products or fiber, and minerals." As implied by this definition, ecosystem services can be multi-leveled (e.g., cultural services and provisioning services are available due to supporting and regulating services). Additionally, many ecosystems involved with grazing and require it to maintain ecological health—if livestock grazing can be done within that balance, it can be ecologically sustainable. Plan direction on balancing livestock grazing with ecological health supports sustainable grazing that contributes to both ecosystem health and cultural and provisioning ecosystem services.

Identifying lands that are suitable or unsuitable for grazing is not required under the 2012 Planning Rule. This work is done during allotment level/scale NEPA.

Law, Regulation, and Policy

RNG009: The Draft Plan fails to address NEPA requirements with regard to the Livestock Grazing Program (P.L. 91-190. See specifically: Title 1, Sec.101, (b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may - (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice: (5) achieve a balance between population and resource use, which will permit high standards of living and a wide sharing of life's amenities.

Associated Comments: #496-3

Changes made to Plan or EIS: None

RNG009 Response: We believe that our analysis does meet NEPA regulations. Our Rural Historic Communities section has direction that protects the rights of traditional communities.

See also: Response to RNG008 for more on how we address the overall sustainability of the livestock grazing program.

RNG010: Language should be added to the Sustainable Rangelands and Livestock Grazing section addressing the "valid existing rights" of native minority ranchers, as recognized by the Treaty of Guadalupe Hidalgo, the US Kearney Code, the NM Constitution, and the courts (1933 USDA Technical Bulletin 301 with Contents 115211). The failure to address these rights puts the Forest in non-compliance with Federal Laws, 36 CFR Regulations, State Laws/Constitution, and Treaties.

Associated Comments: #496-4, #496-6

Changes made to Plan or EIS: None

RNG010 Response: The Forest Service does not have the authority to grant rights to people on or off the forest and forest plan revision is not meant to enforce specific rights, only to dictate how Forest Service staff perform their duties in terms of ecosystem and cultural resource management. Grazing on the forest is determined by FSH 2209.13 Ch 10 11.1 (Term Grazing Permit as Privilege, Not Right) and FSM 2240. Past court actions have affirmed:

- that the Secretary of Agriculture has the authority to regulate the use and occupancy of National Forests (*United States v. Grimaud*, Supreme Court of the United States 1911);
- that an individuals' right to graze on National Forest system lands only exists under the regulations issued by the Secretary of Agriculture, that these regulations have the force of law, and that grazing can be relinquished but cannot be transferred to another party by contract of sale (*Bell v. Apache Maid Cattle Co et. al.*, Circuit Court of Appeals, Ninth Circuit 1938); and
- that the privilege of grazing on National Forest system lands under a permit cannot be a property right (*Osborne et al. v. United States*, Circuit Court of Appeals, Ninth Circuit, 1944).

Land rights conveyed by the Treaty of Guadalupe Hidalgo are beyond the scope of forest plan revision and are not within the authority of the Forest Service to adjudicate. Community lands were set aside for grazing and other communal uses as part of land grants issued by Spain and Mexico. These community lands became Federal public lands when ownership passed from the Mexican government to the United States at the time the Treaty of Guadalupe Hidalgo was signed in 1848. Under the Treaty, the United States agreed to recognize and protect the existing property rights of Mexican citizens. With regard to the concern by some grantees and heirs that the confirmation process did not address community land grant claims in a fair and equitable manner, the General Accounting Office has concluded, "there does not appear to be a specific legal basis for relief, because the Treaty was implemented in compliance with all applicable U.S. legal requirements" (2004, p. 12).

RNG011: The Forest should address civil rights violations against minority stakeholder groups identified in the "USDA Forest Service Compliance Review Report Civil Rights Program Review of the Carson National Forest, Conducted by the Office of Compliance, Policy, Training and Cultural Transformation Report Date: June 2013," including failure to educate about civil rights program responsibilities, failure to provide technical assistance, failure to collect demographic information to determine the extent of minority groups' benefitting from Federal programs, and termination or suspension of grazing permits.

Associated Comments: #496-7

Changes made to Plan or EIS: None

RNG011 Response: In regards to whether grazing and rangeland management decisions have impacted civil rights of the ranching community, there is no evidence that historic reductions of permitted cattle, sheep numbers, altered dates, nor that grazing permit cancellations have not complied with civil rights laws and requirements. In fact, our data shows that permitted numbers have been slowly increasing on the forest (see project record). As described above under "Allotment or Permit Management," ranchers have not been targeted with reductions in permits or AUMs.

In regards to Civil Rights and Environmental Justice compliance laws, regulations, and policies, the Plan is based on law and policy, including Civil Rights and Environmental Justice law. Civil rights and environmental justice were also a part of the analysis that has gone on throughout the planning process. The Assessment describes the socioeconomic makeup of the six counties that

contain the Santa Fe National Forest, and how the Forest and its management interacts with social and economic forces in those counties, including with minority groups. The EIS identifies and analyzes potential socioeconomic and environmental justice impacts for all four alternatives. This analysis can be found in the Socioeconomic section of the EIS and addresses impacts to minority groups and traditional cultural, social, and economic wellbeing. Finally, the Draft Plan directly addresses the needs and wellbeing of Forest-dependent communities through several sections: the Northern New Mexico Traditional Communities section, the Partnership section, the Sustainable Rangelands and Livestock Grazing section, and the Forest Products section. Indirectly, plan components throughout the Draft Plan are designed to provide for ecological, social, and economic sustainability to the Santa Fe NF and its beneficiaries, as directed by the 2012 Planning Rule.

The specific USDA Civil Rights report referenced is one that was never published. However, the Forest Service did respond to the concerns it generated. In September 2015, the Office of the Assistant Secretary for Civil Rights, Compliance Division and the Office of Compliance, Policy, Training, and Cultural Transformation (OCPTCT) found that the Forest Service in Region 3 has "effectively documented compliance in equal opportunity delivery and grazing program and community accomplishments that address actions identified in the September 2013 report." These findings were shared with the NNMSA in a letter from the Director of the Office of Civil Rights to the NNMSA dated September 20, 2017. As stated in the letter, "the two program Discrimination Complaint cases that prompted the review were investigated, adjudicated and closed by [the Office of the Assistant Secretary for Civil Rights (OASCR)] with no finding of discrimination or retaliation." The letter goes on to say, "to ensure that USDA policy and procedures are consistently followed, OASCR noted areas of improvement that focused on improved civil rights training and assistance to the staff, public outreach, and accommodations. The Southwestern Region complied and implemented the recommendations, and OASCR closed the review."

RNG077: The Plan and EIS fail to use the Best Available Scientific Information (BASI) to comply with NEPA and NFMA through:

- Determining the sustainability of livestock grazing on the forest,
- Mitigating potential impacts to ecological resources, particularly riparian areas,
- Re-assessing allotment level NEPA sufficiency analyses before issuing grazing permits, or
- Monitoring grazing impacts on other resources

Associated Comments: #12727-12, #12727-13, #12727-14

Changes made to Plan or EIS: None

Response: On most allotments, NEPA analysis has already been completed, and revision does not have a specified time frame in which it needs to be completed. Furthermore, the Rescissions Act of 1995, Public Law 104-19 Section 504a, allows permits to be reissued when NEPA is insufficient. However, range allotment NEPA is not within the scope of the forest planning process and has little relation to it in terms of management processes.

BASI was used throughout the Plan, including in the Sustainable Rangelands and Livestock Grazing section. Grazing can be compatible in multiple ecosystems, including riparian areas, when managed properly. For example, since the 2015 listing of the New Mexico Meadow Jumping Mouse (NMMJM) and more robust efforts to manage the riparian areas, the grazed critical habitat for the Cebolla San Antonio, San Diego, and San Miguel allotments on the Santa

Fe NF have largely met the habitat needs of the mouse as listed (Primary Constituent Elements-PCEs). These needs include 24" stubble height, running water, and sedge presence. The NMMJM has also been found to use these areas (Chambers and Horncastle 2017, Chambers 2019).

Additionally, evidence from scientific literature shows that:

Data from excluding grazing in local streams may not be the answer in restoring the geomorphology of altered streams.

- Van Horn et.al. 2012 found that "Stream geomorphology was not significantly altered by 5 yr of grazing exclusion" on six grazing exclosure sites on the Valles Caldera National Preserve.

There are also other ways to manage for cattle grazing in riparian zones other than fenced exclosure, such as the following methods:

- In a paper looking at 37 studies of offstream watering points (SWP), Malan et.al. (2018) found that while there was variability among the studies, and the placement of OSWP, in areas with low slopes, OSWPs may reduce the time cattle spend in the riparian zone.
- The timing of riparian grazing is important for good management. Grazing early in the season, for a short duration when adjacent uplands are more attractive to cattle can be one way to avoid concentration of cattle in the riparian (McInnis 2009, Parsons et.al. 2003, Lucas et. al. 2004, Perry 2005).
- A study of grazing systems in Colorado on trout biomass found that intensive rotational grazing (35-45 days) showed no difference from rotational (10-20 days) grazing, and "sites managed for rotational grazing were similar to sites managed for wildlife grazing only" (Saunders, W Fausch 2012).
- "Moving cattle to uplands at midday using low-stress herding is an effective tool to reduce use of riparian areas. Herding cattle to low-moisture blocks can increase grazing of nearby upland forage but may not provide additional reduction in cattle use of riparian areas compared with herding alone (Bailey et. al. 2008)."

In summary, grazing can be sustainably managed to be compatible with healthy ecosystems, as shown by our work in NMMJM habitat, and the relatively recent peer reviewed literature.

Plan Components

RNG024: FW-RANGE-MA-10 should be amended to provide the FS with a more proactive role to open dialogues between permittees and the NMDGF to address concerns related to overstocking and wildlife. The modified MA should read: "Facilitate dialogue between the New Mexico Department of Game and Fish personnel and permit holders about ungulates (elk, deer, and livestock) and the cumulative impacts on national forest resources."

Associated Comments: #12528-92, #12698-97

Changes made to Plan or EIS: Plan

RNG024 Response: The Plan contains several management approaches in its Range section that promote collaboration between the Forest Service, stakeholders (e.g., permittees), and other government agencies. FW-RANGE-MA-2 has been modified to include the NMDGF. Similar management approaches in the Wildlife, Fish, and Plants section of the forest plan promote collaboration with NMDGF to manage wildlife.

RNG012: Collaboration and cooperation with permit holders (FW-RANGE-MA-1) should be a Desired Condition under the Sustainable Rangelands and Livestock Grazing section, rather than a Management Approach.

Associated Comments: #498-12

Changes made to Plan or EIS: None

RNG012 Response: Throughout the forest plan, direction to collaborate, cooperate, or partner is found under the Management Approaches category. This is the appropriate classification for this direction as the Forest does not have control over whether or not individuals or organizations partner with us and thus, this direction cannot be required beyond what is already required by law (e.g., government-to-government consultation processes required for working with federally recognized tribes, required consultation with other state or federal agencies, etc.).

RNG057: Collaboration and partnerships pertaining to rangeland management should include all interested parties, such as conservation groups and non-profit groups, not just permittees. There should be no bias toward one user group over another in terms of collaboration, such as is shown in FW-RANGE-MA-5 and FW-RANGE-MA-7. To reduce bias, the final Plan should include two additional management approaches: "Acknowledge the ecological damage wrought by livestock grazing in northern New Mexico and consider providing Forest Service employees education on this important source of Forest degradation," and "Consider inviting members of the public, the press, and environmental advocates on range inspections."

Associated Comments: #12727-22, #12752-34 (b), #13416-9, #13416-10

Changes made to Plan or EIS: None

Response: Plan components throughout the Sustainable Rangelands and Livestock Grazing section are meant to mitigate potential ecological damage, acknowledging that ecological damage by livestock is possible. We do not believe this needs to be called out in an additional MA. Furthermore, RANGE-MA-1 asks managers to consider collaboration "among stakeholders, including local communities; and RANGE-MA-4 asks managers to consider "collaboration among stakeholders...and non-governmental entities" in the context of modifications in livestock grazing. These management approaches encourage knowledge sharing and partnership amongst multiple interested parties around rangeland management.

While management approaches encourage collaboration amongst diverse entities, legally, the Forest Service is only required to collaborate with permittees on allotment management (see FSH 2209.13, Chapter 90). Although this policy does not require cooperation with other interested parties, neither does it require exclusion of them.

RNG047: Management approaches in the Sustainable Rangeland and Grazing section should include Annual Operating Instructions (AOIs) for permittees to reduce the impacts of livestock grazing on Mexican gray wolves. Management approaches added to address AOIs should include BMPs for protecting livestock and grazing practices in areas where predators are present; details of what laws, policies, regulations, BMPs, responsibilities (permittee and Agency), and predator-livestock conflict reduction measures permittees in predator territory should be aware of; and drought management planning approaches that take into account competition between wildlife and livestock for resources.

Associated Comments: #12727-29 (a) – (d)

Changes made to Plan or EIS: None

RNG047 Response: There are currently no Mexican grey wolves on or near the Santa Fe NF, however the Sustainable Rangelands and Livestock Grazing section of the plan directs the Forest to manage livestock to be compatible with ecological resources, which would include the Mexican grey wolf if it ever appeared on the forest (FW-RANGE-S-1 and DC-4). In addition, AOIs are developed with permittees on a project-level basis, and monitoring of allotments ensures we are able to do adaptive management to respond to changing ecological conditions like new species.

RNG018: FW-RANGE-DC-2 should be modified to add "and cultural identity" to the sentence, to highlight that grazing is an important cultural tradition for many communities in and around the SFNF. The new DC should read, "Livestock grazing contributes to the social and economic sustainability and cultural identity of local communities."

Associated Comments: #12528-84, #12698-89

Changes made to Plan or EIS: None

RNG018 Response: We believe the narrative of the section conveys the cultural importance of grazing on the SFNF. In addition, the Northern New Mexico Traditional Communities section includes grazing as one of a number of traditional cultural practices on the Santa Fe NF.

RNG076: The Sustainable Rangelands and Livestock Grazing section should focus on rangelands and livestock grazing and should not have plan components commenting on other resources or that are influenced by the desired conditions of other resources; these, like FW-RANGE-DC-4 and DC-6, should be removed.

Associated Comments: #12528-86, #12698-91, #12640-10

Changes made to Plan or EIS: None

RNG076 Response: The Forest manages for multiple resources in an interdisciplinary manner, therefore resources impacted by range or that range management impacts are dealt with in the range section as well as in their own sections. Furthermore, just because a plan component is in one resource section does not mean it is not relevant or that its direction must not be followed by projects dealing with other resources.

RNG022: In the Sustainable Rangelands and Livestock Grazing section of the Plan, Standard 1 should be modified to provide a mechanism by which ecological concerns can be monitored. The modified Standard should read: "Livestock management shall be compatible with capacity and address ecological concerns (such as forage, invasive plants, at-risk species, soils, riparian health, and water quality) that are departed from desired conditions, as determined by temporally and spatially appropriate data." This data should be guided by BASI and current guidance (e.g., most current Grazing Permit Administration Handbook and Regional Supplements), and by partners. It should be available to the public. To support the fulfillment of the monitoring and data gathering, a Desired Condition should also be added to the section that reads: "Routine rangeland monitoring creates temporarily and spatially appropriate data and livestock grazing decisions incorporate best available science."

Associated Comments: #12528-89, #12698-94, #12752-34 (a), #12752-34 (f)

Changes made to Plan or EIS: None

RNG022 Response: This comment has already been addressed in the Plan with FW-RANGE-S-1: "Livestock management shall be compatible with capacity and address ecological concerns

(such as forage, invasive plants, at-risk species, soils, riparian health, and water quality) that are departed from desired conditions, as determined by temporally and spatially appropriate data.”

RNG029: The final Plan should move management approaches #1, #2, #3, and #5 to objectives or standards, as these were suggested by partners and need to have more weight in terms of directing forest management. Both management approach #11 and #12 should be removed, as #11 leaves the impression that range improvements restrict access to the forest and #12 is considered a management practice that is best identified at the project specific level.

Associated Comments: #12640-11

Changes made to Plan or EIS: None

RNG029 Response: FW-RANGE-MA-12 is a management approach because while it is a project-level action, there were strong feelings by resource specialists and on-the-ground managers that it was important to highlight it as an action that should be taken into consideration during project planning. FW-RANGE-MA-1, MA-2, MA-3, and MA-5 are about collaboration. Direction on collaboration is included only as management approaches throughout the Plan because, while the Forest can outreach to partners and considers this an essential part of our management (see the Partnership section of the Plan), we cannot require anyone to collaborate or partner with us. Thus, this type of direction is not appropriate for a standard or objective, as these types of plan components are direction from which project managers cannot deviate.

RNG034: FW-RANGE-MA-12 in the Sustainable Rangelands and Livestock Grazing section should be converted to a Guideline, and modified to read: "In wetland or riparian areas that are functional-at-risk or non-functional, avoid livestock grazing in the same area during the same vegetative growth and reproduction periods (e.g., leafing, flowering, or seeding) in consecutive years to ensure that riparian pastures have vegetative recovery".

Associated Comments: #12665-73

Changes made to Plan or EIS: None

RNG034 Response: FW-RANGE-MA-12 describes a project-level action, which are not dictated by plan direction. However, there were strong feelings by resource specialists and on-the-ground managers that it was important to highlight as an action that should be taken into consideration during project planning. Hence, it is included in the final Plan as a management approach (see the Forest Plan Components section of the forest plan for a description of management approaches and guidelines).

The forest plan includes direction that will guide decisions on whether to authorize livestock grazing and, if so, under what conditions. For example, the Sustainable Rangelands and Livestock Grazing section includes desired conditions, standards, and guidelines that will ensure that permitted livestock grazing is consistent with the desired conditions of other resources, including at-risk species, forage, and riparian health. See FW-RANGE-DC-4, FW-RANGE-S-1, FW-RANGE-G-1, FW-RANGE-G-2). Riparian and wetlands areas are also protected from grazing impacts by a number of plan components. In the Sustainable Rangelands and Livestock Grazing section of the Plan, FW-RANGE-S1, G1-5, and MA12 all dictate protections to ecological resources, including riparian resources. Additionally, plan components in other sections, like the Riparian and Wetland Ecosystems section and Water Resources section, ensure management activities like permitted livestock grazing do not negatively affect ecosystems function over the long-term and move ecosystems toward desired conditions(see FW-RWE-G2 and G7; FW-RWE-DC1 and DC4; FW-WATER-G1; FW-WATER-DC1, DC2, and DC3).

In addition to these plan components, livestock management on NFS lands has shifted to an adaptive management philosophy allowing appropriate seasonal changes in livestock numbers (increases or decreases) or seasons of use, in response to changing ecological conditions (e.g., forage production, water availability, and precipitation patterns). Adaptive management recognizes that our knowledge about natural systems can be uncertain (e.g., climate variability, fire, or flooding), and future management needs to be flexible to adjust to meet the management objectives. When used appropriately, this flexibility better mimics natural processes and decreases the potential for undesired impacts on other resources. This adaptive management strategy is codified as policy in the Forest Service Handbook on Grazing Permit Administration and Rangeland Decision Making. When monitoring indicates that adjustments are needed, the adaptive management approach allows for changes to occur as long as they remain within the range analyzed in the NEPA analysis that authorized grazing for that allotment.

RNG036: The Plan should clearly define "social resources" and its relation to Wilderness. Without clear definition, the phrase should be removed from FW-RANGE-DC-4, so that the DC reads: Livestock grazing is compatible with ecological functions and processes (such as water infiltration, wildlife habitat, soil stability, and natural fire regimes) and with other uses of the national forest.

Associated Comments: #12698-90

Changes made to Plan or EIS: None

RNG036 Response: FW-RANGE-DC-4 reads, "Livestock grazing is compatible with ecological function and processes (e.g., water infiltration, wildlife habitat, soil stability, and natural fire regimes)," and makes no mention of "social resources."

Alternatives/Analysis

AltN003: Ratner et al. (2018) document extensive impacts of livestock grazing on aspen groves in Utah and their findings are generally applicable west-wide and therefore to the DEIS. These researchers found livestock significantly suppressed aspen sprout growth and trampled soils in study plots. They noted that livestock tended to concentrate in aspen groves due to forage availability and shading, even on allotments where livestock grazing is "controlled" and under "moderate" grazing. Ratner et al. (2018) recommended reducing livestock pressure via exclosures at least until aspen height exceeds browsing height and this will require periodic repetition (exclosures) to ensure proper aspen regeneration. At a minimum, exclosures should include entire aspen clonal areas and this needs to be incorporated into the DEIS.

Associated Comments: #197-40

Changes made to Plan or EIS: Plan

AltN003 Response: Ratner et al. (2018) discusses the specific Pando Clone in Utah, which are quite different from those of northern New Mexico. The SFNF has predominantly seral aspen, whereas the Pando Clone is a climax aspen. These two have different types of understory ecosystems. In addition, the Pando Clone area identified in the study is overgrazed, which is not how we plan to manage grazing on the forest. The Plan includes components including desired conditions for Mixed Conifer with Aspen (e.g., FW-MCD-DC-1a and 3), that help manage for healthy aspen stands on the forest. Plan components, such as FW-RANGE-DC-2, DC-4, DC-6, S-1, G-1 and others in the Sustainable Rangelands and Livestock Grazing section will help us to manage healthy grazing on the forest. To discontinue grazing in any particular place on the forest is beyond the scope of the forest plan, and cannot be done without further allotment level analysis. However, allotment monitoring is used to adaptively manage grazing.

We have added the following management approach to the Sustainable Rangelands and Grazing section of the final Plan: “Consider grazing aspen groves early in the season and resting in the fall, and doing a rest rotation every 2 consecutive years out of every 5 years.”

AltN004: The Forest Service needs to develop a new alternative or modify alternative 2 to meet the specific recommendations of Beschta et al. (2012; Table 2) as follows:

- Priority areas for permanently removing livestock and feral ungulates from Bureau of Land Management and US Forest Service lands to reduce or eliminate their detrimental ecological effects;
- Watersheds and other large areas that contain a variety of ecotypes to ensure that major ecological and societal benefits of more resilient and healthy ecosystems on public lands will occur in the face of climate change;
- Areas where ungulate effects extend beyond the immediate site (e.g., wetlands and riparian areas impact many wildlife species and ecosystem services with cascading implications beyond the area grazed);
- Localized areas that are easily damaged by ungulates, either inherently (e.g., biological crusts or erodible soils) or as the result of a temporary condition (e.g., recent fire or flood disturbances, or degraded from previous management and thus fragile during a recovery period);
- Rare ecosystem types (e.g., perched wetlands) or locations with imperiled species or communities (e.g., aspen stands and understory plant communities, endemic species), including fish and wildlife species adversely affected by grazing and at-risk and/or listed under the ESA;
- Non-use areas (i.e., ungrazed by livestock) or exclosures embedded within larger areas where livestock grazing continues;
- Such non-use areas should be located in representative ecotypes so that actual rates of recovery (in the absence of grazing impacts) can be assessed relative to resource trend and condition data in adjacent areas that continue to be grazed;
- Areas where the combined effects of livestock, wild ungulates, and feral ungulates are causing significant ecological impacts.

Associated Comments: #197-40

Changes made to Plan or EIS: None

AltN004 Response: Since the publication of this article (2012) the Forest Service has adopted policy to use adaptive management as a means to address potential uncertainties and changes in climate in conjunction with livestock grazing. This type of management allows for better management flexibility to allow for ecological and societal benefits especially with relation to sensitive ecological areas or species.

Feral ungulates are not under the purview of grazing management (36 CFR 32 222.8, FSM 22256.02 and 22256.03); this issue is managed by the State Livestock Inspector. In the final Plan, partnerships are emphasized in multiple places, as noted in the Partnership section (FW-PARTNER-MA-1). Beyond this, it is outside the authority of the FS to remove livestock grazing on the forest. See RNG072 for more on why we cannot remove livestock from the forest, and RNG073 for more on how we manage livestock in sensitive riparian areas.

See also: Alt2001 and AltN002 responses.

RNG001/041/055/060/063/064: The Santa Fe National Forest should analyze a fifth alternative focused on heavily reducing or eliminating grazing and range infrastructure as a forest use, due to its impact on other forest uses and resources such as at-risk species and habitat, recreation, water resources, and climate change.

Associated Comments: #197-37, #12727-16, #13416-5, #13416-15, #13416-20, #13416-23, #13416-27, #13416-4, #13416-33, #13416-27, #13416-24

Changes made to Plan or EIS: None

RNG001/041/055/060/063/064 Response: A no-grazing alternative would not meet legal direction that forests will be managed using multiple use and sustained yield principles per the National Forest Management Act and Multiple Use Sustained Yield Act. This alternative also would not allow the attainment of the desired condition for livestock grazing to contribute to the long-term socioeconomic diversity, stability, and cultural identity of local communities. Therefore, a no grazing alternative is inconsistent with existing laws, Forest Service policy and direction, as well as the purpose and need of revising the forest plan. Under all alternatives the rangelands management and livestock grazing program has multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing conditions. Stocking decisions regarding the amount of livestock grazing authorized for each grazing allotment are considered as part of project-level analysis (NEPA) and beyond the scope of the forest plan EIS. Project-level analysis would cover changes to authorized grazing through term grazing permits (subject to forest-wide standards and guidelines); allotment management plans; and annual operating instructions. In addition, the alternatives include a range of options on how to deal with vacant and understocked allotments that could increase or decrease grazing numbers. Based on the above, a restricted grazing alternative was not considered necessary or legally compliant.

See also: AltN002/AltN005 for more on the number of alternatives analyzed.

RNG056: The number of AUMs allowed on the forest should be consistent throughout the EIS. There are discrepancies in the numbers cited in Draft EIS, V. 2, Section 3.17.2.2.1.1.3 Grazing (p. 30) and Draft EIS, V. 1, Section 3.11.1, Affected Environment (p. 393)--these discrepancies should be fixed or the reasons behind the different numbers clarified.

Associated Comments: #13416-6

Changes made to Plan or EIS: EIS

RNG056 Response: This inconsistency is addressed in the final Plan and EIS. The phrase, “with a maximum permitted stocking rate of about 11,400 (animal unit months [AUMs])” (EIS, Vol I, pg393) has been removed. This change was made because the sentence contains numbers that were based on a specific year and that are no longer accurate.

RNG059: The final Plan and FEIS must acknowledge funding and resource limitations regarding range monitoring and infrastructure repair. The Grazing Program must be scaled back to match the actual management, financial, infrastructure, personnel, and monitoring capacity of the Forest, including decreasing AUMs on the Forest.

Associated Comments: #13416-15

Changes made to Plan or EIS: None

RNG059 Response: The Forest is currently working to streamline work in its range program. Desired conditions in the Plan do not need to be achieved during the lifetime of the Plan, and objectives are drafted toward the Forest's current budget, as required by the 2012 Planning Rule. The Plan also has a section on Partnerships, and many management approaches throughout the Plan that encourage collaborative solutions to resource limitations. For example, the Forest has worked with non-profit partners to buy corrals for grazing management.

Climate Change

RNG002/058: In fulfilling Forest Service climate change direction and keeping with BASI requirements, the EIS must acknowledge and analyze the impacts livestock on the Forest have on climate change with data on GHGs emitted by livestock waste products, carbon sequestration capacity lost due to grazing, and cumulative impacts to climate change due to proposed stocking levels in each alternative.

Associated Comments: #197-38, #13416-11, #13416-12, #197-42

Changes made to Plan or EIS: EIS

RNG002/058 Response: An additional analysis was done on the average amount of methane and carbon dioxide given off by cattle on the Santa Fe NF (see EIS, Vol 2, Appendix B. Description of the Analysis Process). Based on this analysis, we concluded cattle grazing is not a significant source of green-house gas emissions from the forest. The main contribution the forest has to climate change effects is through the effects of fire. Aside from this added analysis, the EIS identifies climate change as a system stressor for every resource and Plan direction ensures healthy ecosystems that are resilient to a variety of stressors. Additionally, adaptive management is specifically used to deal with unpredictable climate (see FSH 2209.13 Ch. 90 R3 Guidance on Grazing). Forest Service policy directs adaptive management on allotments (see FSH 2209.13 Ch 96.2, R3 Guidance 92.23b), and our final Plan defines adaptive management in the Glossary. Permits can be modified based on management needs (36 CFR 222.4 7); however, this is a project-level decision that is outside the scope of the planning process.

See also: Air002 for more on how we addressed livestock emissions.

RNG003: The forest plan should authorize the voluntary, permanent retirement of grazing allotments by permittees for conservation purposes and to reduce negative environmental impacts of grazing.

Associated Comments: #197-42

Changes made to Plan or EIS: None

RNG003 Response: This is outside the scope of the forest plan. Management and administration of grazing permits is already addressed by existing regulation and policy. The authority to permanently retire an allotment from grazing is retained by the Forest Service and is not held by the permittee. Permits can be canceled by Rangers due to resource concerns (FSH 2209.13 Ch 10 16.2, 36 CFR 224.4), but this is a project-level decision and thus, outside of the scope of the Plan.

RNG026: The Forest Service should routinely notify partnering agencies when allotment grazing permits come up for renewal in order for the agencies to provide input and ensure that future grazing management plans for each allotment are created with state oversight where appropriate. In particular, the Forest Service should notify the Surface Water Quality Bureau of NMED when an allotment containing a stream body listed on the State's Impaired Waters list comes up for permit renewal.

Associated Comments: #12627-10

Changes made to Plan or EIS: None

RNG026 Response: Permit renewal triggers a section 18 review, which is a project level analysis and out of scope of the planning process. However, in the Sustainable Rangelands and Livestock Grazing section, FW-RANGE-MA-1 and MA-2 support collaboration with local government entities.

RNG039: In accordance with the findings of the 2016 GAO Report to the Committee on Natural Resources, House of Representatives: Unauthorized Grazing: Actions Needed to Improve Tracking and Deterrence Efforts, the Forest Service should disclose the levels of unauthorized grazing that has occurred on the forest over the past 10 years, including incidents handled informally, willful incidents, and non-willful incidents. The collective impacts of this unauthorized grazing should be analyzed and in the grazing impacts analysis in the EIS and the public should be given a chance to review and comment on the new analysis. Additionally, to address trespass cattle in the Plan, the Forest Service should expand its direction on range infrastructure to alter its allotment boundaries. Allotments should have significant buffers between their boundaries and adjoining areas where there has been ongoing patterns of trespass to allow detection and capture of straying cattle. Otherwise, the Forest needs to close allotments entirely when they are adjacent to areas with ongoing trespass conflicts.

Associated Comments: #12727-15 (a), #13416-16, #13416-18, #13416-19

Changes made to Plan or EIS: None

RNG039 Response: The DEIS analysis assumes compliance with the law. Although non-compliance is a problem, as identified by the GAO report, this is not an issue that can be dealt with through the forest plan revision process.

Livestock Impacts on Ecosystems and Wildlife

RNG007/068: Competition, trade-offs, and impacts between livestock and wildlife in terms of habitat, food supply, and range infrastructure should be addressed in the Plan and EIS. The forest plan should specifically include grazing management direction that provides the greatest benefit to wildlife habitat and resources in both upland and riparian areas, such as the direction found in the BLM's NM Standards for Public Land Health and Guidelines for Livestock Grazing.

Associated Comments: #436-5, #436-6, #436-7, #498-13, #13416-33, #12720-6

Changes made to Plan or EIS: None

RNG007/068 Response: The Forest Service operates under the Multiple Use Mandate which states, “The management of all the various renewable surface resources of the NFS should be managed so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531) (36 CFR 219.19).”

The Santa Fe National Forest does not manage for wildlife, only livestock. The NMDGF manages wildlife populations and permits for hunting. Management approaches in the Terrestrial habitat section of the Proposed Action encourage collaboration with NMDGF for “the management and

research of wildlife and their habitats” (FW-TERRASH-MA-1). In addition, there is no evidence of game species decline, nor is habitat for these species in decline on the Forest. At-risk species and their habitats are addressed through a number of fine and coarse-filter plan components in the FW-ATRISK section, including desired conditions for “intact, functioning, and sufficient habitat” (FW-ATRISK-DC-2) and a guideline that authorized activities (e.g., permitted grazing) “should be designed and implemented to address threats to at-risk species and their habitats” (FW-ATRISK-G-1).

Furthermore, in the Plan there are standards and guidelines directing that livestock management should be compatible with the management of ecological resources, including at-risk species, forage, riparian health (FW-RANGE-S-1, G-2). In addition, we have RANGE-MA-10, which asks managers to consider how ungulates have cumulative impacts on forest resources. Vegetation direction aims to increase understory and forage resources on the Forest for both wildlife and livestock use, and all livestock management is directed to be compatible with ecological processes. In the Sustainable Rangelands and Livestock Grazing section of the Plan, there is also direction that addresses livestock management compatibility with wildlife management, including wildlife escape ramps for water features (FW-RANGE-S-3) and wildlife friendly fencing (FW-RANGE-O-1). However, the actions described are largely addressed at the project-level. For example, utilization is set at an allotment level NEPA, BMPs are called out at allotment level NEPA, exclosures are developed at allotment level NEPA.

RNG073: Commenter expressed concern about the negative impacts livestock can have on water resources and riparian areas. The Santa Fe National Forest should heavily reduce, restrict, or eliminate grazing in riparian areas on the Forest, as these areas are particularly sensitive and important ecologically. Commenters expressed desire for increased protections for riparian areas beyond simply reducing AUMs, including livestock exclosures, additional grazing restrictions, grazing permit changes, and allotment retirement.

Associated Comments: #197-67, #12028-3 (a), #12028-9, #12030-8, #12495-1 (b), #12521-3, #12540-9, #12609-3, #12627-9, #12643-2, #12647-2, #12647-3, #12647-4, #12647-5, #12647-6, #12715-3, #12727-12, #12727-19, #12727-20, #13262-4, #13416-21, #13416-23, #13416-26, #12522-16, #12522-22

Changes made to Plan or EIS: None

RNG073Response: We do not feel that we should discontinue riparian grazing throughout the forest’s riparian areas because it is outside the scope of the forest plan, it would be against Forest Service policy and regulation, and because grazing can be compatible with riparian management. This compatibility is shown by our work in NMMJM habitat and by relatively recent peer reviewed literature.

To discontinue grazing in any particular place on the forest is beyond the scope of the forest plan, and cannot be done without further allotment level analysis. Current grazing in riparian areas has been authorized through previous allotment-level NEPA analysis, which are still in effect. Additionally, we have local evidence and scientific literature (listed below) that shows controlled grazing in riparian areas and wetlands may not necessarily be detrimental.

Furthermore, the Forest Service operates under the Multiple Use Mandate which states, “ The management of all the various renewable surface resources of the NFS should be managed so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing

needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531) (36 CFR 219.19)”.

The Forest Service has supported controlled livestock grazing since the very early days of the agency. The earliest version of published policy of the Forest Service (USDA Forest Service 1905), stated:

“The Forest Service will allow the use of the forage crop of the reserves as fully as the proper care and protection of the forests and the water supply permits. In new forest reserves where the livestock industry is of special importance, full grazing privileges will be given at first, and if reduction in number is afterwards found necessary, stockmen will be given ample opportunity to adjust their business to the new conditions. Every effort will be made to assist the stock owners to a satisfactory distribution of stock on the range in order to secure greater harmony among citizens, to reduce the waste of forage by tramping in unnecessary movement of stock, and to obtain a more permanent, judicious, and profitable use of the range. The leading objects of the grazing regulations are:

- 1. The protection and conservative use of all forest reserve land adapted for grazing.*
- 2. The best permanent good of the live-stock industry through proper care and improvement of the grazing lands.*
- 3. The protection of the settler and home builder against unfair competition in the use of the range.”*

However, it was never the intent of the Congress that all uses would occur on all areas. NEPA analyses (which are project level actions beyond the scope of the forest plan) are used to authorize grazing for specific allotments, and the rangelands management and livestock grazing program has multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing conditions (as codified in the Forest Service Handbook on Grazing Permit Administration and Rangeland Decision Making). Stocking decisions regarding the amount of livestock grazing authorized for each grazing allotment are considered as part of project-level analysis (NEPA) and beyond the scope of the forest plan EIS. Project-level analysis would cover changes to authorized grazing through term grazing permits (subject to forest-wide standards and guidelines); allotment management plans; and annual operating instructions.

Again, grazing in riparian areas has been analyzed and authorized through previous allotment scale NEPA projects and whether grazing is appropriate or not is outside the scope of the forest plan. It should be determined at the local or allotment scale.

An additional reason to not cancel grazing across all riparian areas is that grazing can be compatible in riparian areas when managed properly. For instance, infrastructure and water features allow us to better manage the distribution of cattle to keep them from negatively impacting riparian areas (see FW-RANGE-O-1 and O-2). An example of what proper management can achieve can be seen in how since the 2015 listing of the New Mexico Meadow Jumping Mouse (NMMJM) and the implementation of more robust efforts to manage the riparian areas grazed critical habitat has for the most part met the habitat needs of the mouse as listed

(Primary Constituent Elements-PCEs of 24-inch stubble height, running water, and sedge presence). The NMMJM has also been found to use these areas (Chambers and Horncastle 2017, Chambers 2019).

Additionally, evidence from scientific literature shows that data from excluding grazing in local streams may not be the answer in restoring the geomorphology of altered streams. Van Horn et.al. 2012 found that “Stream geomorphology was not significantly altered by 5 yr of grazing exclusion” on six grazing enclosure sites on the Valles Caldera National Preserve.

Evidence also suggests there are other ways to manage for cattle grazing in riparian zones other than fenced enclosures, including those described in the following research:

- In a paper looking at 37 studies of offstream watering points (SWP), Malan et.al. (2018) found that while there was variability among the studies, and the placement of OSWP, in areas with low slopes, OSWPs may reduce the time cattle spend in the riparian zone.
- The timing of riparian grazing is important for good management. Grazing early in the season, for a short duration when adjacent uplands are more attractive to cattle can be one way to avoid concentration of cattle in the riparian (McInnis 2009, Parsons et.al. 2003, Lucas et. al. 2004, Perry 2005).
- A study of grazing systems in Colorado on trout biomass found that intensive rotational grazing (35-45 days) showed no difference from rotational (10-20 days) grazing, and “sites managed for rotational grazing were similar to sites managed for wildlife grazing only” (Saunders, W Fausch 2012).
- “Moving cattle to uplands at midday using low-stress herding is an effective tool to reduce use of riparian areas. Herding cattle to low-moisture blocks can increase grazing of nearby upland forage but may not provide additional reduction in cattle use of riparian areas compared with herding alone (Bailey et. al. 2008).”

RNG074: Livestock grazing on the forest has negative ecological consequences, and the forest plan does not do enough to mitigate these impacts and protect ecological resources, and acknowledges that the preferred alternative will merely maintain adverse impacts at current levels rather than improve resource conditions in terms of reducing grazing impacts. Any subsequent NEPA document prepared during the forest plan revision process must include the best available science that documents the impacts of livestock grazing on ecological integrity. Additionally, the EIS must analyze the effects on grazing-related plan components on the Forest's ecosystems and species.

Associated Comments: #12752, #12522-22, #12522-30

Changes made to Plan or EIS: None

RNG074 Response: We analyze the impacts of livestock grazing in multiple sections of the FEIS, including the Watershed and Water Resources section, the Soils section, and the Wildlife section. In the Rangelands and Grazing section, we also analyze the impacts of range infrastructure, which can affect wildlife movement and livestock distribution, and the impacts of differing levels of AUMs allowed on the forest.

The Plan includes direction that will guide livestock grazing such that it does not preclude the attainment of desired conditions. Direction includes numerous plan components designed to balance livestock grazing with ecological health. In the Sustainable Rangelands and Livestock Grazing section of the Plan, FW-RANGE-S1, G1-5, and MA-12 all dictate protections to ecological resources, including riparian resources. Additionally, plan components in other

sections, like the Riparian and Wetland Ecosystems section and Water Resources section, ensure management activities like permitted livestock grazing do not negatively affect ecosystems function over the long-term and move ecosystems toward desired conditions (e.g., FW-RWE-G2 and G7; FW-RWE-DC-1 and DC-4; FW-WATER-G-1; FW-WATER-DC-1, DC-2, and DC-3). Short-term trade-offs may occur so long as projects do not preclude the attainment of desired conditions for ecosystems over the long term.

In addition to these plan components, livestock management on NFS lands has shifted to an adaptive management philosophy allowing appropriate seasonal changes in livestock numbers (increases or decreases) or seasons of use, in response to changing ecological conditions (e.g., forage production, water availability, and precipitation patterns). Adaptive management recognizes that our knowledge about natural systems can be uncertain (e.g., climate variability, fire, or flooding), and future management needs to be flexible to adjust to meet the management objectives. When used appropriately, this flexibility better mimics natural processes and decreases the potential for undesired impacts on other resources. This adaptive management strategy is codified as policy in the Forest Service Handbook on Grazing Permit Administration and Rangeland Decision Making. When monitoring indicates that adjustments are needed, the adaptive management approach allows for changes to occur as long as they remain within the range analyzed in the NEPA analysis that authorized grazing for that allotment.

See also: RNG073 for more on the science and policy drawn on for managing livestock in sensitive riparian areas.

RNG075: The Forest Service should consider the impacts of domestic livestock use on vegetation, water, and wildlife habitat, as well as competition and trade-offs between livestock and wildlife in terms of food and habitat (e.g., forage competition between cattle and elk, or cattle impact on rare or endangered species). Plan direction should be included to provide forage and residual cover for wildlife (especially following management activities or natural disturbances).

Associated Comments: #436-5, #436-6, #436-7, #498-13, #12503-9, #12503-32, #12698-97

Changes made to Plan or EIS: None

RNG075 Response: The potential impacts of past and present livestock grazing are described in chapter 3 of the environmental impact statement in the Watershed and Water Resources; Soil Resources; Vegetation; Fire and Fuels; Wildlife, Fish, and Plants; Scenic Resources; and Sustainable Rangelands and Livestock Grazing sections. Since the plan does not include project and activity decisions, there are no direct impacts associated with livestock grazing to be identified. Analysis of site-specific impacts would be completed later during the National Environmental Policy Act (NEPA) process, after specific proposals are made and there is additional opportunity for public involvement.

The forest plan includes direction that will guide decisions on whether to authorize livestock grazing and, if so, under what conditions. For example, the Livestock Grazing section includes desired conditions, standards, and guidelines that will ensure that permitted livestock grazing is consistent with the desired conditions of other resources, including at-risk species, forage, and riparian health. See FW-RANGE-DC-4, FW-RANGE-S-1, FW-RANGE-G-1, FW-RANGE-G-2). When endangered species are present, the Forest Service is legally required to consult with the USFW (section 7 of the ESA) and follow their direction. In addition, RANGE-MA-10 asks managers to consider how ungulates have cumulative impacts on forest resources and FW-RANGE-MA-1 promotes collaboration with multiple stakeholders around range issues, and FW-TERRASH-MA-1 promotes collaboration with the New Mexico Department of Game and Fish to

manage wildlife. The NMDGF manages wildlife populations and permits for hunting. The Forest Service manages habitat, and to this end, plan components like FW-VEG-DC-3a and DC-3b direct projects to manage for sustainable, diverse ecosystems that can support habitat and forage. Beyond this, there is no evidence of deer or elk decline, nor is habitat for these species in decline on the Forest.

RNG031: The forest plan should include language that establishes additional and alternate water sources for livestock to reduce livestock activity in Riparian Management Zones, maintain stream morphology conducive to aquatic species management, and adhere to New Mexico water quality standards.

Associated Comments: #12665-70

Changes made to Plan or EIS: None

RNG031 Response: FW-RANGE-G-2 and FW-RANGE-G-3 both include language that directs livestock management in riparian management zones. The former states that, “New livestock troughs, tanks, and holding facilities should be located out of riparian management zones,” while the latter states that any grazing within RMZs should be managed to sustain desired conditions for water and riparian systems.

RNG032: Wildlife-friendly fencing in the forest should be consistent with the NMDGF wildlife-friendly fencing guidelines.

Associated Comments: #12665-71

Changes made to Plan or EIS: None

RNG032 Response: The Forest generally uses NMDGF fencing guidelines, but the Plan does not restrict the type of wildlife-friendly fencing used so as to allow for adaptive management on the ground.

RNG067: Rates of infrastructure repair cited in the Sustainable Rangelands and Livestock Grazing section of the Plan should be increased to at least 10% per year in acknowledgement of dangers degraded infrastructure pose to wildlife and the public, and the EIS should include an alternative focused on the immediate repair or removal of all fencing on the forest that is not up to Forest Service regulations.

Associated Comments: #13416-52

Changes made to Plan or EIS: None

RNG067 Response: Plan objectives are based on the current capacity of the Forest. In addition, FW-RANGE-S-2 and S-3 ensure that range infrastructure is wildlife friendly.

RNG061: There should not be components in the forest plan facilitating the presence of livestock in areas where water is limited or non-existent through tax-payer funded infrastructure projects.

Associated Comments: #13416-21

Changes made to Plan or EIS: None

RNG061 Response: Infrastructure allows us to better manage the distribution of cattle to keep them from negatively impacting riparian areas. Without this, the cattle would naturally seek out water and may damage important ecological resources. Legally, cattle cannot be removed from the forest, so managing where cattle are is an important way to protect our ecosystems.

RNG062: The EIS must analyze the impacts of livestock waste-products on water quality, including a full accounting of possible pathogens and disclosure of all Forest waters and riparian areas possibly subject to contamination due to livestock-generated waste as a function of allotment location. The EIS analysis should also acknowledge that contamination occurs not just through direct contact, but also through run-off during storm events, and that this indirect impact means that livestock exclosures around riparian areas does not prevent water contamination.

Associated Comments: #13416-22, #13416-25

Changes made to Plan or EIS: None

RNG062 Response: The impacts of cattle waste products on water was included in the Water analysis in the final EIS. This is Effect Wa29 and Wa30.

RNG066: The Draft Plan fails to address the threat livestock pose as vectors for invasive species and pathogens, such as Chytrid fungus. The final Plan must include forest-wide plan direction on managing livestock presence and movement as it relates to the spread of invasive species and pathogens, including full allotment closures and retirements when necessary to protect native species.

Associated Comments: #13416-36

Changes made to Plan or EIS: None

RNG066 Response: Chytrid fungus is addressed in both the At-Risk Species and the Non-native Invasive Species sections of the Plan. FW-ATRISK-MA-8 asks managers to “consider alternative measures to projects that may decrease the likelihood of disease introduction or spread...(e.g., ... install drinkers instead of earthen tanks to prevent the spread of Chytrid fungus)”. Additionally, FW-INVASIVE-G-1, G-2, and G-4 provide more general, broad-scale direction on preventing the spread of invasive species and pathogens.

RNG070: There is unauthorized use of vehicles for livestock management on the Forest, and this causes significant resource damage that impacts other forest users and resources.

Associated Comments: #12521-7

Changes made to Plan or EIS: None

RNG070 Response: The forest plan does not analyze unauthorized use. The Plan assumes the public will use authorized roads, including the MVUM for the public and roads authorized by permittees permits. Direction in the Plan supports livestock grazing and management that is compatible with other forest resources and supports collaboration with permittees. Additionally, Forest Service regulation maintains that permit holders who violate the terms of their permit can have that permit cancelled. This is a project-level decision, however, and is dealt with outside of the planning process.

WILD190: FW-RANGE-S-1 has no clear constraints or management direction. What does "compatible with capacity and address ecological resources" mean? What does "temporally and spatially appropriate data mean" in this context? There must be standards in the plan that restrict, reduce, and mitigate the impacts of livestock grazing, especially in occupied, suitable, and restorable at-risk species habitat. This standard does not have that effect.

Associated Comments: #12522-65

Changes made to Plan or EIS: None

WILD190 Response: The standards in place to manage livestock grazing are not meant to dictate how many cattle can graze on the forest, or where they can graze. Plan components guide on-the-ground management and stocking decisions that are made at the allotment level, as part of planning cycles (e.g., Annual Operating Instructions or permit renewal). As noted in the footnote attached to FW-RANGE-S-1, guidance on temporally and spatially appropriate data can be found in the Grazing Permit Administration Handbook, Regional Supplements, and best available science.

WILD191: FW-RANGE-G-1 provides no constraint to be applied to projects or activities; it offers no management direction. What is "temporally and spatially scientific data"? Sustaining livestock grazing and maintaining ecological function and processes are incompatible aims unless the plan includes meaningful, applicable constraints on grazing. The Draft Plan does not provide those constraints.

Associated Comments: #12522-66

Changes made to Plan or EIS: None

WILD191 Response: The guidelines in place to manage livestock grazing are not meant to dictate how many cattle can graze on the forest, or where they can graze. Plan components guide on-the-ground management and stocking decision that are made at the allotment level, as part of planning cycles (e.g., Annual Operating Instructions or permit renewal). As noted in the footnote attached to FW-RANGE-S-1, guidance on temporally and spatially appropriate data can be found in the Grazing Permit Administration Handbook, Regional Supplements, and best available science.

WILD192: FW-RANGE-G-2 is internally inconsistent and does not provide meaningful management direction. Without constraints that restrict and reduce livestock grazing in RMZs, sustaining proper ecological functions and other conditions will not occur in these areas.

Associated Comments: #12522-67

Changes made to Plan or EIS: None

WILD192 Response: The guidelines in place to manage livestock grazing are not meant to dictate how many cattle can graze on the forest, or where they can graze. Plan components guide on-the-ground management and stocking decisions that are made at the allotment level, as part of planning cycles (e.g., Annual Operating Instructions or permit renewal).

See also: RNG073 for more on grazing in riparian areas.

WILD193: The exception, "unless necessary for resource enhancement or protection," renders FW-RANGE-G-3 meaningless.

Associated Comments: #12522-68

Changes made to Plan or EIS: None

WILD193 Response: There are reasons to have short term impacts for long term gain. For instance, installing a tank may disrupt ecological resources initially, but over the long term it can draw livestock away from riparian areas, which provides a net gain in long-term ecological health.

WILD194: FW-RANGE-G-5 should be a standard that prohibits salt and mineral supplements in riparian areas, wetlands, and occupied at-risk species habitat.

Associated Comments: #12522-69

Changes made to Plan or EIS: None

WILD194 Response: As stated in chapter 1 of the forest plan, guidelines are required technical design features or constraints on project and activity decision making that help make progress toward desired conditions. Ultimately the intent of any guidelines is to ensure that during project implementation progress is made toward desired conditions. The guideline in question achieves that intent. We default to guidelines in our direction to allow for adaptive on-the-ground management. We use standards only if there is a specific reason that word-for-word must-do direction is needed.

WILD195: FW-RANGE-G-10 provides no management direction.

Associated Comments: #12522-70

Changes made to Plan or EIS: None

WILD195 Response: Management approaches may be used to inform future proposed and possible actions. These techniques and actions provide options for plan implementation, and represent possibilities, preferences, or opportunities, rather than obligatory actions. Not all plan components are addressed with management approaches, only those for which additional information is warranted. They may illustrate suggestions as to how desired conditions or objectives could be met, convey a sense of priority among objectives, or indicate possible future courses of change to a program.

WILD196: FW-RANGE-G-12 must provide an actual constraint on livestock grazing in riparian areas or wetlands. For a species like the NMMJM that requires an abundance seeds for forage every year, the intent of this guideline will not be effective.

Associated Comments: #12522-71

Changes made to Plan or EIS: None

WILD196 Response: Plan components do not directly address specific species; they collectively address all species. Species-specific restoration work occurs at the project level and is detailed in project design. The forest plan does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides. Specificity will be achieved as part of project specific mitigations and design criteria, allowing for flexibility and adaptive management while protecting riparian resources. The guidelines in place to manage livestock grazing are not meant to dictate how many cattle can graze on the forest, or where they can graze. Plan components guide on-the-ground management and stocking decision that are made at the allotment level, as part of planning cycles (e.g., Annual Operating Instructions or permit renewal).

See also: RNG073 for more on grazing in riparian areas.

Forest Products

FP001: The Santa Fe National Forest should stop permitting the cutting of live Christmas trees.

Associated Comments: #565-3

Changes made to Plan or EIS: None

FP001 Response: The Forest Service operates under the Multiple Use Mandate that states, “The management of all the various renewable surface resources of the NFS should be managed so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531) (36 CFR 219.19).”

In addition to this mandate, removal of Christmas trees helps remove ladder fuels from the forest. Furthermore, on average 5,525 trees are harvested each year⁵. This is not a significant impact on the forest annually.

FP002: In the forest plan, the use of the word “theft” to describe unauthorized collection of forest products should be replaced with the phrase, “unpermitted removal,” to account for long-standing cultural traditions of forest product removal by communities who consider the Forest stolen land and use of and access to forest products a right.

Associated comments: #12528-78, #12698-83

Changes made to Plan or EIS: Plan

FP002 Response: We have changed the language in the Plan according to this concern such that FW-FORESTRY-DC-6 reads: “Unauthorized collection (e.g., unpermitted removal or collection outside of permitted areas) of permitted forest products is uncommon.”

FP003: The forest plan should include standards that list traditional use resources and cultural and historic resources as items that must be protected during timber harvests. These requirements should be added to the current standard 1.d in the Forest Products section.

Associated Comments: #12528-79, #12698-84

Changes made to Plan or EIS: Plan

FP003 Response: FW-FORESTRY-S-1d has been changed in response to this comment. The modified standard reads: “Timber harvest will be carried out consistent with the protection of soil, watershed, fish, wildlife, traditional use resources, cultural and historic resources, recreation and aesthetic resources.”

FP004: The forest plan should include standards that omit the requirement for a collection permit when culturally significant forest products (e.g., pinon nuts, trementina sap, chapulin berries, and medicinal plants) are collected for personal, rather than commercial, use.

Associated Comments: #12528-80, #12698-85

Changes made to Plan or EIS: None

⁵ Five year average from 2015-2019

FP004 Response: Permitting processes facilitate sustainable management to ensure resources will be available long into the future. We cannot provide forest product free use permits to land grants the way we can with federally recognized tribes due to the Forest's trust responsibility. Personal-use permits can be issued for free, depending on circumstances. For instance, federally recognized tribes can collect special forest products for free under Section 8015 of Food and Conservation, and Energy Act of 2008, provided collection is done in sustainable manner and does not violate other laws. The Forest Service permitting process allows all members of the public to collect special forest products for on-site use, such as firewood for a campfire or eating berries while on a hike. When a person wants to take forest products home, then they should have a permit, either free use or charge. The issuance of free use permits is guided by Section 82 - Free Use (see 36 CFR 223.8). The National Forest Management Act (NFMA) of 1976 (16 U.S.C. 472a, section 14(a), authorizes the Secretary of Agriculture to sell trees, portions of trees, and other forest products at not less than appraised value (FSM 2401.1, paragraph 8). Forest Service Manual (FSM) 2400, Chapter 2430, sec. 2431.31c., establishes minimum charges for small sales.

FP005: The forest plan should add new plan components concerning fuelwood that: should direct management activities that result in the byproduct of fuelwood collection opportunities for traditional and local communities; considers reasonable distances for local fuelwood collection opportunities; and considers using local community partnership blocks as a management tool.

Associated Comments: #12528-81, #12528-82, #12528-83, #12698-86, #12698-87, #12698-88, #12534-1

Changes made to Plan or EIS: None

FP005 Response: FW-FORESTRY-DC-3 directs that, "Forest products that are a byproduct of management activities are available for personal use (e.g., fuelwood) by the public." Furthermore, projects on the Santa Fe NF are based on resource objectives not geographic locations -- we cannot guarantee distance from communities as not all thinning projects are needed near communities. In the Plan's Partnership section, however, desired conditions support partnerships as management tools. The Rural Historic Communities section also has a guideline dictating that fuelwood will be made available (FW-RURALH-G-1).

FP006: The forest plan should provide more direction on mechanical thinning and logging operations, including: a) management approaches that consider restricting the use of skidding in mechanical thinning operations and limiting soil disturbing activities on frozen or dry soils, and that consider the use of forwarders in forest product and mechanical thinning operations; and b) other plan components that should allow small logging operations but require them to clean up their sites. The Forest should not allow clear cutting or logging operations over large swaths of the Forest.

Associated Comments: #12575-17, #12634-2

Changes made to Plan or EIS: None

FP006 Response: NFMA lays out clear specifications for when clear cutting can be used, and BMPs that are applied as project-level design features limit clear cutting on the forest and dictate equipment use for resource protection (FW-FORESTRY-S-1b, S-1c, S-1d). Also, as part of these BMPs, loggers are required to clean up after themselves. Size limits for harvest operations are dictated by FW-FORESTRY-S-4 and FW-FORESTRY-MA-1 and MA-4.

In accordance with Section 15g of the Small Business Act of 1958, a portion of timber sale will be limited to small business concerns. Form SBA 441 requires that, at minimum, 23 percent of sale must be offered to small business. Most timber operations on the Santa Fe NF qualify as

small businesses. In the Plan, FW-FORESTRY-MA-1 and MA-3 both support variably scaled timber contracts and industry that support sustainable local economies.

FP007: There are not enough local sawmills to support the objectives for mechanical thinning described in the plan.

Associated Comments: #12684-6

Changes made to Plan or EIS: None

FP007 Response: Wood-using operators have been identified in the Santa Fe NF area, including wood-users who are willing to haul wood a fair distance. Firewood use and traditional wood use is a major desire for forest-adjacent communities, as noted in the Assessment and in both the Forest Products and the Northern New Mexico Traditional Communities and Uses section of the Plan. In addition, while the Forest is required to have certain level of harvest based on national standards, the harvest amounts detailed in the Plan and EIS are only estimates, not assurances, and will take time to be realized. In that time, it is feasible more wood-using industry will emerge. Given that, supply and demand are correlated. Current markets should support the low end of treatment objectives and the mid-upper represents potential room for growth—this is the purpose of having a range of objectives.

FP008: The DEIS's findings on the current state of the forest products industry suggests the forest plan has overstated the capacity of forest products that can be absorbed by local markets.

Associated Comments: #12684-7

Changes made to Plan or EIS: None

FP008 Response: Sale quantity is only for the first decade (FW-FORESTRY-O-1); we are also harvesting below sustained yield (1/2 SY; DEIS Vol 2 Table C-9), which is 303.4 MMBF. Additionally, our analysis used a midpoint of our estimate range, but we are not required to operate at either the midpoint or the highest range of our estimate. Industry, in addition, can see our numbers and respond accordingly—we provide opportunity through our projects (supply), but it is up to industry to estimate demand and take economic risks. The plan is designed to take us into the future. If we don't plan for a greater supply, then we can be certain there will be no greater demand (or markets). By creating the potential for increased supply, we may increase potential for additional markets.

FP009: The Santa Fe National Forest should prepare a cost-benefit analysis (CBA) concerning the Plan's estimated timber sales, with respect to the economic burden that providing low value material from high cost (per acre) thinning treatments may have on the Agency.

Associated Comments: #12684-8

Changes made to Plan or EIS: None

FP009 Response: Our economic concerns in terms of planning is to estimate the economic benefits of our management to surrounding communities (see DEIS Vol1 Socioeconomics). Costs are considered on a project-level basis. Additionally, benefits of projects are often not necessarily monetary, such as reduction in fire risk and meeting needs of local communities (e.g., fuelwood).

FP010: The diameter-at-breast-height (DBH) values in the DEIS for sawtimber, fuelwood, and other forest products are unrealistic and misrepresent the demand for the small-diameter forest products being produced by the Santa Fe National Forest.

Associated Comments: #67-1

Changes made to Plan or EIS: None

FP010 Response: The DBH values in the FEIS were regionally derived to be comparable across all Region 3 forests. While they might not be ideal, this is an estimation, not exact quantities. Additionally, many communities in New Mexico use small-diameter timber of varying sizes for latillas, posts and poles, firewood, and vigas.

FP011: The determination of which lands are suitable for timber production was questioned. These include: (1) slopes in excess of 20 percent, (2) lands farther than 1,000 feet from MVUM roads, (3) lands with Primitive or Semi-Primitive Non-Motorized ROS settings, and (4) lands along eligible WSRs with Scenic or Recreational classifications.

Associated Comments: #67-1 (a), #11984-2

Changes made to Plan or EIS: None

FP011 Response: Timber suitability does not have to do with location or distance from roads, nor does it necessarily mean there will be a timber harvest on the land. Rather, suitability has to do with soils and how lands are designated (see EIS Vol 2, Appendix C). Slope was considered as part of the timber suitability analysis (EIS Vol 2, Appendix C, Table C-1), and FW-FORESTRY-S-1b-d defines how resources will be protected during harvests. WSR with scenic and recreation are considered suited, as there is nothing in scenic or recreational classifications that is against timber suitability, but Primitive and SPNM ROS are not suited to timber production (EIS Vol 2 Table C-3). Other related guidance includes FW-ROADS-G-8, which guides project managers to decommission roads after they are built for resource management purposes, such as harvests.

FP012: The timber suitability analysis resulted in higher harvests on lands unsuitable for harvest than on lands suitable for harvest, both in terms of absolute amount of wood and harvest per acre.

Associated Comments: #67-1 (b), #12099-1, #11984-33

Changes to Plan or EIS: EIS

FP012 Response: The timber suitability analysis was clarified in the EIS Volume 2, appendix C. Examples of timber production and removal, salvage, etc. on non-suitable lands were also added as illustrations of how suitability operates on the ground.

Suited and non-suited lands are added together to show the full potential of the lands' production. Lands suitable for timber are for timber production; lands not suitable for timber have other resource objectives that may include harvest for non-commercial purposes (e.g., fire risk reduction, hazard tree removal).

FP013: In the timber suitability analysis, justification must be provided for elevating timber production goals over other factors.

Associated Comments: #11980-6

Changes made to Plan or EIS: None

FP013 Response: The timber suitability analysis does not elevate timber production goals over everything else. It provides an estimate of the quantity of timber and wood products that are present on the forest and what a sustainable yield limit given those amounts would be. It does not say that we intend to harvest that much timber. That is the purpose of our vegetation objectives—with mechanical treatments in PPF, MCD, JUG, and PJO (which also include non-commercial wood products because a lot of this is small-diameter).

FP014: The forest plan should include guidelines recognizing that large and old legacy trees, such as VSS Class 6 old-growth trees, should be protected for their wildlife habitat benefits.

Associated Comments: #12665-69

Changes made to Plan or EIS: None

FP014 Response: See WILD117 and Veg014 for more on VSS Class 6 old growth.

FP015: Clarification is needed in the timber suitability analysis as to the relationship between plan direction and national timber quotas. The forest plan should direct that timber harvested on the Forest should be determined by plan components and site-specific data rather than externally determined apportionment of national level directives.

Associated Comments: #12665-114

Changes made to Plan or EIS: EIS

FP015 Response: Based on this comment, we will add more explanation to the Timber Suitability analysis section of the EIS, including clarification that harvests are determined by plan objectives for restoration. Vegetation treatments are focused on desired restoration objectives and conditions; these goals are in conjunction with national direction, not in conflict with. Our externally appointed national directive timber cut is met from our restoration activities (See VEGETATION-DCs).

See also: Response to FP012

FP016: The DEIS should provide more focus on where logging will be allowed—as agency action is required to make land available for leasing—rather than providing projected volumes of PTSQ/PWSQ. The level of detail currently provided by the DEIS in terms of PTSQ/PWSQ overreaches NFMA requirements which only include setting standards and guidelines; any more detail is burdensome to the public.

Associated Comments: #12684-2

Changes made to Plan or EIS: None

FP016 Response: The Plan does not include the information necessary to approve timber sales, this is project-level and not a part of forest-level planning. Furthermore, NFMA/2012 Planning Rule mandates we provide PTSQ/PWSQ in our forest plan. Timber suitability maps and analyses in the EIS show where commercial timber harvests are allowed on the forest—the land itself is not up for lease, but the timber on the land may be sold.

FP017: The Forest has received both support for and opposition to logging and thinning operations.

Associated Comments: #9836-9, #12028-7 (a), #12028-7 (b), #12503-10, #193-1

Changes made to Plan or EIS: None

FP017 Response: Logging operations on the Forest are used when appropriate as a tool to meet our desired conditions for vegetation. Hand thinning, mastication, etc. are all used as tools as appropriate for specific sites to meet resource needs, protect other resources, reduce fire risk, and manage habitat. Our timber suitability analysis determines the sustained yield limit (SYL), and our objectives for vegetation are well below the SYL.

FP018: In the timber suitability analysis, the statement, “Other designated areas with management specified by the laws associated with their enactment including, national recreational trails, national scenic trails, and national historic trails were not removed from lands that may be suitable for timber production because sustainable timber harvest is not inconsistent with the law, regulation, policy, or plan direction that directs management of these lands,” is false and should be removed from the text.

Associated Comments: #11984-32

Changes made to Plan or EIS: None

FP018 Response: Managing land for timber is an important part of maintaining scenic integrity in this part of the country. Furthermore, plan components for the Continental Divide National Scenic Trail protect the scenic quality and associated resources of the Continental Divide National Scenic Trail in the event vegetation management or timber harvest is needed to meet objectives.

Recreation

REC001/022/023/026: There were a number of commenters concerned with including more direction for managing OHV use on national forest lands. The Santa Fe should consider modifying direction related to off-road ATV/UTV/OHV use and re-evaluate when, where, and under what conditions off-road ATV/UTV use can occur. Some commenters were concerned about ATV/UTV use during times of the year or in locations where the use of AVTs/UTVs may harm wildlife and wanted restrictions on motorized activity tied to wildlife needs. Other commenters were concerned about ensuring allowances for motorized use should be limited to game retrieval and access for the elderly. Finally, a number of commenters were interested in limiting all motorized use on forest lands.

Associated Comments: #6-3, #4265-1, #4265-2, #10185-15, #12349-13

Changes made to Plan or EIS: None

REC001/022/023/026 Response: The Plan follows law, regulation, and policy; unauthorized OHV use is prohibited by the Travel Management Rule. The Travel Management Rule also directs seasonal closures of the forest to motorized use, and where motorized vehicle use may occur on Forest lands. The process to change the Travel Management Rule is a planning process of its own and is outside the scope of the forest plan.

Within the forest plan, plan components direct managers to refer to the Motor Vehicle Use Map (MVUM; the document created during Travel Management planning). These include FW-ROADS-S1. Additionally, FW-ROADS-DC-5 states that, "Use of NFS roads does not hinder wildlife movement or interrupt critical life-cycle needs (e.g., calving, nesting, and mating)."

Furthermore, FW-DISREC-DC-3 states, "Unauthorized access (e.g., roads and trails) and non-system routes are not present on the landscape," DC-ROADS-S1 states, "Motor vehicle use must be managed to occur as depicted on the most recently updated motor vehicle use map (MVUM), except as authorized (e.g., by law, permit, agreement, etc.)," and DC-ROADS-G6 states, "After management activities occur in areas with high potential for unauthorized motorized vehicle use, methods (e.g., barriers, signs, and law enforcement) should be used to prevent unauthorized

motor vehicle use." These plan components provide FS employees guidance on how motorized use should be managed to align with law, regulation, and policy.

REC002/003/004/005/006: There is both support for and opposition to recreational shooting on the Santa Fe National Forest. Some commenters are of the opinion that the Forest should prohibit recreational shooting near communities and high use recreation trails, such as the Las Campanas neighborhood and the Camino Real Trail; shooting should be restricted to locations oriented away from populated areas. This group of commenters requested that the forest plan include guidelines for signage and enforcement of shooting restrictions. Other commenters wanted to ensure that recreational shooting continued to be permitted and supported by the Forest and were opposed to a shooting ban or restrictions on any public lands.

Associated Comments: #1048-1, #1048-2, #1048-3, #12495-2, #4147-2, #4147-4, #4147-5, #482-1, #483-1, #486-1, #490-1, #492-1, #493-1, #494-1, #494-2, #494-3, #8698-1, #8698-2, #1048-4, #12493-1, #4106-1, #4147-3, #497-1, #494-4, #491-1, #489-1, #12004-1, #12004-2, #485-2, #11982-1, #4156-1, #484-2, #484-3, #488-1, #488-2, #488-3, #488-4, #495-1, #495-2, #495-3, #495-4, #4171-1, #4171-2, #499-1, #499-3, #12503-15, #499-2

Changes made to Plan or EIS: None

REC002/003/004/005/006 Response: Based on the Forest Service regulatory framework, shooting is allowed on National Forests unless specifically prohibited (e.g., a formal closure). Thus, while there are no formal shooting ranges on the Santa Fe National Forest, recreational shooting is allowed throughout and is managed under existing law, regulation, and policy. Management of site-specific issues is a project-level concern rather than a Plan-level concern, and the Española District office is currently aware of and working to resolve shooting conflicts in this area. The Plan addresses user conflict under FW-REC-DC-3, which can be applied to situations where shooters and non-shooters are recreating in the same area.

REC007: The Forest Service should provide a greater emphasis on recreation.

Associated Comments: #12028-4, #12301-2, #12524-1, #9-5, #12485-1

Changes made to Plan or EIS: None

REC007 Response: The forest plan contains direction on the management of diverse recreation opportunities on the Forest, both developed and dispersed. Objectives in all recreation sections direct the Forest to improve and maintain recreation opportunities on the forest. The Plan also addresses cultural and ecological interpretation of special areas of the forest under several unique management areas, such as the Caja del Rio Wildlife and Cultural Management Area, the Jemez National Recreation Area, and others. Beyond these specific directions, national direction guides the Forest's emphases in terms of management.

REC008: The Forest Service should include more requirements for education, especially regarding natural and cultural resources.

Associated Comments: #9-5

Changes made to Plan or EIS: None

REC008 Response: Management approaches throughout the Plan encourage Forest Service employees to work with partners to promote public education and engagement around natural and cultural resources. Example plan components include FW-FIRE-MA-16, FW-AQUASH-MA-5, FW-TERRASH-MA-6, FW-ATRISK-MA-2 and MA-9, FW-TRIBES-MA-2, FW-RURALH-MA-

2, and FW-REC-MA-2 and MA-10. Additionally, diverse recreation opportunities are supported in the Recreation sections of the Plan, including opportunities for education and interpretation, such as FW-REC-DC-1.

REC009: The forest plan should include standards for trash disposal on the forest and develop a monitoring plan for said disposal.

Associated Comments: #12-1,

Changes made to Plan or EIS: None

REC009 Response: Waste management on the forest is a project-level activity and is based on current levels of funding, site-level analyses, and other factors that are beyond the scope of the forest planning process. FW-DEVREC-DC2, however, directs that “recreation facilities are safe, well-maintained, and function as intended.”

REC010/011/048: There is both support for and opposition to sporting traditions (fishing, hunting, trapping) on national forest land. Those commenters expressing support believe the forest plan should include standards and guidelines to protect sporting traditions and should continue to allow for all or some of these traditions. Other commenters expressed opposition for the continuation of either all or some of these sporting traditions. There was particular opposition to trapping as an activity, with an expressed desire to ban the use of traps on the forest.

Associated Comments: #12503-15, #1563-4a, #12563-2, #12444-1, #12783-3, #12816-1, #1502-1, #271-4

Changes made to Plan or EIS: None

REC010/011/048 Response: Prohibition of hunting, fishing, or trapping is a project-level decision (e.g., a forest closure). Federal legislation directs these activities be allowed on National Forests, however, and beyond this the state manages hunting and fishing on public lands. The Plan provides guidance and support for diverse recreation opportunities and traditions, such as FW-REC-DC1, “The unique cultural, historical, and ecological resources of the forest are featured through recreation opportunities, education, and interpretation. Visitors have opportunities to connect to the importance of the past, present, and future of the forest.” Furthermore, hunting and fishing are acknowledged as important cultural aspects of many forest communities in the Rural Historic Communities section of the Plan. FW-RURALH-DC states, “The long history and ties of rural historic communities and traditional uses (e.g., livestock grazing, fuelwood gathering, acequias, and hunting) to NFS lands and resources is understood and appreciated.”

REC012: The Forest Service should prohibit activities that are incompatible with recreation including grazing, logging, and thinning.

Associated Comments: #12028-6

Changes made to Plan or EIS: None

REC012 Response: The Forest Service is a multiple-use agency. Under NFMA and MUSYA, the Forest is required to balance the use of the forest amongst various resources. Site-specific uses are determined by project-level analyses that are beyond the scope of the forest planning process. Beyond this, FW-REC-DC4 provides direction limiting user conflicts on the forest, and FW-REC-DC5 states that, “Recreation experiences are not diminished by human disturbances (e.g., vandalism, theft, and overuse).”

REC013: The Forest Service should base decisions on when to close or open recreation facilities on existing conditions and wildlife concerns. If conditions allow, recreation facilities should be made available.

Associated Comments: #12028-11

Changes made to Plan or EIS: None

REC013 Response: Most, if not all, seasonal closures on the Forest pertain to road access or recreational demand (e.g., campground closures in the winter), not wildlife concerns. Beyond this, closures are project level decisions and beyond the scope of the forest planning process. Plan direction does suggest managers consider seasonal restrictions and closures in some cases, such as FW-TERRASH-MA3, “Consider seasonal road restrictions and area closures to provide refuge in small and large blocks of land for a wide range of species;” FW-TERRASH-G3, “Activities negatively impacting wildlife reproduction or other vital functions should be minimized (e.g., closures during elk calving), except if management activities are implemented to control wildlife populations to protect the overall health of the habitat or other populations (e.g., NMDGF regulations);” and FW-ATRISK-G13, “Closures or other means to reduce the threat to at-risk species should be implemented in areas where recreational activities (e.g., target shooting or climbing) are known cause harm.” While this direction does not specifically pertain to recreational facilities, it shows the interest the Forest has in addressing seasonally needed protections.

REC014: The Santa Fe should remove incorrect usage of “user conflict” from the Plan and EIS, taking into account research on the subject detailed in *Jacob, G., & Schreyer, R. (1980). Conflict in outdoor recreation: A theoretical explanation. Journal of Leisure Research, 12, 368-380.*

Associated Comments: #12472-13

Changes made to Plan or EIS: Plan and EIS

REC014 Response: In the context of the national forest, user conflict arises when people who are using the forest are interrupted in their activities by the activities of other forest users. We have added a definition of “user conflict” to the glossary in both the FEIS and the final Plan that clarifies this.

REC015: In the revised Plan and EIS, the Santa Fe NF should revise the desired conditions and guidelines for Common to All Subsections for Recreation (FW-REC-DC) to more clearly state that compliance with the recreation opportunity spectrum (ROS) is mandatory. Furthermore, the desired conditions should be re-written to state that “Recreation opportunities are [consistent/comply] with the [desired] ROS setting and enhance the economic, cultural, and social vitality and well-being of surrounding communities.”

Associated Comments: #12494-67 (a), 12494-68

Changes made to Plan or EIS: Plan

REC015 Response: We agree with the commenters’ clarification and will change the FW-REC-DC-2 to indicate recreation opportunities should be commensurate with desired ROS. This change will be made throughout the Plan where we use the term “ROS setting.” We have also added FW-REC-DC-7, “Desired ROS settings serve as the desired conditions for recreation (see final Plan, appendix A, Fig. 9-west and Fig. 9-east).” Other desired conditions throughout the plan direct also management to work within ROS settings, including FW-DEVREC-DC-2.

In terms of FW-REC-G-2, "should" is used rather than "must" as guidelines purposefully allow for flexibility in how their intent is met (Final Plan, ch. 1, Contents of a Forest Plan, Forest Plan Components). We chose to make this direction a guideline to allow flexibility in management that may be necessary to accommodate changing forest conditions over time. In addition, mitigation measures can help attain the intent of these guidelines during management activities, and these are frequently cited throughout the Plan (e.g., FW-DISREC-S-1, S-2, and S-3).

REC016: In the final Plan and FEIS, the Santa Fe NF should rewrite the desired conditions for all Recreation subsections (FW-REC-DC) into two separate desired conditions: one regarding ROS settings, and one regarding the vitality and well-being of communities.

Associated Comments: #12494-67(b)

Changes made to Plan or EIS: None

REC016 Response: Having too many separate components complicates the reading of the Plan. By keeping direction related to recreation management consolidated it is easier for the plan to be used as a guidance document, and having ideas separated does not make them any more or less important in terms of how they are followed by managers.

REC017/034: The revised plan should include an objective that establishes a timeframe to ensure that recreational uses are consistent with desired ROS settings.

Associated Comments: #12494-69, #12494-64

Changes made to Plan or EIS: Plan

REC017/034 Response: We have clarified in the Plan that desired ROS settings (as represented by the desired ROS maps in Figs 9 in Appendix A) are considered desired conditions to which the forest will move toward over time, by following objectives and cleaving to standards and guidelines (FW-REC-DC-7).

In general, the desired conditions in the Plan have been written to contain enough specificity so that progress toward their achievement may be determined through monitoring. In some cases, desired conditions may already be achieved, while in other cases, they may only be achievable over hundreds of years. Objectives describe how the Santa Fe NF intends to move toward the desired conditions. See page 18 of the Plan for descriptions of plan components.

REC018/067: The Santa Fe should provide educational materials, visitor information, and interpretation materials in Spanish as well as English to make them more accessible to Spanish-speaking visitors.

Associated Comments: #12494-70, #12494-72b

Changes made to Plan or EIS: Plan

REC018/067 Response: We added language to FW-REC-MA-11 suggesting the use of Spanish and Native languages for educational materials, visitor information, and interpretation materials. The new management approach reads:

- “Develop conservation education, visitor information, and interpretation materials to inform and engage visitors and local communities. These resources are readily available and encourage increased forest stewardship, ecological awareness, visitor orientation, and knowledge of recreation opportunities. Consider developing materials in Spanish and native language (e.g., Tanoan, Keres, and Athabaskan).”

Other sections of the Plan already contain similar guidance--FW-RURALH-MA-9 and FW-TRIBES-MA-12 address incorporating Spanish and Native languages into interpretive materials.

REC019: The Santa Fe should work with transportation providers to develop shuttle systems for high use trail heads.

Associated Comments: #12494-82

Changes made to Plan or EIS: None

REC019 Response: Working with transportation providers is a project-level decision. However, the Plan supports providing unique recreation opportunities through its recreation special-uses program, which could include transportation services. For instance, FW-RECSU-DC1 states: "Recreation special-use authorizations (e.g., outfitters and guides, competitive races, family reunions, special events, and Ski Santa Fe) provide unique opportunities, services, and experiences for the recreating public and address a demonstrated demand for a specific recreation opportunity."

REC020: The Santa Fe should consider installing gateway stations at logical entry points to the national forest.

Associated Comments: #12494-83

Changes made to Plan or EIS: None

REC020 Response: The forest plan supports developed recreation in its Developed Recreation section, including desired conditions such as FW-DEVREC-DC-1, "Developed recreation sites meet the expectations of the public, and are sustainable."

REC021: The forest plan should provide specific direction on how to balance tribal trust responsibilities with recreation demands.

Associated Comments: #12498-7

Changes made to Plan or EIS: None

REC021 Response: Specific projects consult tribes as part of their project planning efforts. Beyond this, the Plan provides guidance that is adaptable so we can meet changing circumstances. For instance, FW-TRIBES-DC4 and DC6 protect tribal access to sacred sites, TCPS, and collection areas; and ensure these areas are identified as important and unimpaired. Additionally, FW-TRIBES-G2 states that "Consultation with federally recognized tribes should occur at the early stages of project planning and design, and tribal perspectives, needs, and concerns, as well as traditional knowledge, should be incorporated into project design and decisions."

REC024: The forest plan should restrict recreation, mining, data gathering, and other activities within cultural sites.

Associated Comments: #12498-6

Changes made to Plan or EIS: None

REC024 Response: Site-specific project planning includes analyzing recreation impacts to cultural resources and mitigating them or resolving them as mandated by the National Historic

Preservation Act, (NHPA), as well as tribal consultation. When possible, recreation is moved away from cultural sites during project planning. At the Plan-level, numerous plan components protect cultural resources during forest management activities. For instance, FW-ARCH-DC1 states that, "Cultural and historic resources (including archaeological sites, historic buildings and structures, traditional cultural properties) are stable and are maintained in a manner that does not adversely affect their integrity, including:

- a) Visual and aesthetic integrity and physical association with culturally significant landscapes
- b) Surrounding landscapes that are resilient to natural ecological processes
- c) Long-term stability with other forest uses and the absence of vandalism, looting, or other human impacts
- d) Dual roles with administrative, recreational, or infrastructure facilities."

FW-ARCH-S1 states, "Cultural and historic resources must be protected during projects through mitigation measures and design features. In cases where the protection of cultural and historic resources is not possible or when the benefits of a project are deemed by administrative decision to be greater than the adverse effects to the cultural and historic resources, adverse effects to those resources will be resolved or mitigated."

REC025: There is both support and opposition to the use of motorized, battery powered / assisted, or e-bikes on Santa Fe NF system trails.

Associated Comments: #12651-2, #753-4, #753-8

Changes to Plan or EIS: None

REC025 Response: E-bikes and motorized bikes are managed under national direction, which currently considers them motorized vehicles and manages them as such. Thus, the Travel Management Rule applies, which the forest plan adheres to (see FW-ROADS-S-1). Further, allowing for the use of e-bikes beyond where they are already allowed under the Travel Management Rule is a project-level decision.

REC027: The ROS Affected Environments section of the EIS (p 403) should be rewritten to better describe the ROS framework, and should specially identify the six major classes (Urban, Rural, Roaded Modified/Roaded Natural, Semi-Primitive Non-Motorized, Semi-primitive Motorized, and Primitive) and their setting indicators (access, remoteness, naturalness, facilities, social encounters, visitor impacts, and visitor management).

Associated Comments: #11984-25, #11984-4

Changes to Plan or EIS: Plan and EIS

REC027 Response: We have added the following language to section 3.12.1.1 *Recreation Opportunity Spectrum* to clarify the ROS framework:

- In the paragraph just prior to the description of the six ROS classes: "The Forest Service uses six ROS classes as defined by in the USDA Forest Service 1986 publication "ROS Users Guide."
- To the end of the first sentence in that same paragraph, starting at "...to more developed settings, based on six factors: (1) access; (2) other non-recreational uses; (3) onsite

management; (4) social interaction; (5) acceptability of visitor impacts; and (6) acceptable level of regimentation (USDA Forest Service 1986).”

We have also defined the ROS classes in the Plan glossary for clarification to those who may not be familiar with the EIS. In order to maintain readability and usability of the Plan and EIS, setting indicators were not listed explicitly. Rather citations, including Clark and Stankey (1979), are used to direct readers to more information if they are interested. The Plan follows all law, regulation, and policy; however, even if specifics are not cited. It is understood that the ROS framework is being followed in totality, as required by policy.

REC028: The revised plan should better describe ROS desired conditions, standards, and guidelines.

Associated Comments: #11984-5, #11984-6

Changes made to Plan or EIS: Plan

REC028 Response: We clarified in the final Plan that the desired ROS setting in the Plan, as represented by the desired ROS map (Fig. 9 in appendix A of the Plan) are considered desired conditions towards which the forest must work by adding, FW-REC-DC-7: Desired ROS settings serve as the desired conditions for recreation (see Appendix A, Fig. 9-west and Fig. 9-east).

The definitions of ROS settings are listed in the Recreation section of the FEIS, and these definitions are considered the direction to follow when an area is mapped under a specific desired ROS setting. Additionally, there are multiple plan components throughout the Plan that direct managers to adhere to desired ROS settings, both in general and specifically.

REC029: There is both support and opposition to implementing more recreation fees on the Santa Fe NF.

Associated Comments: #12349-14, #12574-8

Changes made to Plan and EIS: None

REC029 Response: The establishment of new recreation fees is beyond the scope of the forest planning process. Congress controls the Forest Service budget, and give the agency the authority to charge fees at developed recreation sites under the Federal Lands Recreation Enhancement Act. This allows a higher level of infrastructure and service than the appropriated budget supports. While fees are used at some developed sites, there are numerous developed and dispersed recreation sites and activities that forest users can partake in that do not require fees. Currently, the fee structure on the Santa Fe National Forest is undergoing review in accordance with the requirements of the Federal Lands Recreation Enhancement Act.

REC030: The Santa Fe's revised plan should consider limiting campfires to developed recreation sites where permanent fire pits or fire grates exist.

Associated Comments: #12349-15

Changes made to Plan or EIS: None

REC030 Response: In the Plan, FW-DISREC-MA-2c suggests managers consider programs and educational techniques that promote visitor knowledge of fire prevention, especially how to properly extinguish campfires. Additionally, the Fire and Fuels section of the Plan outlines direction to reduce fire risk across the forest. For example, FW-FIRE-DC-1 directs that wildland fires “do not result in the loss of life, property, or cultural resource, or create irreparable harm to ecological resources,” and FW-FIRE-DC-4 states that, “Naturally cause fire predominates;

accidental human-caused fires (e.g., abandoned campfire, downed powerlines) are rare.” We believe this direction addresses the concerns expressed.

REC031/033: The Santa Fe's revised plan should include more multi-use trails. The Santa Fe should define multi-use to include mountain and e-bikes, OHV/UTV/ATVs, etc., and should identify locations where underutilized system roads can be converted to trails suitable for OHV, and other uses.

Associated Comments: #12367-1, #12367-4, #12472-3

Changes made to Plan or EIS: None

REC031/033 Response: Defining the use of specific trails on the forest is a project-level activity and is beyond the scope of the forest planning process. Motorized trails were defined under the Travel Management process, to which the forest plan adheres. The forest plan also directs projects to support dispersed recreation under a number of components, including FW-DISREC-DC2, “The design, construction, and maintenance of trails creates a trail system that is sustainable and consistent with user desires, enhances the recreation experience, diminishes user conflicts, and minimizes damage to other resources,” and FW-DISREC-O-1, O-2, and O-3, which direct general trail maintenance and improvements.

REC035/043: The final Plan must include standards for off-road vehicle designations and use that require: (1) The Forest Service apply the Executive Order 11644 and 11989.118 minimization criteria to projects that propose to create or modify off-road vehicle areas or trail designations, and (2) The Forest Service will create and carry out a strategy for monitoring the impacts of off-road vehicle use on Forest Service-administered lands, and make the monitoring results available to the public, including recommendations for amendments or rescissions of off-road vehicle designations.

Associated Comments: #12494-65, #12494-77

Changes made to Plan or EIS: None.

REC035/043 Response: Motorized use on the Forest is managed through the Travel management rule as implemented on the MVUM. Our plan adheres to the MVUM, as pointed out in the Roads section under FW-ROADS-S-1, which states: “Motor vehicle use must be managed to occur as depicted on the most recently updated motor vehicle use map (MVUM), except as authorized (e.g., by law, permit, agreement, etc.).” FW-DISREC-DC-1 also ensure dispersed recreation is consistent with management tools, which include the MVUM and ROS classes, and does not adversely affect ecological resources.

REC036/044: The final Plan should identify areas on the forest with adequate snowfall for Over-Snow Vehicle (OSV) use (if any) and find all other areas unsuitable for that use. For those areas with adequate snowfall, the final Plan should include minimum snow depth requirements for OSVs (over-snow vehicles) and include seasonal restrictions on the use of OSVs based on the best available science. Furthermore, the final plan should include an objective for over-snow vehicle travel where they commit to completing a review/analysis for winter travel across the forest.

Associated Comments: #12494-66, #12494-78

Changes made to Plan or EIS: EIS

REC036/044 Response: OSVs are managed through Subpart C of the Travel Management planning process, rather than the forest plan revision process. We removed the statements about

minimum snow-depth for over-snow travel in the FEIS as Subpart C of Travel Management has not yet been completed on the Santa Fe NF.

REC037: The final Plan should include management direction requiring a plan amendment to address new recreational based uses. The Santa Fe NF needs to establish a threshold level for recreation to ensure new activities are ecologically and socially sustainable, and would not impair ecological integrity.

Associated Comments: #12494-71

Changes made to Plan or EIS: None

REC037 Response: Data on visitation levels would not support this level of threshold analysis, as visitor data is collected only once every 5 years. However, numerous plan components ensure recreation activities are compatible with ecological integrity (see FW-REC-DC-6; FW-FECREC-DC-3; FW-DEVREC-G-1 and G-4; FW-DISREC-DC-1; FW-DISREC-DC-2; FW-DISREC-G-3, G-4, G-5, and G-6) and potential issues with new recreation can be addressed during project level analyses. For example, targeted prohibition or closures can be used to protect resource areas when sensitive restoration is ongoing or when resource impacts or concerns exist.

REC038: In the final Plan, management approach #1 for developed recreation (FW-DEVREC-MA) should be rewritten to specify that the assessment of the forest developed recreation program consider both the fiscal and ecological sustainability of the program. The final Plan should establish criteria for determining which recreation sites should be prioritized for decommissioning, closing, or repurposing.

Associated Comments: #12494-72a

Changes made to Plan or EIS: None

REC038 Response: The 2012 Planning Rule requires plan direction be within Forest fiscal capabilities, with respect to current budget levels. Additionally, we define sustainable recreation in the Plan glossary: "The set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations (36 CFR 219.19)."

That being said, there are ongoing efforts outside the forest planning process within the Southwestern Region that are addressing fiscal sustainability for the recreation program. Examples include the Fee Proposal, the Regional Sustainable Recreation Strategy and Forest Action Plan, the Asset Prioritization Index, the Strategic Regional Investment Enhancing Fiscal Sustainability in the Recreation Program, and the Capital Investment Program.

REC039: Desired condition #1 for dispersed recreation (FW-DISREC-DC-1) should be rewritten to better highlight the importance of consistency between the plan and ROS and the MVUM, such that it says, "Dispersed recreation is consistent with the MVUM, ROS classes, and other management tools and does not adversely affect ecological resources."

Associated Comments: #12494-73a

Changes made to Plan or EIS: None

REC039 Response: See REC015 and REC035/043

REC040/045: FW-DISREC-DC-3 should be retained in the final Plan without change, but should be cross-referenced with the roads plan components.

Associated Comments: #12494-73b

Changes made to Plan or EIS: None

REC040/045 Response: The Plan is meant to be read as one document, with the understanding that forest management is inherently interdisciplinary, and any one project requires input from many resource areas. Although plan components are not cross-referenced, the location of a component in one section does not mean other resource areas do not have to adhere to it.

REC041/042/045: The plan components for dispersed recreation should be carried forward to the final Plan as written. Standards 2 and 3 should be modified to more clearly state that all standards should apply to areas desired as semi-primitive non-motorized.

Associated Comments: #12494-75, #12494-74, #12494-79

Changes made to Plan or EIS: Plan

REC041/042/045 Response: All standards for dispersed recreation have been carried through to the final Plan. Additionally, we clarified throughout the Plan that when we refer to ROS settings we mean desired ROS settings (unless otherwise specified).

REC046: The Forest Plan should show how it intends to manage access across National Forest lands in compliance with Executive Order 13443 and the John D. Dingell, Jr. Conservation, Management, and Recreation Act.

Associated Comments: #12503-16, #12503-15

Changes made to Plan or EIS: None

REC046 Response: FW-REALTY-DC-2 states that “Rights-of-way and easements for National Forest system roads and trails provide access to lands within the forest,” and FW-ROADS-DC-1 states that “Safe transportation system and infrastructure accommodate needs for public access, land and resource management, and permitted activities, while contributing to social and economic sustainability.” These plan components support access to the forest, and numerous management approaches throughout the Plan support collaboration with partners (see Partnership section in the Plan). In addition, the Plan follows all law, regulation, and policy, whether or not it is cited specifically in the Plan language, as directed by the 2012 Planning Rule.

REC047: The final Plan should include specific desired conditions that recreational activities and infrastructure are designed and managed to reduce adverse effects on other resources.

Associated Comments: #12503-34

Changes made to Plan or EIS: None

REC047 Response: There are numerous plan components throughout the Plan that ensure recreational activities are compatible with other resources. For instance, FW-DEVREC-G-1, G-4, G-5; FW-DISREC-G-3, G-4, G-5, G-6.

REC049/059: The Santa Fe's final Plan should be in alignment with the Carson with regards to FW-ROADS-S-2 that would prevent the construction of permanent roads in semi-primitive non-motorized recreation areas in addition to areas designated as primitive.

Associated Comments: #12508-6, #459-2

Changes made to Plan or EIS: Plan

REC049/059 Response: We agree with this concern and have changed the Standard in question to reflect that we will not build permanent roads in areas with ROS settings of semi-primitive non-motorized.

REC050: Trail access and maintenance should be supported by the Forest Service as a major management goal, in keeping with the Agency's multiple-use policy.

Associated Comments: #23-2

Changes made to Plan or EIS: None

REC050 Response: Within the Plan there are multiple objectives for trail management and maintenance. See FW-DISREC-O-1, O-2, O-3. FW-DISREC-DC-2 also supports trail design, construction, and maintenance.

REC051/052/053: There is both support and opposition for mountain biking on the Santa Fe NF. Some commenters support maintaining or improving mountain bike access on SFNF system trails, and expanding access by opening trails to mountain bikes, and expanding and improving trail networks with the goal of reducing user conflict between mountain bikers and hikers and reducing stress on the current multi-use trail system. Commenters also voiced concern that areas frequented by mountain bikers should not be recommended wilderness. Other commenters expressed opposition to mountain biking on the forest.

Associated Comments: #12541-1, #12542-3, #12682-1, #12696-3, #12703-1, #12703-2, #12708-13, #12716-4, #12721-2, #12724-3, #12734-3, #12753-2, #12709-1, #12716-2, #12743-1, #12708-14, #12591-2, #12591-5

Changes made to Plan or EIS: None

REC051/052/053 Response: The Santa Fe NF is a multi-use forest and supports a variety of uses (FW-DISREC-DC-1 and DC-2, FW-REC-DC-6), including both mountain biking and hiking. The Plan supports reduced user conflict (FW-REC-DC-4) and education on trail-use etiquette (FW-DISREC-MA-2a). The Plan also focuses on partnerships to work toward better management, which can be seen in the Partnership section and in management approaches throughout the Plan (e.g., FW-DISREC-MA-10). FW-DISREC-MA-1 supports the development of a forestwide trail system, but the Plan does not specify new trail locations or uses--this is done at the project-level and is its own planning process. In addition to this, all recommended wilderness in the Plan avoid popular mountain biking areas that the Forest was aware of or that were identified by local biking interests during public participation.

REC054: Water-based recreation, such as rafting, canoeing, kayaking, paddle boarding, etc. should be protected on the SFNF as a unique activity, and direction in the Plan needs to make sure this use of the forest is maintained and preserved.

Associated Comments: #12725-8

Changes made in Plan or EIS: None

REC054 Response: While specific recreation activities are not called out, the Plan supports a variety of recreation uses on the Forest (FW-REC-DC6).

REC055: The Forest Service needs to support more education around safe and hygienic camping (e.g., Leave No Trace) to communities, particularly in local schools and colleges.

Associated Comments: #12634-7, #12651-7

Changes made in Plan or EIS: None

REC055 Response: FW-REC-MA-7 encourages managers to consider educational programs around Leave No Trace principles, and FW-REC-MA-2 promotes educational programs in schools and through youth activities. FW-DISREC-MA-2b and 2c encourage education on both Leave No Trace principles and campfires. Furthermore, partnership is a major theme throughout the Plan, with partnership considerations are found in the management approaches for most resources, and in the Partnership section. The Forest is encouraged to work with local governments and non-profits to improve services and education (FW-PARTNER-DC-1).

REC056: The SFNF should partner with local groups to design new multi-use trails that will minimize user conflict and improve access. The Plan should include a specific course of action to achieve this goal.

Associated Comments: #12524-2

Changes made to Plan or EIS: None

REC056 Response: Trail creation is its own ongoing planning process, separate from the forest plan revision process, and the Plan itself does not locate specific trails or trail uses. However, FW-DISREC-MA-1 supports the development of a forestwide trail system and the Plan components support a variety of recreation uses (FW-REC-DC-1 and DC-6) and reduced user conflict is a desired condition for the forest (FW-REC-DC-4). Furthermore, partnership is a major theme throughout the Plan, with partnership considerations are found in the management approaches for most resources, and in the Partnership section. The Forest is encouraged to work with local governments and non-profits to improve services and education (FW-PARTNER-DC-1).

REC057: The Forest Service should work with NMDGF to accommodate reasonable levels of hunting and modify these target numbers as conditions change.

Associated Comments: #12540-10

Changes made to Plan or EIS: None

REC057 Response: Decisions on hunting and fishing regulation is beyond the authority of the Forest Service. That being said, FW-TERRASH-MA-1 and FW-AQUASH-MA-1 both support collaboration with the NMDGF in terms of fish and wildlife management, and FW-REC-MA-1 supports collaborative management of sustainable recreation.

REC058: The Plan should modify FW-DISREC-DC-2 to support hiring from local communities as a priority for trail construction and maintenance. The modified DC should read: “The design, construction, and maintenance of trails creates a trail system that is sustainable and consistent with user desires, enhances the recreation experience, diminishes user conflicts, and minimizes damage to other resources. The labor force of trail construction and maintenance should prioritize recruiting from local traditional communities, historical communities, tribes, local Youth Corps., and other local communities found near or reliant on the National Forest.”

Associated Comments: #12528-94, #12698-99

Changes made to Plan or EIS: None

REC058 Response: The Forest Service works with local partners to the extent possible to hire and train local youth. There are ongoing partnerships with local communities and youth groups, and the Forest Plan emphasizes the importance of partnerships throughout and encourages their use to achieve management goals (see the Partnership section of the Plan). Additionally, management approaches in the Traditional Communities and Uses section of the Plan support working with local youth groups to support educational opportunities (e.g., FW-RURALH-MA-3).

REC060: New objectives should be added to the developed recreation section of the Plan that add new trail heads and expand parking areas for existing trail heads.

Associated Comments: #12524-3

Changes made in Plan or EIS: None

REC060 Response: The Plan supports a sustainable recreation system (FW-REC-DC-6, FW-DEVREC-G-1) and is adaptable to changes in user needs (FW-DEVREC-DC-1). Part of keeping the recreation program sustainable is ensuring that recreation development is within the capacity of the Forest to manage effectively, and objectives reflect this capacity.

REC061: Supporting recreation and the tourism dollars it brings in should be the main focus of the Plan.

Associated Comments: #12651-10

Changes made to Plan or EIS: None

REC061 Response: The Plan reflects the multiple uses of the Forest, and supports the entirety of diverse experiences, resources, and needs associated with it, as required by the MUSYA and the NFMA. Supporting the socioeconomic needs of communities is reflected as an important part of the Plan through the Northern New Mexico Traditional Communities section, and in the specific case of recreation use, in the four recreation sections. Tourism was analyzed in the Socioeconomic section of the EIS, and is recognized as an important contribution of the Forest to the state and counties.

REC062: The General Recreation narrative should be written so that the subsistence practices of traditional communities are discussed at the beginning, rather than at the end, of the section. This will provide better context for the distinctions in uses between traditional communities and recreation enthusiasts.

Associated Comments: #12528-93, #12698-98

Changes made to Plan or EIS: Plan

REC062 Response: The discussion on cultural ecosystem services is placed where it is in the narrative because ecosystem services is the last topic discussed in every narrative, thus maintaining narrative patterns across the Plan that make it easy to find topics. The narrative placement is not meant to establish a hierarchy of importance. However, we recognize that subsistence use of the Forest is not a recreational activity and this discussion will be moved to the Northern New Mexico Traditional Communities section of the Plan.

REC063: Traditional practices, such as fishing, should be taken into consideration when actions to mitigate ecological impact are taken by the Forest. In addition, the Forest should consider indirect effects of closures and redistributing recreational pressure toward alternative use areas that may become further impacted.

Associated Comments: #12665-75

Changes made to Plan or EIS: None

REC063 Response: The Plan is silent on closure orders. These are project-level decisions and impacts are evaluated for each project during project planning.

REC064: There is general support for the Plan's direction on trail maintenance. There is also support for continued maintenance and trail creation on the forest, and for partnerships that facilitate trail work.

Associated Comments: #12665-76, #12734-4, #12754-2

Changes made to Plan or EIS: None

REC064 Response: This direction will be carried forward for the final Plan.

REC065: The Forest Service should put more emphasis on partnership and volunteer programs that facilitate trail building and maintenance.

Associated Comments: #13437-1

Changes made to Plan or EIS: None

REC065 Response: Partnerships are emphasized throughout the plan in management approaches (e.g., FW-REC-MA-1), and in the Partnership section.

REC066: Guideline 4 under Developed Recreation should include additional language that multi-use trails will avoid and be re-routed away from seeps and springs used by wildlife.

Associated Comments: #12665-74

Changes made to Plan or EIS: Plan

REC066 Response: We will include this suggestion in the final Plan. FW-DEVREC-G-4 will have this language added in the list of examples of how to reduce human-wildlife conflict.

REC068: Quality recreation and healthy forest are directly related to quality of life in Santa Fe, and should be acknowledged as such.

Associated Comments: #12609-2

Changes made to Plan or EIS: None

REC068 Response: Quality of life was analyzed in the EIS under the socioeconomic section. We agree that recreation and healthy ecosystems support improved quality of life in communities around the Forest.

Recreation Special Uses Comment Response

RSU001/002: Recreation residences should be recognized in the language of the revised forest plan as an authorized and valid ongoing use of the forest. To reflect this, the narrative on page 133 of the revised

forest plan should be modified so the last three sentences of the opening paragraph read as follows: “Recreation special uses may include ski areas, outfitter and guides (e.g., hunting, rafting, and backpacking), and recreation events. There are also 109 recreation residences in 4 organized tracts and at least one isolated cabin in the forest. Many recreational special uses provide economic opportunities and sustainability to local communities. Additional information regarding recreation residences and isolated cabins can be found in the Lands Special Uses section of the plan.”

Associated Comments: #89-1, #479-2, #12358-2, #12488-2, #12516-1, #458-1, #12301-1

Changes made to Plan or EIS: Plan

RSU001/002 Response: Discussion of recreation residences has been relocated to the Recreation Special Uses section of the Plan, and the sentence mentioned in the concern statements has been edited to read, “Recreation special uses may include ski areas, outfitter and guides (e.g., hunting, rafting, and backpacking), recreation events, recreation residences, and the Cowles Lease Area.”

RSU003: The revised forest plan should have additional management direction for recreation special uses, addressing basic requirements concerning siting, seasonality, timing, size, event types, management requirements, potential user conflict, and public engagement.

Associated Comments: #12494-80

Changes made to Plan or EIS: None

RSU003 Response: Concerns around concerning siting, seasonality, timing, size, event types, management requirements, potential user conflict, and public engagement are outside of scope of the forest planning process. These concerns are addressed through site specific NEPA, as given the uniqueness of the recreation special uses proposals we receive it would be difficult to do address concerns at scale. Beyond this, use-screening process are already done via existing law, policy, regulations (36 CFR 251. 54), which the Plan does not repeat.

RSU004: The final EIS should include a need and capacity analysis for outfitting and guiding, with consideration of harvest limits imposed by the New Mexico Department of Game and Fish.

Associated Comments: #12494-84 (a), #12496-1

Change made to Plan or EIS: None

RSU004 Response: This concern is outside the scope of the forest planning process. The Forest Service is only responsible for the care of habitat, not permitting related to hunting. The NMDGF sets harvest limits and the Forest Service does not grant outfitting and guide permits without proper documentation from the NMDGF. In a process separate from forest planning, the Forest is working on a statewide Forest Service Outfitting and Guide process.

RSU005: Plan components should be added to the revised forest plan directing where, how, and to what degree outfitting and guiding will be allowed on the national forest.

Associated Comments: #12494-84 (b)

Changes made to Plan or EIS: None

RSU005 Response: This concern is addressed in FW-RECSU-G-1 of the Plan. Beyond this, in a process separate from forest planning, the Forest is working on a statewide Forest Service Outfitting and Guide process.

RSU006: Permitting and fee practices should encourage events and special uses on the Santa Fe National Forest rather than limit them.

Associated Comments: #12574-7

Changes made to Plan or EIS: None

RSU006 Response: Fees are set at a national level and are not done on a case by case basis (FSH 2709.11 Ch.30). Desired Conditions in the Recreation Special Uses section support recreation special use opportunities that address public demand in an ecologically sustainable manner (see FW-RECSU-DC-1, DC-2, DC-3, and DC-4).

RSU007: Direction should be added to the revised forest plan acknowledging photography and photographers as a forest use, and that they will be fully supported under Public Law 106-206.

Associated Comments: #12574-9

Changes made to Plan or EIS: None

RSU007 Response: This concern is addressed through existing regulation (FSH 2709.11 Chapter 45 and 52), which is not repeated in the Plan.

RSU008: The Santa Fe National Forest needs better recreational facilities, trails, and planning, as well as business permits for guiding and shuttling.

Associated Comments: #12609-4

Changes made to Plan or EIS: None

RSU008 Response: The Forest has a robust outfitter and guide program that supports a number of recreation activities, including snowshoeing, hunting, hiking, and jeep tours. This program will be supported through Desired Conditions that supports recreation special uses that address public demand in an ecologically sustainable manner (see FW-RECSU-DC-1, DC-2, DC-3, and DC-4). However, while we are open to any requests, it would not be appropriate for the Forest Service to solicit outfitters and guides.

RSU009: In the revised forest plan's Recreation Special Uses section, Standard 1 should be modified to read: "Commercial use of domestic sheep and goats (e.g., for filming, as pack animals, etc.) must not be authorized in areas occupied by **or adjacent to** bighorn sheep or in areas where bighorn sheep travel, to prevent the spread of disease between domestic and wild populations".

Associated Comments: #12665-77

Changes made to Plan or EIS: Plan

RSU009 Response: We have modified FW-RECSU-S-1 to reflect this wording.

RSU010: The revised forest plan should include language acknowledging the positive impacts of summer homes and leases reminiscent of language included in the vision and supporting text of the 2008 summer home land lease renewal document.

Associated Comments: #13611-4, #13611-5

Changes made to Plan or EIS: Plan

RSU010 Response: We have added a statement in the Recreation Special Uses section of the Plan that mentions the Cowles Lease Area.

Roads and Facilities

RD001: There is both opposition to and support for increasing access to the Santa Fe National Forest.

Associated Comments: #3-4, #12574-5, #12720-9

Changes made to Plan or EIS: None

RD001 Response: The forest plan is strategic in nature and does not include project and activity decisions. Accordingly, the forest plan does not direct or designate routes or areas for motorized travel. Specific access and motorized use determinations would be done through future project-level decision making, including the implementation of the Travel Management Rule (36 CFR §212). Plan has language supports that implementation by directing interest to the Motor Vehicle Use Map (MVUM), which shows the public road system established by the TMR (see FW-ROADS-O-1).

RD002: There is concern about poor road maintenance on the Forest.

Associated Comments: #23-1, #12028-5

Changes made to Plan or EIS: None

RD002 Response: We address maintenance concerns in the Plan under FW-Roads-DC-1.

RD003: ADA requirements should be considered in the forest plan and added in the form of components that afford year-round, affordable Forest accessibility.

Associated Comments: #85-1

Changes made to Plan or EIS: None

RD003 Response: Forest projects and activities are to be consistent with the direction in the final Plan and compliant with all current law, regulation, and policy as is stated in the final Plan (Final Plan, Chapter 1, Introduction, Purpose of the Forest Plan). The final plan does not reiterate higher-level direction. A partial list of applicable laws, regulations, executive orders, and policy for are included for reference in appendix E.

RD004: The FEIS should include a minimum road density analysis addressing the cumulative impacts of roads on wildlife and natural resources.

Associated Comments: #197-25 (a), #197-73 (a)

Changes made to Plan or EIS: None

RD004 Response: This comment is outside scope of the plan and revision process. Road density analyses are done at the project-level.

RD005: The FEIS should include an alternative that analyzes and addresses road-related fire ignitions in relation to access.

Associated Comments: #197-25 (b), #197-29, #197-30

Changes made to Plan or EIS: None

RD005 Response: Fuel treatment objectives in the Plan are aimed at reducing the risk and severity of all types of fire starts on the forest (see the Vegetation section of the Plan). However, vehicle ignitions have not historically been a source of ignitions on the forest, and all UTVs and ATVs are required to have working spark arresters.

RD006: The FEIS should include an analysis of road-related impacts to natural resources and wildlife, including water quality, habitat fragmentation, invasive species spread, and soil erosion; mitigation of these impacts should be detailed for road construction and maintenance.

Associated Comments: #197-29, #197-30, #12670-2

Changes made to Plan or EIS: None

RD006 Response: Road density and road impacts are analyzed throughout the FEIS, both in section 3.13, Roads and Infrastructure, and under various resources that are impacted by roads (e.g., section 3.4, Watersheds and Water Resources). Resource protection in the context of roads is addressed under FW-Roads- G-1, G-4, G-8, G-9, and G-10. The Water Resources section and the Soil section of the Plan also direct managers to follow BMPs. Identifying specific roads for decommissioning is a project level decision that is outside the scope of the forest planning process.

RD007: The Forest Service should not construct any new motorized trails, regardless of existing infrastructure.

Associated Comments: #12540-8

Changes made to Plan or EIS: None

RD007 Response: Defining the use of specific trails on the forest is a project-level activity, and is beyond the scope of the forest planning process. Motorized use on the Forest is managed through the Travel management rule as implemented on the MVUM. Our plan adheres to the MVUM, as pointed out in the Roads section under FW-ROADS-S-1, which states: "Motor vehicle use must be managed to occur as depicted on the most recently updated motor vehicle use map (MVUM), except as authorized (e.g., by law, permit, agreement, etc.)."

The forest plan also directs projects to support sustainable recreation under a number of components, including FW-DISREC-DC2, "The design, construction, and maintenance of trails creates a trail system that is sustainable and consistent with user desires, enhances the recreation experience, diminishes user conflicts, and minimizes damage to other resources," and FW-DISREC-O-1, O-2, and O-3, which direct general trail maintenance and improvements.

Defining the use of specific trails on the forest, however, is a project-level activity, and is beyond the scope of the forest planning process. Motorized trails were defined under the Travel Management process, to which the forest plan adheres.

RD008: There is both support for and opposition to the decommissioning, naturalization, or closure of roads and trails on the Santa Fe NF.

Associated Comments: #197-73 (b), #459-3, #498-21, #10185-10, #12497-7, #12574-5, #12717-1, #12941-10, #13499-7

Changes made to Plan or EIS: Plan

RD008 Response: The Forest is not making site-specific decisions, such as the closure or decommissioning of specific trails, in the forest plan. Appropriate routes for off-highway vehicle use have been and continue to be addressed through the Travel Management Rule (TMR) process, which makes decisions on road and trail use based on site-specific information.

Some commenters have expressed concern with the Water Resources objective that mentions decommissioning at least 100 miles of route (e.g., system roads, unauthorized routes, and trails) on the Forest. This objective is aligned with the travel management decision and is not a decision to create additional, new limitations to motorized use on the Forest. FW-ROADS-MA-2 has been modified to suggest that non-publicly used roads are prioritized for decommissioning within project areas, however:

- Within project areas, prioritize decommissioning of roads and routes that are redundant, that adversely impact flow regimes, **that are not used by the public**, or that cause resource damage.

In the FEIS, we analyze a range of road decommissioning objectives and their impacts on the forest (for example, see section 3.4 Watersheds and Water Resources). In the Proposed Action, there is an emphasis on maintaining or decommissioning roads, which are part of a series of objectives to move watersheds toward desired conditions. Objectives include:

- Over 10 years, improve watershed function by decommissioning or mitigating impacts (e.g., maintenance, improvements, reroutes) on at least 100 miles of route (e.g., system roads, unauthorized routes, trails) to the point of restoring hydrologic and ecological function.

In addition, guidelines ensure that roads are not added to the system.

- Decommissioning of roads at the project level should be based on resource needs.
- Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects should be closed and rehabilitated (restored to more natural vegetative conditions) upon project completion to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use.

While these plan components ensure resource protection, the Proposed Action also has objectives that give the option to mitigate road impacts (resurfacing) instead of decommissioning them, which can help maintain motorized access for traditional and cultural uses while maintaining many areas that can only be accessed through non-motorized means can be less obtrusive and allow for more privacy.

RD009/010/013: There is a general concern that plan components should protect the health and function of natural resources from negative impacts related to roads and vehicular or motorized traffic. Some commenters asked that plan components, including objectives, be added to the plan that naturalize or decommission unneeded or temporary roads where it will benefit fish and wildlife or improve water quality and watershed health, and that mitigate the impacts of vehicular traffic, new road construction, or road realignment. Other commenters also wanted components to limit the impacts of forest roads and motorized uses, but also ensure that the forest maintains current roads for anticipated traffic loads.

Associated Comments: #4095-7, #4095-8, #9836-6, #12492-8, #12708-7, #12685-15

Changes made to Plan or EIS: None

RD009/010/013 Response: Motorized route densities and the impact they have on watershed health and functioning are analyzed in the Watersheds and Water Resources section of the EIS (section 3.4). Road impacts on ecological resources are also analyzed in the Soils section of the EIS (final EIS, Soils, section 3.6.4.3.3) and in the Roads and Facilities section of the EIS (final EIS, Roads and Facilities, section 3.13.4.2).

Direction throughout the Plan ensures sustainable infrastructure (e.g., roads, recreation and administrative facilities, range improvements, maintenance, etc.) and there is an emphasis on maintaining or decommissioning roads, which are part of a series of objectives to move watersheds toward desired conditions. Objectives include:

- FW-WATER-O-2: Over 10 years, improve watershed function by decommissioning or mitigating impacts (e.g., maintenance, improvements, reroutes) on at least 100 miles of route (e.g., system roads, unauthorized routes, trails) to the point of restoring hydrologic and ecological function.

FW-WATER-O-2 gives the option to mitigate road impacts (resurfacing) instead of decommissioning them, which can help maintain motorized access while mitigating the negative impacts of poorly maintained roads (e.g., erosion, siltation, etc.). Guidelines also address negative impacts of existing roads (see all guidelines in the Roads section of the Plan), and ensure that roads are not added to the system:

- FW-ROADS-G-5: Decommissioning of roads at the project level should be based on resource needs.
- FW-ROADS-G-8: Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects should be closed and rehabilitated (restored to more natural vegetative conditions) upon project completion to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use.

There are also management approaches throughout the Plan that provide suggestions for how to prioritize road projects for resource needs, such as seasonal restrictions to protect wildlife (FW-TERRASH-MA-3).

Beyond these plan components, design features are used during site-level planning to mitigate impacts. These are established on a case-by-case basis following best management practices.

RD011: There is support for removing unneeded infrastructure from the Forest.

Associated Comments: #10185-9

Changes made to Plan or EIS: None

RD011 Response: As detailed in chapter 1 of the final Plan, managing the forest's infrastructure is one of the Needs for Change we identified at the beginning of the plan revision process. Infrastructure is addressed in multiple sections of the Plan, such as standards and guidelines that address negative impacts of existing roads (see all guidelines in the Roads section of the Plan).

Other plan direction moves the forest toward a more sustainable infrastructure system (e.g., roads, recreation and administrative facilities, range improvements, maintenance, etc.) that protects other forest resources while maintaining access and structural needs. For example:

- FW-AQUASH-G-2: Human-made structures (e.g., instream structures or fencing) should be maintained to support the purposes for which they were built or removed when no longer needed.
- FW-TERRASH-G-2: Infrastructure (e.g., fences and roads) should be designed, modified, or removed to minimize impacts on wildlife movement and improve habitat connectivity.
- FW-RANGE-S-1: Annually remove, improve, or reconstruct at least 5 percent of the forest's range infrastructure that is no longer necessary or in poor or non-functional condition.
- FW-RANGE-S-2: Maintain, improve, or install at least one water feature per year to improve water availability for wildlife or livestock where natural water sources are limited.

RD012/RD046: There is a lack of consideration in the forest plan and DEIS of the impact of roads and road density on natural resources and ecological integrity. In keeping with the best available science, this area of concern should be added to planning documents. The final EIS should include a comprehensive analysis of the impacts of road densities on natural resources and determine density thresholds necessary to protect ecological values on the Forest, focusing on sensitive areas such as watersheds, wildlife habitat and migration routes, and flood-prone areas that may wash out during weather events. This analysis should be cross-referenced with the road-focused analysis in the DEIS's Water section and illustrated with road density maps. Plan components should be added to the revised forest plan incorporating road density thresholds that create a sustainable, minimized road system that maintains and restores ecological integrity on the Forest.

Associated Comments: #12030-5, #12494-48, #12494-49, #12494-50, #12494-51, #13262-2

Changes made to Plan or EIS: None

RD012/RD046 Response: The Forest Service does not have an inventory of all unauthorized routes. On the Santa Fe NF, road density and use are addressed through the implementation of the Travel Management Rule and the plan has language to support that implementation (see FW-ROADS-O-1). A motor vehicle use map (MVUM) is published annually designating motor vehicle use pursuant to 36 CFR 212.51, designating legal use of National Forest System roads, trails and areas in the Santa Fe National Forest. All other roads are documented in a Forest Service database known as INFRA.

Because road impacts to both wildlife and watersheds are more complex than simple road densities and may be equally affected by road design and location, we chose not to identify road densities in the Plan as a unit of measure. However, motorized route densities and the impact they

have on watershed health and functioning are analyzed in the Watersheds and Water Resources section of the EIS (section 3.4).

See response to RD009/010/013 for more on how road impacts to other resources have been mitigated through plan direction.

RD015/016: The final EIS should include an analysis of the Forest's road maintenance budget and how the Forest will address right-sizing the road systems to match budgetary limitations. The final Plan should include plan components addressing fiscal challenges for road management.

Associated Comments: #12494-52 (a), #12494-52 (b)

Changes made to Plan or EIS: None

RD015/016 Response: We acknowledge that the transportation system maintenance program, as it exists, is not sustainable given the size of the system and level of resources currently available to maintain it. Because of this, one of the Needs for Change identified during the plan revision process was to create plan direction that ensures sustainable infrastructure (e.g., roads, recreation and administrative facilities, range improvements, maintenance, etc.) and standards and guidelines that address negative impacts of existing roads (See response to RD009/010/013 for more on how road impacts to other resources have been mitigated through plan direction). In the Assessment and EIS, we discuss the economic challenges of managing the road system (see Table 88 in FEIS for breakout of maintenance costs, and Chapter 7 in the Vol. 2 of the Assessment).

The 2012 Planning Rule requires the Plan and alternatives to be based on the fiscal capability of the unit. As described in Forest Service Handbook 1909.12 Chapter 22.12, objectives in the Plan were identified through a trend analysis of the recent past budget obligations for the unit (3 to 5 years). In addition, the Plan includes management approaches to use shared stewardship, partnerships, and volunteers to increase capacity to achieve desired conditions and/or conduct monitoring (see the Partnership section of the Plan).

The purpose of the land management plan is to guide future project and activity decision making. Although some commenters requested an identification of the "cost of the plan" or portions of the plan, it would be highly speculative to estimate the cost of plan implementation as specific locations, timing, and activities associated with implementation are unknown at this time. In addition, forest plans do not make budget decisions. Should Congress emphasize specific programs by appropriation, a redistribution of priorities would follow, regardless of the alternative implemented. In all management activities, the Forest would still be required to either be making progress toward, or not be precluding achievement of the desired conditions. Reduced budgets or changed priorities may change the speed at which this occurs but does not change our obligation to meeting them.

RD017/018/026: There was a general concern that the Draft Plan and EIS did not fully address the effects of climate change on the Santa Fe NF's road system. Some commenters asked that the final EIS provide increased analysis of the effects of climate change on the forest road system and how the Santa Fe National Forest will adapt its road system under changing climate conditions; analysis must include scientific studies on roads and climate change to meet BASI requirements. Another group of commenters believed the forest plan should add direction on adapting the forest transportation system under climate change conditions, including identifying and addressing climate vulnerabilities. The following desired condition was suggested as one possible plan component to add to the final Plan:

- “The transportation system is designed and maintained to withstand future storm events associated with climate change and to facilitate climate change adaptation.”

Associated Comments: #12494-53, #12494-54, #12494-56 (b)

Changes made to Plan or EIS: None

RD017/018/026 Response: Although we do not analyze climate change directly as an indicator in the FEIS, we address it as a driver and stressor that will affect resources. The main stressors on the transportation system the stem from climate change are wildfires and floods, which we in greater detail in the Assessment (Vol. 2, ch. 7).

Direction in the final Plan, based on our analysis, supports a sustainable infrastructure system that is resilient and sensitive to changing conditions on the forest and the needs of our publics (See response to RD009/010/013 for more on how road impacts to other resources have been mitigated through plan direction).

RD019: The desired condition in the roads section, “Safe transportation system and infrastructure accommodate needs for public access, land and resource management, and permitted activities, while contributing to social and economic sustainability,” should be modified to account for fiscal and environmental sustainability; the modified DC should read: “Safe transportation system and infrastructure **is fiscally and environmentally sustainable, well-maintained and appropriately sized, and** accommodates needs for public access, land and resource management, and permitted activities, while contributing to social and economic sustainability.”

Associated Comments: #12494-55 (a)

Changes made to Plan or EIS: None

RD019 Response: See the response to RD015/016 for more on budgetary issues and partnerships related to roads, the response to RD009/010/013 for more on how road impacts to other resources have been mitigated through plan direction while maintaining appropriate access, and the response to RD012/RD046 for more on road densities.

RD020: Desired conditions in the Roads section of the revised forest plan should be modified to the following language: “Roads do not cause adverse impacts to environmental or cultural resources,” or “System road and trail infrastructure has minimal impacts on ecological and cultural resources.” This language addresses issues missing in the Plan, including fiscal sustainability, climate change, and the application of BMPs.

Associated Comments: #12494-55 (b)

Changes made to Plan or EIS: None

RD020 Response: Multiple plan components already address the impacts roads or trails may have on ecological or cultural resources. For example, FW-DISREC-G-3 addresses the issue of motorized trails having an adverse impact on cultural resources or at-risk species. All of the guidelines in the Roads section of the Plan also provide direction to mitigate the potential for roads or road management to adversely impact other forest resources. See the response to RD009/010/013 for more on how road impacts to other resources have been mitigated through plan direction while maintaining appropriate access, the response to RD017/018 for more on how we analyzed the effects of climate change on the transportation system, the response to RD015/016 for more on budgetary issues related to roads and the response to RD012/RD046 for more on road densities.

RD021: There is support for FW-ROADS-DC-3 and FW-ROADS-G-7

Associated Comments: #12494-55 (c), #12494-62 (d)

Changes made to Plan or EIS: None

RD021 Response: These plan components are retained in the final Plan.

RD022: In the Roads section of the forest plan, the following desired condition should be added: Forest roads, bridges, and trails provide safe, legal, and reasonable access for traditional and cultural uses, and recreational uses.

Associated Comments: #12494-55 (d)

Changes made to Plan or EIS: None

RD022 Response: Current desired conditions address safety and reasonable access for the public (FW-ROADS-DC-1) and traditional communities (FW-ROADS-DC-4) that may have different access needs (e.g., grazing permittees who need to access allotments).

RD023: FW-ROADS-DC-5 should be modified by removing “use of” at the beginning, so it reads: “NFS roads do not hinder wildlife movement or interrupt critical life-cycle needs (e.g., calving, nesting, and mating).” This change is to make it clear that system roads themselves, not just the use of such roads, should not hinder wildlife movement or interrupt life-cycle needs. Roads can negatively affect habitat connectivity and wildlife movement even if they are rarely used.

Associated Comments: #12494-55 (e)

Changes made to Plan or EIS: None

RD023 Response: Rewriting this desired condition to remove “Use of” would not be achievable, as we have limited ability to restrict use of publicly available roads. While desired conditions do not need to be achievable during the life of the Plan, we must be able to realistically move forest management toward achieving the condition described. Already in the Plan, however, are multiple components that mitigate the impacts of roads or road management on wildlife. Some examples include:

- FW-TERRASH-G-1: “Human-made structures (e.g., fences, steel posts, or vent pipes) should be constructed and maintained to minimize wildlife mortality (e.g., capped fence posts) and removed when no longer needed.”
- FW-TERRASH-G-2: “Infrastructure (e.g., fences and roads) should be designed, modified, or removed to minimize impacts on wildlife movement and improve habitat connectivity.”
- FW-TERRASH-MA-3: “Consider seasonal road restrictions and area closures to provide refuge in small and large blocks of land for a wide range of species.”
- FW-ROADS-G-8: “Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects should be closed and rehabilitated (restored to more natural vegetative conditions) upon project completion to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use.”
- FW-ROADS-G-10: “If at-risk species are present and will be impacted by road maintenance activities, work should be conducted to avoid or minimize noise and habitat disturbance and outside of critical life-cycle periods (e.g., breeding or nesting for birds) or when animals may not be present (e.g., during migration).”

RD024: The following desired condition should be added to the Roads section of the forest plan: "Unneeded roads and trails, are decommissioned to reduce impacts to ecological resources (i.e., watersheds, wildlife, and soil erosion) and improve habitat connectivity."

Associated Comments: #12494-55 (f)

Changes made to Plan or EIS: None

RD024 Response: This concern is addressed under FW-ROADS-G-5, which covers the intent and better meets the Santa Fe NF's needs.

RD025: The following desired condition should be added to the Roads section of the forest plan: "The transportation system reflects long-term funding expectations."

Associated Comments: #12494-56

Changes made to Plan or EIS: None

RD025 Response: See the response to RD015/016 for more on fiscal and budgetary issues related to roads.

RD027: A desired condition should be added to the Roads section of the revised forest plan with the following language: "The transportation system meets road density thresholds, based on the best available science, for all motorized routes in important watersheds and wildlife habitat, migratory corridors, and general forest matrix, and for relevant threatened and endangered species and species of conservation concern."

Associated Comments: #12494-56 (c)

Changes made to Plan or EIS: None

RD027 Response: See the response to RD012/RD046 for more on road densities.

RD028: The following objectives should be added to the revised forest plan's Roads section:

- Within 10 years following plan approval, 100 miles of roads are decommissioned or mitigated.
- Over the life of the plan, implement the minimum road system pursuant to 36 C.F.R. § 212.5(b).
- Within 10 years of plan approval, address all roads within watersheds contributing to sediment or temperature impairment under section 303(d) of the Clean Water Act.

Objectives should also include criteria to prioritize road decommissioning based on mitigating impacts to ecologically sensitive areas.

Associated Comments: #12494-58

Changes made to Plan or EIS: None

RD028 Response: The intent of the suggested plan components are captured in FW-WATER-O-2 and have been addressed during the implantation of the Travel Management Rule (TMR). Through the TMR process, a minimum road system was determined, which can be found on the motor vehicle use map (MVUM) that is published and updated annually pursuant to 36 CFR 212.51. Some criteria to prioritize road decommissioning are suggested in the management approaches of the Roads section and other section of the Plan (e.g., FW-ROADS-MA-2, FW-

TERRASH-MA-3, etc.). These approaches guide the specifics on road decommissioning on a site-specific project or planning.

RD030: Standard 2 in the Roads section of the Plan should be modified to include areas designated as semi-primitive non-motorized in the ROS, as none of the plan components in the Roads section of the Draft Plan specifically mention or apply to semi-primitive non-motorized areas.

Associated Comments: #12494-59 (b)

Changes made to Plan or EIS: None

RD030 Response: Semi-primitive non-motorized areas are included in FW-ROADS-S-2.

RD031: Standard 1 in the Roads section of the forest plan should be modified to match the language found in the Carson National Forest's plan: "Motor vehicle use off the designated system of roads, trails, and areas identified on the [Santa Fe's] most updated motor vehicle use map is prohibited, except as authorized by law, permits, or orders, to protect public safety and ecological resources." This is due to the concern that the word, "agreement" in the Standard as it is in the Draft Plan may authorize motor vehicle use that is not consistent with the MVUM. It is not clear for the purposes of this standard what would constitute a valid "agreement" authorizing motor vehicle use that would ordinarily be prohibited.

Associated Comments: #12494-59 (a)

Changes made to Plan or EIS: Plan

RD031 Response: We agree that the word "agreement" in this context is not specific and could be interpreted in various ways. We removed this example from the final Plan.

RD032: The final Plan should include a standard with the following language: "Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects shall be decommissioned upon project completion, to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use."

Associated Comments: #12494-60

Changes to Plan or EIS: None

RD032 Response: In the Plan, FW-ROADS-G-8 covers this concern: "Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects should be closed and rehabilitated (restored to more natural vegetative conditions) upon project completion to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use." We believe this is appropriate as a guideline, rather than a standard, because, different from standards, guidelines allow for departure from their terms, so long as the intent of the guideline is met. This allows for flexibility on the ground, which is necessary for adapting to changing circumstances in the forest.

RD033: The revised forest plan's Roads section should include the following standards:

- To ensure ecological integrity and species viability, establish road density standards based on the best available science for all motorized routes in important watersheds, wildlife habitat, migratory corridors, and general forest matrix; and for relevant species or resources present on the forest, including but not limited to threatened and endangered species and species of conservation concern.

- Within 3 years of plan adoption, the forest shall identify its minimum road system and an implementation strategy for achieving the minimum road system that is consistent with forest plan direction and relevant regulatory requirements.
- The forest shall identify and update as necessary its road management objectives for each system road and trail.
- All roads, including temporary roads, comply with applicable and identified Forest Service BMPs for water management. Implement BMP monitoring to evaluate BMP effectiveness and identify necessary modifications to address deficiencies.

Associated Comments: #12494-61

Changes made to Plan or EIS: None

RD033 Response: The minimum publicly accessible road system was identified during the Travel Management Process, which occurred as a process separate from the forest planning process. Plan components in the Roads section mitigate road impacts and objectives in the Water Resources section set goals for road decommissioning (FW-WATER-O-2). These objectives are based on current Forest capacity (e.g., personnel, current budgets, etc.). The Water Resources section and the Soil section of the Plan also direct managers to follow BMPs. Road density and road impacts are analyzed throughout the EIS, both in section 3.13, Roads and Infrastructure, and under various resources that are impacted by roads (e.g., section 3.4, Watersheds and Water Resources; see the response to RD012/RD046 for more on road densities.). Identifying specific roads for decommissioning is a project level decision that is outside the scope of the forest planning process, but FW-ROADS-MA-2 suggests several ways project managers may consider prioritizing roads to decommission.

RD034: The revised forest plan should add the following guidelines to its Roads section:

- The forest shall make annual progress toward achieving the minimum road system and motorized route density standards.
- Project-level decisions with road-related elements implement TAR recommendations and advance implementation of the minimum road system and motorized route density standards.
- Prioritize maintenance of needed routes based on: providing passenger vehicle access; storm-proofing needs and opportunities (e.g., relocating roads away from water bodies, resizing or removing culverts, etc.); restoring aquatic and terrestrial habitats and habitat connections; and increasing resilience.

Associated Comments: #12494-62 (f)

Changes made to Plan or EIS: None

RD034 Response: The minimum publicly accessible road system was identified during the Travel Management Process, which occurred as a process separate from the forest planning process. Plan components in the Roads section mitigate road impacts and objectives in the Water Resources section set goals for road decommissioning. These objectives are based on current Forest capacity (e.g., personnel, current budgets, etc.).

The Water Resources section and the Soil section of the Plan also direct managers to follow BMPs. Road density and road impacts are analyzed throughout the EIS, both in section 3.13, Roads and Infrastructure, and under various resources that are impacted by roads (e.g., section 3.4, Watersheds and Water Resources; see the response to RD012/RD046 for more on road densities).

Identifying specific roads for decommissioning is a project-level decision that is outside the scope of the forest planning process. Some criteria to prioritize road decommissioning are suggested in the management approaches of the Roads section of the Plan, or in other sections of the Plan (e.g., FW-ROADS-MA-2, FW-TERRASH-MA-3, etc.). However, these are not appropriate as guidelines, as they require site-specific information and project planning.

RD035: Guideline 1 in the Roads section of the revised forest plan should be modified to apply to decommissioning as well as construction and maintenance, and add that BMPs should be incorporated “to prevent damage to ecological or cultural resources.”

Associated Comments: #12494-62 (a)

Changes made to Plan or EIS: Plan

RD035 Response: We have added “decommissioning” to FW-ROADS-G-1

RD036: Guideline 5 in the Roads section of the revised forest plan should be modified to read: "Prioritize road decommissioning to enhance landscape connectivity and ecological integrity based on: effectiveness in reducing fragmentation, connecting un-roaded and lightly-roaded areas, and improving stream segments, with a focus on inventoried roadless areas, important watersheds, and other sensitive ecological and conservation areas and corridors; benefit to species and habitats; addressing impaired or at-risk watersheds; achieving motorized route density standards; enhancement of visitor experiences; and cost-effectiveness and feasibility, including opportunities to incorporate road decommissioning work into other forest projects."

Associated Comments: #12494-62 (b)

Changes made to Plan or EIS: None

RD036 Response: Some criteria to prioritize road decommissioning are suggested in the management approaches of the Roads section of the Plan, or in other sections of the Plan (e.g., FW-ROADS-MA-2, FW-TERRASH-MA-3, etc.). Also, these are not appropriate as guidelines, as they require site-specific information and project planning.

RD037: Guideline 6 in the Roads section of the revised forest plan should be modified to read: “Methods should be used to prevent unauthorized motor vehicle use (e.g., barriers, signs, and law enforcement) in areas where unauthorized motor vehicle use is occurring or where there is high potential for unauthorized use.” This will ensure the guidelines applies to all areas in which unauthorized motor vehicle use is occurring or where there is high potential for occurrence.

Associated Comments: #12494-62 (c)

Changes made to Plan or EIS: None

RD037 Response: Guideline 6 is focused on preventing management actions from encouraging unauthorized motorized vehicle use. Although we acknowledge that current unauthorized is a problem on the forest, it is an issue that is beyond the scope of the forest planning process to address and beyond the intent of this guideline.

RD038: Guideline 8 in the Roads section of the revised forest plan should be modified to apply to all temporary roads.

Associated Comments: #12494-62 (e)

Changes made to Plan or EIS: Plan

RD038 Response: FW-ROADS-G-8 is modified in the final Plan to read: Temporary roads (e.g., that support ecosystem restoration activities, fuels management, or other short-term projects) should be closed and rehabilitated (restored to more natural vegetative conditions) upon project completion to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use.

RD039: Direction should be added to the Roads section of the revised forest plan that establishes a tracking system for temporary roads. The direction should be in the form of a standard or guidelines and should read as follows: “Within 5 years of plan approval, establish a publicly available system for tracking temporary roads that includes but is not limited to the following information: road location, purpose for road construction, the project-specific plan required below, year of road construction, and projected date by which the road will be decommissioned. Within 10 years of plan approval, all temporary roads will be reflected in the tracking system.”

Associated Comments: #12494-62 (e)

Changes made to Plan or EIS: None

RD039 Response: This is outside the scope of the forest planning process. Temporary roads are tracked and identified in GIS for project-planning purposes.

RD040: The forest plan should provide direction on access to the forest through private property that blocks sections of public access points, such as via easements.

Associated Comments: #12497-3, #12574-6, #12720-9

Changes made to Plan or EIS: None

RD040 Response: FW-REALTY-DC-2 states that, “Rights-of-way and easements for NFS roads and trails provide access to lands within the forest.” For new easements on the forest, FW-REALTY-S-4 requires access reciprocity. Beyond this, the Forest cannot dictate management of private lands or the decisions of private landowners.

RD041: The Forest Service should provide increased enforcement against attempts by private landowners to block access to the forest, via roads or trails, by the public.

Associated Comments: #12574-6

Changes made to Plan or EIS: None

RD041 Response: Enforcement is not a forest plan component, but is a requirement of the agency, regardless of the land management plan in effect. The level of Forest Service law enforcement is dependent on staffing, which is reflective of the budget allocated to the Forest Service from Congress. Plan components in the Lands and Realty section aim to ensure that appropriated access is provided to forest users and private landowners (e.g., FW-REALTY-DC-2 and DC-3) and that there is no confusion surrounding boundaries (FW-REALTY-DC-4).

RD042: There is opposition to the use of OHVs outside of designated roads.

Associated Comments: #12634-6

Changes made to Plan or EIS: None

RD042 Response: A motor vehicle use map (MVUM) is published annually designating motor vehicle use pursuant to 36 CFR 212.51, designating legal use of National Forest System roads, trails and areas in the Santa Fe NF. OHVs are required to stay on roads designated for public, motorized use, as defined by the MVUM.

RD043: In the revised forest plan's Roads section, Guideline 9 should be modified to read: "If at-risk species are present and will be impacted by road construction or maintenance activities, work should be conducted to avoid or minimize noise and habitat disturbance and outside of critical life-cycle periods (e.g., breeding or nesting for birds), or when animals may not be present (e.g., during migration)."

Associated Comments: #12665-78

Changes made to Plan or EIS: Plan

RD043 Response: We added "construction" to FW-ROADS-G-10.

RD044: In the revised forest plan's Roads section, Management Approach 2 should be converted to a guideline to make it an enforceable plan component and to address the fact, stated in the plan's narrative, that the SFNF has "one of the highest road densities compared with other national forests."

Associated Comments: #12665-79

Changes made to Plan or EIS: None

RD044 Response: We have removed the quoted statement from the narrative in the final Plan as it is an estimate and misleading. Identifying specific roads for decommissioning is a project level decision that is outside the scope of the forest planning process. There are suggestions for how project managers might consider prioritizing road decommissioning in the management approaches of the Roads section of the Plan, but as on-site conditions may change and project design elements vary, these are not appropriate as guidelines. Road density and its impacts are analyzed in the Watersheds and Water Resources section of the EIS (section 3.4).

RD045: There is support for alternative 3 and its associated direction on mitigating road impacts to natural resources.

Associated Comments: #12752-32

Changes made to Plan or EIS: None

RD045 Response: Thank you for your comment. Our decision regarding the final Plan is outlined in the record of decision.

See also: Alt3001/002

RD047: There is support for a new alternative that includes direction for higher rates and scales of road decommissioning and restoration than is detailed in any of the alternatives presented in the DEIS.

Associated Comments: #13416-50

Changes made to Plan or EIS: EIS

RD047 Response: In the FEIS, we added a discussion of this topic under the "Alternatives Considered but Eliminated from Detailed Study" section.

The Forest's management is constrained by the Multiple Use Sustained Yield Act (MUSYA), which requires that we support the both the ecological and the socioeconomic uses of the forest. Access to the forest is an important aspect of such uses as recreation and traditional community uses (e.g., gathering fuelwood). In addition, the Planning Rule provides direction that the planning process, plan components, and other plan content should be within the Agency's authority and the fiscal capability of the unit (§ 219.1(g)). Forest budgets (that affect expenditures and salaries) are distributed by an act of Congress and may fluctuate over the life of the management plan, but are not dictated by the management plan or alternatives. Road restoration, decommissioning, and maintenance are some of the most expensive work on the forest. This budgetary strain, in addition to limits on personnel, time, and access would make it unreasonable to increase road management objectives beyond those analyzed under alternative 3.

Road impacts and mitigations are analyzed under all alternatives. The alternatives examine reasonable direction, given the issues raised during scoping and existing resources for the Santa Fe NF. In addition, anything analyzed within the range of alternatives can be included in the decision, which would allow for some mixing of alternatives for the final Plan.

RD048: The forest plan should include direction that there will be no new road construction on the Forest.

Associated Comments: #13416-51

Changes made to Plan or EIS: None

RD048 Response: Forbidding new road construction is not feasible. For example, new road construction may be required when access to a particular resource or private inholding is needed. New motorized trails may be needed to provide motorized recreation opportunities, including destinations and loops. The EIS analyzes the impacts of roads and motorized trails on forest resources. Any new road or motorized trail construction would only be authorized following project-level environmental analysis and would be accomplished using BMPs to minimize resource impacts while providing for forest access needs.

RD049: The revised plan should include management direction related to methods for "blocking" roads for rehab.

Associated Comments: #456-1

Changes made to Plan or EIS: None

RD049 Response: These comments are outside of scope of forest plan and would be addressed through site-specific project analysis. That being said, the Plan does direct "Reconstruction and rehabilitation of existing roads should be emphasized over new road construction" (FW-ROADS-G7).

RD050: The Santa Fe should id opportunities to increase access to public lands where access may not exist.

Associated Comments: #565-1

Changes made to Plan: None

RD050 Response: These comments are outside the scope of the plan. The forest plan is programmatic in nature and does not include project and activity decisions. Accordingly, the forest plan does not direct or designate routes or areas for motorized travel. Specific access and motorized use determinations would be done through future project-level decision making, including the implementation of the Travel Management Rule (36 CFR §212).

RD051: The Santa Fe should acquire right of way access via either Macho Canyon or Indian Creek.

Associated Comments: #12514-11

Changes made to Plan or EIS: None

RD051 Response: This comment is outside of scope of forest plan and the revision process. Access in this area is across a private inholding. The FS do not have an easement with the landowner to use or allow others to use this section of road.

Lands and Realty Comment Response

LND001: The Santa Fe National Forest should assess opportunities for cross-boundary and landscape-scale management for recreation and wildlife connectivity.

Associated Comments: #12494-81, #12720-12, #12720-13

Changes made to Plan or EIS: None

LND001 Response: Cross-boundary management is addressed in the Cross-Boundary Management section of the Plan. FW-XBOUND-G-2b, G-2c, G-2e, G-2f, and G-2h all guide managers to consider recreation and ecological health that supports habitat and connectivity. FW-PARTNER-DC-3 also addresses landscape-scale management and how partnership opportunities should be used to promote cross-boundary management to find solutions to ecological and societal issues.

LND002: The Santa Fe National Forest should actively engage counties regarding cross-boundary management.

Associated Comments: #12652-6

Changes made to Plan or EIS: Plan

Lnd002 Response: FW-XBOUND-MA-1 has been modified to include counties, states, and other federal agencies in the list of collaborative relationships the Forest is encouraged to consider. The new management approach reads: Collaborative relationships with adjacent landowners, users, and public land managers (**e.g., counties, states, tribes, and other federal agencies**) are actively encouraged to develop contiguous road and trail systems across multiple ownerships.

LND003: The Santa Fe National Forest should work with national and local conservation groups to increase elk habitat via land acquisitions, exchanges, or conservation easements.

Associated Comments: #12503-12

Changes made to Plan or EIS: None

LND003 Response: Plan components in the vegetation section of the Plan are designed to improve wildlife habitat across the Forest, thereby increasing viable habitat for many species. For instance, FW-VEG-DC-3b moves the forest toward conditions where there is a sustainable supply of forage on the forest. As elk are habitat generalists (e.g., they use grasslands, woodlands, forests, riparian areas, etc.) overall habitat improvement across the forest is a benefit to the species. Additionally, guidelines in the Terrestrial Species and Habitats section of the Plan direct that, “Activities negatively impacting wildlife reproduction or other vital functions should be minimized (e.g., closures during elk calving), except if management activities are implemented to control wildlife populations to protect the overall health of the habitat or other populations (e.g., NMDGF regulations).” While these guidelines do not directly increase elk habitat, they do provide protection for the species. Finally, FW-XBOUND-MA-3 asks managers to consider working, “with interested stakeholders to identify suitable parcels for acquisition and explore funding opportunities that leverage the Land and Water Conservation Fund, grant opportunities, and private financing.”

LND004: There is support for plan components in the Lands section of the revised forest plan.

Associated Comments: #12503-35

Changes made to Plan or EIS: None

Lnd004 Response: We appreciate the support and continued participation in our work.

LND005: The Santa Fe National Forest should issue special use permits for the following activities around San Gregorio Reservoir: (1) Game & Fish to stock San Gregorio with fish; (2) If San Gregorio needs repairing; (3) If irrigation ditch needs repairing; (4) If the rancher has a hurt or sick animal and needs to be loaded on a trailer, the rancher should be able to drive up to San Gregorio and load them; and (5) If a hunter/hiker or person gets hurts and medical help. A helicopter should be able to land by the lake.

Associated Comments: #12750-4

Changes made to Plan or EIS: None

LND005 Response: The San Gregorio Reservoir is within the San Pedro Park Wilderness and as such it is managed under designated Wilderness regulations. When a nonconforming or prohibited use is considered for implementation in a designated Wilderness, a Minimum Requirements Analysis must be performed (see DA-WILD-S-5). Most of the specific requests are outside the scope of the forest plan and addressed by other law, regulation, or policy as described below.

Irrigation ditches that are a pre-existing use of the land may be subject to valid existing rights, and therefore may have more flexibility with regards to the use of mechanized or motorized equipment. However, case-by-case review would still need to be undertaken, including whether a special use permit would be required to authorize repair activities.

Grazing activities in designated wilderness are authorized via range authorities. Additionally, FSM 2322.22 Exhibit 01 states, “5. The use of motorized equipment for emergency purposes such

as rescuing sick animals or the placement of feed in emergency situations is also permissible. This privilege is to be exercised only in true emergencies, and should not be abused by permittees.”

With regards to permitted activities in general, special use permits may be granted for the use and occupancy of NFS lands in certain cases, but must be initiated by a proponent with the requisite capacity to carry out the desired use. Neither New Mexico Department of Game and Fish nor any other entity has applied for permits related to San Gregorio Reservoir, but the Santa Fe NF would be willing to review any proposal and determine whether a special use permit is prudent, pursuant to screening criteria found at 36 CFR § 251.54.

Search and rescue activities or other emergency activities in which there is a risk of injury or loss of life are exempt from special use requirements. These activities are addressed in FSM 2326.1: “Allow the use of motorized equipment or mechanical transport only for: 1. Emergencies where the situation involves an inescapable urgency and temporary need for speed beyond that available by primitive means. Categories include fire suppression, health and safety, law enforcement involving serious crime or fugitive pursuit, removal of deceased persons, and aircraft accident investigations.”

Energy and Minerals

EDIT001: The narrative should be corrected to acknowledge that there may be commercial mining in the foreseeable future on the forest (p. 150).

Associated Comments: #12481-2

Changes made to Plan or EIS: None

EDIT001 Response: Under both locatable and salable minerals, we state the foreseeable commercial production potential. For locatable minerals, there is no reasonably foreseeable commercial production, and for salable minerals commercial production is expected to continue at reduced levels as deposits are mined out. We have no data to suggest otherwise.

EM001: The forest plan should include strong language and rules about oil, gas, and mining operations (including associated infrastructure) in relation to wildlife and natural resource protection. This use of the Forest should be as publicly transparent and limited as possible, adhering to federal, state, and local laws.

Associated Comments: #10185-3, #12481-3, #12531-2, #12551-4, #12681-6

Changes to Plan or EIS: None

EM001 Response: Restrictions on oil, gas, and mining operations in the context of wildlife and ecosystem protection are found in the Plan in the Oil and Gas Leasing Management Area section. For example, standards account for timing restrictions for wildlife breeding and nesting (MA-OGLEASE-S-1).

Resource protection in the context of leasable and salable minerals are found in the Energy, Mining, and Caves section. For example, desired conditions under Leasable Energy Minerals and Solid Minerals direct that projects should not have long-term adverse effects require that surface resource impacts from development do not have long-term adverse effects on ecosystems or watersheds.

Additional protections from permitted activities can be found in water resources, riparian and wetland ecosystems, and aquatic and terrestrial habitat.

EM002/008: Concern was expressed about a proposal for a mining project in the Pecos River Watershed. Some commenters wanted the Forest to protect the Pecos Canyon and its natural, recreational, and existence values from hard rock mining to the fullest extent possible under the law. If resources are not fully protected by legal requirements, the Forest should entertain other methods, such as land swaps, to ensure the area is off-limits to mining.

Associated Comments: #9836-10, #12047-1, #12353-2, #12433-2, #12482-1, #12483-1, #12486-1, #12563-1, #12572-1, #12590-4, #12647-16 (b), #12651-4, #12667-2, #12695-1, #12717-12, #12725-12, #12728-4, #12744-2, #12783-2, #6-4, #271-1, #12272-1, #12579-1, #12601-3

Changes made to Plan or EIS: None

EM002/008 Response: Decisions regarding mining proposals and projects are outside the scope of the forest planning process.

EM004: The forest plan should include a history and cultural assessment of mineral rights, prospecting, development, mining, processing, timber harvesting, and other associated resource uses for the planning area.

Associated Comments: #12514-1, #12713-1

Changes made to Plan or EIS: None

EM004 Response: The historical context of energy and mineral exploration, as well as those of other resources, is described in the Assessment.

EM005: As part of the planning process, the Santa Fe National Forest should perform an economic impact analysis that includes the impacts of mineral resource-related industries on the planning area.

Associated Comments: #12514-8

Changes made to Plan or EIS: None

EM005 Response: An economic analysis is included as part of Volume II of the EIS. This analysis includes labor income from mining, which is not expected to change under any of the analyzed alternatives. The impacts of specific areas and of specific projects are done at the project planning level, including environmental justice impacts, and impacts to rural communities.

EM006: The forest plan should include recognition of biochar as a renewable energy source, and support development of integrated forest management--renewable energy industry as a local economic driver.

Associated Comments: #12517-2

Changes made to Plan or EIS: None

EM006 Response: We are not exhaustive in listing all the types of renewable energy or management techniques that may be utilized (i.e., biochar), however when the plan is silent on something it is allowed as an avenue the Forest can explore through projects, as long as it fits the other parameters of the plan. Additionally, biochar is mentioned for its potential in management in FW-SOILS-MA-4b--"To restore productivity and nutrient cycling, consider the application of

soil amendments (e.g., biochar).” Supporting or partnering with particular industries is a process that is outside the scope of the forest plan.

EM007: The forest plan should include a full consideration of legacy mining impacts as well as potential impacts of the new mining ventures and associated infrastructure (e.g., road expansions) to economic and ecological resources, particularly water quality impacts both on-site and downstream.

Associated Comments: #6-4, #271-1, #12272-1, #12579-1

Changes made to Plan or EIS: None

EM007 Response: The current state, potential future, and the history of mining on the forest is discussed in Chapter 9 of Volume II of the Assessment. The consideration of the impacts of specific mining projects is done during project-level NEPA, and is outside the scope of the forest planning process. The Southwest Region and the Santa Fe NF have an active program to document, assess, and remediate abandoned mine land sites which are found to have environmental or public safety problems. This program is closely coordinated with New Mexico state agencies. The trend for remediation is expected to remain level, but is very dependent upon Forest Service and State funding levels.

EM009/023: There is both support and opposition hard rock mining, fracking, or other mineral exploration on the forest. One commenter was particularly concerned that fracking should be prohibited on the forest.

Associated Comments: #12607-11, #10185-8, #12521-6, #12523-1, #12634-4

Changes made to Plan or EIS: None

EM009/023 Response: Existing law, regulation, policy has determined that mining is a valid use of Forest lands. See General Mining Law of 1872 (as amended) – 30 U.S.C. 22 et seq; Organic Administration Act – 16 U.S.C. 478; and Mining and Minerals Policy Act (Dec. 31, 1970) – 84 Stat. 1876.

Beyond this, the forest plan focuses on identifying resources that may need impacts mitigated (or resources protected) and not on prohibiting a method of development (i.e. hydraulic fracturing). The plan sets up how to protect the resources. Prohibition of hydraulic fracturing should not happen at the forest plan level– the analysis for hydraulic fracturing will be addressed at the site-level. Additionally, research from the BLM indicates the formations underlying the Santa Fe NF have little to no potential for the application of horizontal drilling/hydraulic fracturing; there have been only two wells drilled in the last 25 years.

EM010/015: The forest plan should include components that require community input on mining permit awards, and that should direct the Forest to ensure adequate financial resources are available for reclamation of mining or mining exploration sites. Furthermore, a method should be included in the Plan to determine the amount of scope of a reclamation bond, such as a standard under the Solid Minerals section that indicates how bond amounts are determined to ensure that adequate monies are available for reclamation and remediation if an operator abandons a mining site, and what criteria would be used to determine when the reclamation bonds would be released.

Associated Comments: #12607-12, #12665-84

Changes made to Plan or EIS: None

EM010/015 Response: These issues are covered by existing law, policy, or regulation, including NEPA regulations that require public participation and the General Mining Law of 1872 (as amended) – 30 U.S.C. 22 et seq. Bonds are determined by regulation and policy (36 CFR § 228.13); determining the amount of a bond is outside the scope of the planning process. Under NFMA, existing law, regulation, and policy do not need to be included in the forest plan.

EM011: The forest plan should ensure all mine permits include financial assurances for complete mitigation and the implementation of environmental protections outlined in the Santa Fe County ordinance.

Associated Comments: #12647-16 (a)

Changes made to Plan or EIS: None

EM011 Response: This comment is beyond the scope of the forest plan. It is Federal regulation that the Forest Service complies with State BMPs if they are more stringent than Federal BMPs. However, we have no power to assure county ordinance, as (a) these policies can change frequently, (b) the Forest Service is not consulted about county ordinances nor changes made to them, and (c) the Forest Service does not enforce county ordinances. As part of the Federal Government, we are bound by different regulations than counties.

EM012: Desired conditions in the Leasable Energy Minerals section of the forest plan should be modified to minimize surface impacts in relation to critical seasonal big-game habitat, and reduce disturbances during seasonal habitat use by big game.

Associated Comments: #12665-80

Changes made to Plan or EIS: None

EM012 Response: The Oil and Gas Leasing Management Area, located in the northwest portion of the forest, has timing restrictions that protect deer and elk (MA-OGLEASE-S-1d and S-1e).

EM013: The Renewable Energy section of the forest plan should include guidelines on transmission lines and facilities that protect wildlife and natural resources. Guidelines should be written in conformance with the Avian Power Line Interaction Committee's "Suggested Practices for Avian Protection on Power Lines," and "Reducing Avian Collisions with Power Lines." An additional guideline should be included: "Co-location and joint use of rights-of-way should be used for transmission lines or facilities to minimize surface disturbance and scenery impacts, and to prevent these features from intersecting and obstructing migration corridors, creating habitat fragmentation, or reducing habitat connectivity."

Associated Comments: #12665-81

Changes made to Plan or EIS: None

EM013 Response: There are guidelines on mitigating infrastructure impacts on wildlife movement and habitat connectivity in the Terrestrial Species and Habitats section of the Plan (FW-TERRASH-G-2). While "transmission lines" are not specifically included in the list of examples, that does not mean they cannot be considered in the context of this plan component during project design and implementation. Additionally, in the Lands Special Uses section of the Plan, guidelines direct that utility lines should be buried and that use of existing infrastructure and utility corridors should be maximized to reduce ground disturbance (FW-LANDSU-G-1 and G-3).

EM014: The forest plan should modify standard 3 in its Solid Minerals section to include language stating that if abandoned mines are determined to provide habitat for bats, the Forest Service will consult with the New Mexico Department of Game and Fish prior to any destruction of the mine.

Associated Comments: #12665-83

Changes made to Plan or EIS: Plan

EM014 Response: We added a management approach to the Solid Minerals section specifying that the Forest Service will coordinate with the NMDGF on the issue of abandoned mines as wildlife habitat. Direction on partnership and coordination is not appropriate as a standard, as standards must be followed to the letter; the Forest Service cannot guarantee the cooperation of other entities.

EM016: The forest plan should include standards requiring solid mineral reclamation activities to mitigate the spread of invasive species by using certified weed-free, native plant seed mixes and mulches, with seeds tested to ensure for nativity and local ecotypes used when available. When seeds of primary plants are unavailable, substitutes must still be native species.

Associated Comments: #12665-85

Changes made to Plan or EIS: None

EM016 Response: Depending on the context of the project, it is neither always possible nor always desirable to use native species. However, when non-native species are used in reclamation activities, only sterile plants are used. This outlined in guidelines in the Nonnative Invasive Species section of the Plan (FW-INVASIVE-G-1).

EM017: The forest plan should include plan components to protect aquatic habitat from oil and gas leasing, mining, and gravel operations by restricting removal of materials within Riparian Management Zones and establishing no surface occupancy buffers around water features.

Associated Comments: #12665-86

Changes made to Plan or EIS: None

EM017 Response: Plan direction in the Riparian and Wetland Ecosystems and the Water Resources sections provide protections from long-term impacts that would move ecosystems away from desired conditions, restrict the use of motorized equipment, and direct project managers to adhere to BMPs (FW-RWE-G2, FW-RWE-G6, FW-WATER-S1). In addition, Riparian Management Zones are protected by a buffer of 100ft (FW-RWE-G-1), and existing BLM regulations (43 CFR 3101.1-2) allow us to require a lessee to move their operation if it is less than 200m from a stream.

EM018: Plan components to protect against white-nose syndrome should be added to the Caves section of the forest plan, such as a management approach encouraging forest managers to, "Limit public access to caves that provide habitat for bats to preclude introduction of white-nose syndrome and other diseases fatal to bats."

Associated Comments: #12665-88

Changes made to Plan or EIS: Plan

EM018 Response: We added language to FW-CAVES-MA-8 so that it indicates we should consider limiting public access to prevent the spread of disease. The new management approach

reads, “Consider limiting public access to prevent damage to cave resources, when there are unusual safety hazards, or when it is necessary to prevent the spread of diseases such as white-nose syndrome.”

EM019: The forest plan should include strong language and rules about oil, gas, and mining operations (including associated infrastructure) in relation to wildlife and natural resource protection. Guidelines should be added to the Solid Minerals section of the Plan that limit adverse impacts to riparian management zones and water resources from mining and support desired conditions for those resources. The language should be as follows: FW-MINERAL-G-1: To protect water quality and inland native fish habitat, wildlife and other riparian-associated resources, mineral operations should not be authorized in riparian management zones. If the riparian management zone cannot be avoided, the authorization should include measures to maintain, protect, and rehabilitate fish and wildlife habitat that may be affected by the operations.

Associated Comments: #12752-33 (a), #12752-33

Changes made to Plan or EIS: None

EM019 Response: On the Santa Fe NF, the only area that has oil and gas leasing potential is the Oil and Gas Leasing Management Area (OGLMA). In the final Plan, FW-OGLEASE-S-1f protects and limits disturbances from drilling activities to at-risk species (with timing restrictions aligned with Federal recover plans) and FW-OGLEASE-G-2 protects riparian and wetland resources by directing that access roads and pipelines should not be located in riparian terrestrial ecosystem units (or equivalent survey system). If there is no practicable alternative, project design features must minimize adverse impacts.

The Aquatic Species and Habitats section and the At-Risk Species section also have numerous plan components that protect species and habitats from adverse impacts (e.g., FW-AQUASH-G-3, G-4, and G-5; FW-ATRISK-G-1, G-2, G-8, and G-9) and support restoration measures (e.g., FW-AQUASH-O-1 and O-2).

Plan direction in the Riparian and Wetland Ecosystems and the Water Resources sections provide protections from long-term impacts that would move ecosystems away from desired conditions, restrict the use of motorized equipment, and direct project managers to adhere to BMPs (FW-RWE-G2, FW-RWE-G6, and FW-WATER-S1). In addition, Riparian Management Zones are protected by a buffer of 100ft (FW-RWE-G-1), and existing BLM regulations (43 CFR 3101.1-2) allow us to require a lessee to move their operation if it is less than 200m from a stream.

See also: WRS020/024/032/039/044 for more on how riparian ecosystem are protected from adverse impacts from mining or drilling; and WILD021 for more on native fish in the OGLMA.

EM020: The Santa Fe NF should consider a permit requirement for suction dredge mining activities that includes BMP identification and site visits prior to approval. This language should reflect that on the Rio Grande National Forest.

Associated Comments: #12752-33 (b), #12752-33

Changes made to Plan or EIS: None

EM020 Response: Regulations (36 CFR 228.4) already require a permit for activities that use mechanized equipment, and BMPs are part of project design processes. Standards in both the Water Resources and Soil Resources require projects to use BMPs (e.g., National Core Technical Guide for BMPs (FS-990A), FSH 2509.22 - Soil and Water Conservation Practices Handbook) to

maintain resource quality. As suction dredge mining is not a noted concern on the Santa Fe National Forest, we find existing regulations and BMPs sufficient to address the issue.

EM021: The forest plan should include guidelines for minerals and mining similar to those found on the Rio Grande National Forest.

Associated Comments: #12752-46

Changes made to Plan or EIS: None

EM021 Response: Plan direction on the Rio Grande National Forest is specific to the context of that forest. For instance, dredging is not a noted concern on the Santa Fe National Forest, and as such, we find existing regulations and BMPs sufficient to address the issue. Standards in both the Water Resources and Soil Resources require projects to use BMPs (e.g., National Core Technical Guide for BMPs (FS-990A), FSH 2509.22 - Soil and Water Conservation Practices Handbook) to maintain resource quality, and existing regulations already require a permit for activities that use mechanized equipment, and BMPs are part of project design processes. Habitat protections for aquatic species are outlined in the Wildlife, Fish, and Plants section of the Plan, and include restrictions on equipment refueling within or adjacent to a stream channel (FW-AQUASH-S-1), timing restrictions for activities to encourage reproductive success of at-risk species (FW-ATRISK-G-1a) and restrictions on heavy equipment during spawning, incubation, and emergence periods (FW-ATRISK-G-8). FW-INVASIVE-S-1a requires that equipment be decontaminated, and FW-VEG-G-2 requires that, “Heavy equipment and log decks should not be staged in ecologically sensitive areas (e.g., riparian corridors, montane meadows, and highly erosive soils).” Motorized equipment use in riparian areas is restricted by FW-RWE-G-6, and stipulates that, “Motorized equipment working within the RMZ should be completely clean of petroleum-based fluid residue or use eco-friendly, biodegradable, and nontoxic hydraulic fluids. Lubricants and fuels should be sealed such that inundation by water should not result in leaks.” Motor vehicles are restricted to the use of roads identified on the Motor Vehicle Use Map (MVUM), which was determined during the Travel Management Process. The forest plan directs that road construction and maintenance follow BMPs (e.g., FSH 2509.22 - Soil and Water Conservation Practices Handbook; FW-ROADS-G-1) and that roads and infrastructure be designed and constructed to limit the delivery of sediment and pollutants to waterbodies (FW-ROADS-G-3).

EM022: The Forest needs mining rules that align with those at the state and local levels, and needs to be more transparent in terms of communications around permits and operations.

Associated Comments: #12577-12

Changes made to Plan or EIS: None

EM022 Response: It is Federal regulation that the Forest Service complies with State BMPs if they are more stringent than Federal BMPs. Our regulations are in line with both State and local regulations to the extent that we share the same goals. When a mining project is proposed, it must go through the NEPA process. Public participation and notifications are a part of this process (40 CFR 1501.7; 36 CFR § 220.4).

EM024: For streams containing Rio Grande cutthroat trout or potential trout habitat, buffers for mineral activity should be at least a quarter mile. A guideline should be added to the Oil and Gas Leasing Management Area to this effect:

- MA-OGLEASE-G1e: (No surface occupancy) Within one-quarter mile of perennial surface waters containing native Rio Grande cutthroat trout or identified as suitable expansion habitat.

Associated Comments: #12752-35, #4095-3

Changes made to Plan or EIS: None

EM024 Response: There is no Rio Grande cutthroat trout habitat in the Oil and Gas Leasing Management Area.

See also: Response to WILD021 for more on RGCT in the OGLMA.

EM025: Wild and scenic river studies should be used to protect rivers from mining, such as the Terrero mining project, that ruins tourism, hunting, and fishing economies in rural areas.

Associated Comments: #6-4

Changes made to Plan or EIS: None

EM025 Response: The National Wild and Scenic Rivers System (National System) was enacted by Congress in 1968 (Public Law 90-542) to preserve the free-flowing condition of certain selected rivers with outstandingly remarkable values (ORV) for the enjoyment of present and future generations. The Pecos River, which runs through the area near the Terrero Mining Project, does not qualify as a WSR south of the Pecos Wilderness. This is documented in the WSR analysis in Volume 3 of the FEIS (Appendix K). Direction in the Solid Minerals section of the final Plan, however, does ensure the long-term protection and sustainability of affected resources (FW-MINERAL-S-1), and desired conditions are to minimize impacts to surface and groundwater resources (FW-MINERAL-DC-1).

Management Areas

General Management Area

AltN009: There is support for special management areas that provide wildlife with habitat connectivity, and that balances traditional land use values with wildlife and habitat connectivity needs.

Associated Comments: #12487-2

Changes made to Plan or EIS: None

AltN009 Response: Wildlife habitat connectivity and traditional land use values are emphasized forest-wide through plan components and sections specifically targeted at maintaining these resources. The final Plan has numerous management areas (see the Management Areas section of the Plan) and plan components that support wildlife, habitat connectivity, and traditional use values. For example, desired conditions for the Caja Wildlife and Cultural Interpretive Management Area supports connectivity and traditional values:

- MA-CAJA-DC-1: The natural character of the Caja del Rio supports wildlife diversity and connectivity, and maintains the cultural and archeological integrity found there, while providing interpretive opportunities for the public to learn and value these resources, in an area easily accessible to metropolitan Santa Fe.

Other management areas, such as the recommended wilderness management areas, have direction that supports traditional uses as key parts of the landscape while providing increased habitat and connectivity. For example:

- MA-RECWILD-DC-2: Livestock grazing and acequia management contribute to the long-term socioeconomic diversity and stability of local communities and cultural identity tied to a recommended wilderness management area
- MA-RECWILD-DC-3: Recommended wilderness management areas are valued by the public for the ecosystem services they provide including contributing to clean air and water, enhancing wildlife habitat, primitive recreation and solitude, and other wilderness characteristics

MA001: There is both support for and opposition to the establishment of additional management areas on the forest.

Associated Comments: #9836-7, #12494-85, #12504-1

Changes made to Plan or EIS: None

MA001 Response: A management area represents a management emphasis for an area or several similar areas across the landscape that require management that is different from forestwide plan components. Designated areas are a type of management area but differ in that Designated areas are designated either administratively or by Congress and often have laws, regulation, or policy that additionally guide their management whereas management areas are defined as part of the forest plan both in location and management. Management areas can include proposed designated areas, such as proposed research natural areas, recommended wilderness, or eligible wild and scenic rivers that are managed as management areas until they are designated.

Alternative 1, the 1987 Forest Plan, divided the entire forest into management areas. This has made project implementation difficult and we felt was unnecessary given the purpose of management areas to have different management direction. For example, rather than identifying specific riparian areas for more protective management, the forest-wide direction was written to do that for all riparian areas. As such, for alternatives 2 through 4, only areas of the forest that required different management (including additional) were proposed. These management areas were analyzed as part of the alternatives they are present in throughout the EIS (e.g., in section 3.2.5.4 of the Vegetation section of the EIS). To reflect the alternative themes, alternative 3 had more management areas focused on conservation, while alternative 4 had more management areas focused on recreation and motorized uses. All alternatives drew on public interest from the Needs for Change as well as specific input on management areas to identify what types of management areas might be needed and where to locate them

MA002: The map on page 199 is inadequate for public decision-making. The Forest should produce detailed maps with geographic features for this critical project.

Associated Comments: #12577-3

Changes made to Plan or EIS: None

MA002 Response: The maps in the planning documents are meant as references only. More detailed maps of the recommended wilderness areas are located on the Plan Revision website,

under the Wilderness Evaluation tab. For project-level work, GIS maps are used; these maps are meant only to give a general location of management areas.

MA003: There is support for management areas in alternative 3. Several commenters were particularly concerned about including the Wetland Jewels, Calaveras, and Holy Ghost Canyon Management Areas in the final Plan.

Associated Comments: #12527-2

Changes made to Plan or EIS: None

MA003 Response: See the response to MA001, HG001, and WJMA001/002/WRS059 for more on those particular management areas.

Caja del Rio Wildlife and Cultural Interpretive Management Area

CAJA001: There is support for the Caja del Rio Wildlife and Cultural Interpretive Management Area (the Caja del Rio WCIMA).

Associated Comments: #3-2, #4095-4 (a), #5495-1, #7861-1, #7970-1, #8329-1, #8367-1, #8371-1, #9087-1, #9215-1, #9400-1, #9836-3, #10063-1, #10185-6, #11109-2, #11494-2, #12362-6, #12487-1, #12494-21, #12499-2, #12501-5, #12504-3, #12515-1, #12515-2, #12515-5, #12515-6, #12515-7, #12708-5, #12720-15, #12720-16, #12729-2, #12752-17, #12752-24 (a), #12942-1, #13475-1, #13500-6, #13500-7, #13659-3, #12522-102

Changes made to Plan and EIS: None

CAJA001 Response: The Caja del Rio Wildlife and Cultural Interpretive Management Area, as described in the draft Plan, has been carried over into the final Plan.

CAJA002/003/005/010/012/013/017: Multiple commenters were concerned that the Forest should increase the size of the Caja del Rio WCIMA, and increase protections for wildlife corridors, connectivity, and habitat on the Caja del Rio WCIMA in the form of standards and guidelines that limit development (e.g., no new permanent public access roads, trails construction, energy extractive activities, or mining activities). Elk populations were of particular concern for many commenters. Some commenters suggested the following management prescriptions should be included in the Plan to address the above concerns:

- Roads and trails - a prohibition on the development of new permanent roads and trails should be incorporated and an analysis should be done to determine where road decommissioning may be necessary to provide security habitat for species like elk. Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects should be closed and rehabilitated upon project completion, to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use.
- Energy Development - New surface-based energy development or leases, including energy transmission construction, should be prohibited.
- Wildlife movement and habitat connectivity - Language needs to be added to ensure that any new fences within the area are designed to allow safe and seamless passage of wildlife - and fences identified as no longer necessary should be removed. Include language outlining plans to coordinate with the New Mexico Department of Transportation and New Mexico Game & Fish on plans to mitigate loss of wildlife on roadways.

Associated Comments: #13-1, #343-2, #396-3, #459-9, #1563-2, #2227-1, #3943-2, #4095-4 (b), #4244-1, #4349-1, #4673-1, #5221-1, #5250-1, #6989-1, #7861-1, #7970-1, #8329-1, #8367-1, #8371-1, #9087-1, #9215-1, #9387-1, #9400-1, #10063-1, #11109-2, #11494-2, #11981-2, #12319-3, #12499-2, #12508-3, #12702-3, #12708-5, #12950-1, #1161-1, #7880-1, #9433-1, #12720-17, #12752-17, #12362-7, #12362-13, #12501-6, #12508-3, #12702-3, #12729-2, #13500-1, #12752-24 (d), #12522-103

Changes made to Plan or EIS: Plan

CAJA002/003/005/010/012/013/017 Response: The size of the Caja del Rio WCIMA was maximized to take advantage of the areas with the best cultural resources and wildlife habitat, while avoiding the parts of the Caja Plateau with pre-existing uses that fall outside of the management area's desired conditions.

We removed mention of trails from MA-CAJA-G-1. Trails placement decisions will be made outside the forest plan, based on site-level input. The purpose of the Plan is not to identify specific roads for decommissioning; this is a project level decision. The Plan does provide direction in the Roads section of the Plan that lays out resource protections regarding road building and decommissioning. There is already plan direction on avoiding new roads construction in the Caja del Rio WCIMA outside of needs based on valid permitted activities or management actions (MA-CAJA-S-1).

There is no potential for geothermal or oil and gas energy developments on the Caja del Rio WCIMA. As such, at this time only solar or wind would be feasible. While there are allowances made for existing utility corridors, restrictions already exist (MA-CAJA-S-1) to limit utility corridor impacts. Other restrictions are implemented at the project level, following law, regulation, and policy.

Habitat connectivity is addressed throughout the Plan (see FEIS, Vol. 2, Appendix E, Section C), and FW-TERRASH-G-2, FW-RANGE-S-2, and MA-CAJA-G-2 all dictate that infrastructure must minimize impacts to wildlife movement and improve habitat connectivity. Even though mortality is not specifically mentioned, the cited guidelines accomplish reduced mortality by facilitating improved habitat connectivity and ease of movement across the landscape. MA-CAJA-MA-1 encourages project managers to use cross-agency collaboration to facilitate wildlife connectivity. Beyond this, there is extensive forest-wide plan direction that addresses wildlife habitat (see the Wildlife, Fish, and Plants section of the Plan) and multiple management approaches that ask project managers to consider collaborating with other agencies, such as the NMDGF. Management of elk or other wildlife populations (as opposed to wildlife habitat) is outside of the mission of the Forest Service, but habitat generalists (e.g., elk use grasslands, woodlands, forests, riparian areas, etc.) do not have populations that are closely tied to management in any one habitat or ERU. Thus, general habitat improvement (which the Plan supports throughout) will benefit elk populations across the forest.

CAJA004: There is general opposition to increasing restrictions or regulations within the Caja del Rio WCIMA.

Associated Comments: #434-1

Changes made to Plan or EIS: None

CAJA004 Response: All views were carefully considered during development and evaluation of the alternatives in the forest plan process, and the inclusion of the Caja del Rio WCIMA was carefully considered based on multiple rounds of public comment and forest resource needs. We

determined that the Caja del Rio WCIMA did not have a significant negative effect on other forest resources and would support forest connectivity while protecting key ecosystem services. For example, supporting ecosystem services such as rich biodiversity are found there. It also provides abundant cultural ecosystem services through the preservation of sites that are an important part of the historic fabric of this region. Finally, the education opportunities this site offers, specifically regarding wildlife and culture, are another cultural ecosystem service.

CAJA006: The Caja del Rio should be designated as wilderness.

Associated Comments: #10905-1

Changes made to Plan or EIS: None

CAJA006 Response: During the recommended wilderness process, the entire forest, including the Caja Plateau, was inventoried and then evaluated for wilderness characteristics. This evaluation found that some parts of the Caja meet the criteria for recommended wilderness, and will be managed as such (e.g., the White Rock polygon). Other parts were determined to be better suited to management as a Management Area (i.e., the Caja del Rio WCIMA). In some areas, pre-existing uses on the plateau mean that the best management is based on forest-wide direction, under which there are numerous protections for cultural and ecological resources. See the appendix J of the EIS for a detailed account of our wilderness process and the ROD for our reasoning behind our final recommended wilderness proposal.

CAJA007: Clarify the size and location of the Caja del Rio WCIMA and resubmit the draft Plan and DEIS for proper and compliant public review.

Associated Comments: #12472-12

Changes made to Plan or EIS: EIS

CAJA007 Response: The map of the Caja del Rio WCIMA has been altered to correctly show the size and placement of the management area and the White Rock Canyon recommended wilderness (FEIS, Vol. 1, Fig. 10). In alternative 3, the management area is 16,696 acres, while in alternative 2, the management area is 35,247 acres.

CAJA008: The Forest should add the following management approach to its section on the Caja del Rio WCIMA: “Consider improving wildlife habitat connectivity within the Caja del Rio Wildlife and Cultural Interpretative Management Area by removing unneeded structures (e.g., roads, fences, cattle guards) or completing improvement projects (e.g., removing barriers and connecting fragmented habitat).”

Associated Comments: #12720-18

Changes made to Plan or EIS: None

CAJA008 Response: Within the boundaries of any area addressed as a designated or management area, direction provided specific to those areas takes precedence over forest wide (FW) direction. Where specific direction is silent, but exists in forest wide plan components, the forest wide direction applies. FW-TERRASH-G-1 and G-2, as well as FW-RANGE-S-1, all direct project managers to ensure infrastructure such as fences do not impact wildlife movement.

CAJA009: The FEIS must include detailed analysis on the Caja del Rio WCIMA and explain how impacts would differ under the proposed alternatives.

Associated Comments: #12494-23

Changes made to Plan or EIS: None

CAJA009 Response: Although the Caja del Rio WCIMA is not analyzed in its own chapter of the FEIS, it is analyzed as part of various resource analyses:

- Vegetation, section 3.2.5.4.3;
- Watersheds and Water Resources, section 3.4.4.1.2.2;
- Wildlife, Fish, and Plants in the At-Risk Species analysis (section 3.5.4.2), the Habitat Connectivity analysis (section 3.5.4.3), and the discussion of the Migratory Bird Treaty act (section 3.5.4.5); and
- Recreation, sections 3.12.4.1, 3.12.4.2, and 3.12.4.3

The FEIS analyses are focused on topics that would give the responsible official necessary information to make decisions about changed management direction. The analysis of the FEIS is organized by resource area so that although management and geographic areas are not analyzed in their own sections in the DEIS, their analysis is incorporated into resource analyses when their plan direction was relevant to the resource indicator being analyzed.

See also: NEPA002 for more on where in the FEIS management areas were analyzed.

CAJA011: Potential focal species that should be examined for the Caja del Rio WCIMA include: Mule Deer, Elk, Cougar, Black Bear, American Badger, Gunnison's Prairie Dog, Western Burrowing Owl, Golden Eagle, Gray Vireo, Great Horned Owl, Western Diamondback rattlesnake, Western Leopard Frog.

Associated Comments: #12647-8

Changes made to Plan or EIS: None

CAJA011 Response: Focal species are not site specific. They are used as a monitoring tool for certain aspects of an ecosystem (e.g., beavers are a focal species we use to measure habitat connectivity across the forest). Some of the species listed are already focal species for the forest, and others were determined to not be useful in this aspect of forest monitoring. See appendix F in the FEIS for more detail on how focal species were chosen.

CAJA014: There is support for reduced livestock grazing on the Caja del Rio. Some commenters opined that grazing allotments on the Caja should be closed to protect riparian areas, sensitive species, and water resources; and to remove the potential for harm to wildlife associated with fencing and other livestock infrastructure.

Associated Comments: #13286-2, #13416-42, #13416-43, #13416-44, #13416-45

Changes made to Plan or EIS: None

CAJA014 Response: See RNG073 for our response to concerns on grazing in riparian areas.

CAJA015: In order to manage and protect this landscape, a comprehensive cultural resource inventory (CRI) and habitat assessments should be done to identify areas that have suffered damage and require restoration. These should correspond to and update existing archaeological inventories and habitat baseline surveys. Photographs of each habitat type (preferably taken from a vantage point that can be used throughout the duration of any restoration or construction or post-construction phases) should be included. Habitat typing and mapping should include any new project area plus a one-mile perimeter beyond the proposed area. Include acreages for all habitat types and the total length of linear habitats (such as, but not limited to, arroyos or cliffs) on the proposed area.

Associated Comments: #12647-7

Changes made to Plan or EIS: None

CAJA015 Response: These ideas meet with the desired conditions of the Caja del Rio WCIMA, and thus, are possible activities that could occur to move the area towards the desired conditions. However, it is outside the scope of the planning process to determine specific projects that will take place.

CAJA016: The Forest should consider the establishment of a small non-motorized trail network using existing routes in the Caja del Rio WCIMA to increase opportunities to visit and explore the area. Such a network should be designed to limit impacts on wildlife and cultural resources, and should include seasonal trail closures as a management tool. This could help to achieve the desired condition of increasing recognition of the biological and cultural value of the area while also reducing illegal motorized use and other non-permitted activities.

Associated Comments: #12752-24 (f)

Changes made to Plan or EIS: None

CAJA016 Response: This is a project-level decision and is outside the scope of the planning process. Trail creation is its own process that is ongoing on the forest.

CAJA018: Include a restoration objective specific to the Caja del Rio WCIMA to facilitate projects that move toward the desired condition for wildlife connectivity (MA-CAJA-DC-1), such as the following: Complete at least five projects to improve habitat connectivity for terrestrial and aquatic/riparian species (e.g., remove unneeded roads, barriers, restore dewatered stream segments, connect fragmented habitat, wildlife passage friendly fences, etc.), during the 10 years following plan approval.

Associated Comments: #12752-24 (e)

Changes made to Plan or EIS: None

CAJA018 Response: Objectives were set based on forest capacity. In addition, projects that fulfill forest-wide objectives may take place within the Caja del Rio WCIMA.

See also: WSR014/021/022/041/042/045/049/057

CAJA019: The phrase, “unless required by a valid permitted activity” should be removed from MA-CAJA-G-1, as it seems to leave the door open for road construction for any activity that SFNF chooses to authorize a permit for.

Associated Comments: #12752-24 (b)

Changes made to Plan or EIS: None

CAJA019 Response: A “valid permitted activity” is an activity that is an allowable use of the forest under existing law, regulation, and policy. We do not have authority to prohibit these uses, but that does not mean they are exempt from NEPA. Permitted activities must undergo NEPA the same as other management activities on the forest, but this process occurs at the project level and is outside the scope of forest planning.

CAJA020: MA-CAJA-S-1 should be modified to read, “Special-use authorizations for roads, utilities, and communications sites should maximize use of existing infrastructure, roads, and utility corridors before new uses are authorized, with the intent of reducing ground disturbance. New authorized power or other utility transmission/distribution or service lines should be designed, constructed, and maintained to reduce fire hazard and minimize impacts to other forest resources.”

Associated Comments: #12606-2, #12606-5, #13658-7

Changes made to Plan or EIS: None

CAJA020 Response: Utility corridors do not meet the desired conditions for the Caja del Rio WCIMA (MA-CAJA-DC-1). It was a purposeful decision on our part to reduce the potential wildlife habitat and cultural site disruption by providing direction that new utility corridors and communication sites will not be allowed in the management area. This decision is based on extensive public comment on the importance of this area for wildlife and recreation, along with similar observations from Santa Fe NF personnel.

CAJA021: The Forest should establish an educational center that promotes tourism and education around wildlife habitat, particularly elk.

Associated Comments: #11806-1

Changes made to Plan or EIS: None

CAJA021 Response: This is a project-level decision and is outside the scope of the forest planning process.

CAJA022: The desired conditions for the Caja del Rio WCIMA should expand on the concept of wildlife connectivity. For example, “The Caja del Rio provides for landscape-scale movement, migration, and dispersal of wide-ranging wildlife species, and it offers security from intensive recreational and other human disturbances.”

Associated Comments: #12752-24 (c)

Changes made to Plan or EIS: None

CAJA022 Response: We believe the desired condition as written covers the intent of the suggested addition. As written, the level of specificity allows us to be more adaptable in our management decisions.

CAJA023: In the FEIS, correct the boundary of the Caja del Rio WCIMA as proposed in Alternative 3 so the management area is adjacent to, and does not overlap with, recommended wilderness areas. To ensure the area is protected, we request that the Santa Fe include in the final Plan the corrected alternative 3 boundary for the Caja del Rio WCIMA and wilderness recommendations for this area from alternative 3.

Associated Comments: #12494-22

Changes made to Plan or EIS: EIS

CAJA023 Response: The Caja del Rio WCIMA in alternative 2 is 35,247 acres, while in alternative 3 it is 16,696 acres. The management area does not overlap the recommended wilderness area (recommended wilderness polygon E39, White Rock Canyon) in either alternative. The map showing the alternative 3 version of the management area (figure 10) has been corrected in the FEIS.

CAL001: There is support for the Calaveras Management Area to be included in the final Plan, as it is critical wildlife habitat.

Associated Comments: #12527-2, #12665-104

Changes made to Plan or EIS: None

CAL001 Response: Critical wildlife habitat is managed by the plan components in the Wildlife, Fish, and Plants section, as well as guidance from the Fish and Wildlife Service. Adding this management area would not bring any additional benefits in terms of wildlife management.

CAL002: The Calaveras Management Area should be included in the final Plan, but managed according to the combined mechanical and fire treatments laid out in alternative 2, rather than alternative 3.

Associated Comments: #12752-43

Changes made to Plan or EIS: None

CAL002 Response: Critical wildlife habitat is managed by the plan components in the Wildlife, Fish, and Plants section, as well as guidance from the Fish and Wildlife Service. Connectivity is supported by direction throughout the Plan (FEIS, Vol. 2, Appendix E, Section C). Adding this management area would not bring any additional benefits in terms of wildlife management. Combined mechanical and fire-based treatments will be used across the forest to improve habitat and resilience.

Holy Ghost Management Area

HG001: There is support for including the Holy Ghost Canyon management area to be included in the final Plan, with particular emphasis on ensuring the long-term viability of the Holy Ghost ipomopsis.

Associated Comments: #12527-2, #12527-3

Changes made to Plan or EIS: None

HG001 Response: The overall forest plan gives us the means to protect the Holy Ghost ipomopsis, especially since it is an at-risk (threatened and endangered) species. The At-Risk section of the forest plan allows us to implement whatever management actions are necessary to protect the plant so it wouldn't need a special management area designation. When it comes to the plant itself, it is extremely rare and typically only found within in that canyon. This makes it extremely susceptible to human disturbance, especially picking and trampling. Therefore, making it a special management area may have negative consequences due to highlighting its location.

Additional people may then be drawn to the management area and that is exactly what we don't want for this extremely rare plant.

Oil and Gas Leasing Management Area

OGL001: Language should be added to the Plan indicating that the Forest will work with the NMDGF to identify where and when timing limitations are implemented pertaining to deer and elk winter range (OGLEASE-S-1d) and deer and elk fawning and calving habitat (OGLEASE-S-1e), and if additional areas need to be protected.

Associated Comments: #12665-94

Changes made to Plan and EIS: Plan

OGL001 Response: A management approach was added to the final Plan asking managers to consider working with the NMDGF to identify timing limitations and areas that need protection. The calving areas in the Oil and Gas Leasing MA were developed by the Forest Service biologists with input from NMDGF and the Rocky Mountain Elk Foundation. We used these shapefiles for the initial analysis but during the pre-lease-consent analysis, the resource specialists can identify whether the stipulations are right or need to be modified - as long as the resource being protected is identified in the leasing analysis. We have identified calving and fawning grounds in the leasing analysis, so even if the on-the-ground locations change we can still apply the timing limitations to the new areas.

OGL002: Restrictions should be added to the Oil and Gas Leasing Management Area concerning vegetation restrictions, such as timber removal, that will impact recreation via a decrease in aesthetic quality of the landscape.

Associated Comments: #12681-8

Changes made to Plan or EIS: None

OGL002 Response: MA-OGLEASE-G-3 dictates that in areas of high scenic integrity, surface-disturbance activities should be located and designed to protect visual quality, and MA-OGLEASE-G-4 directs that surface disturbance activities that would impact highly valued cultural resources should be avoided or minimized. In addition to this direction, the Scenic Resources section of the Plan has guidelines to minimize the impacts of management activities on scenic integrity objectives.

Motorized Recreation Management Area

OHVMA001: There is support for the OHV Management Area analyzed in alternative 4, located on North Mesa and Virgin Mesa, being included in the final Plan.

Associated Comments: #12472-2

Changes made to Plan or EIS: None

OHVMA001 Response: The Plan is not adding this management area at this time. In the FEIS, multiple resources determined negative ecological impacts could result in managing this area specifically for increased motorized recreation. However, motorized recreation is allowed across the forest on designated roads, and there is the opportunity for more management areas to be added in the future if it is determined they are necessary. The rationale for the selection of the selected alternative and the final Plan are described in the record of decision document.

Research Natural Areas

RNA001: The Cañada Bonita RNA should be re-recommended in the final Plan, but should be recommended with increased acreage that can provide a more extensive area for research.

Associated Comments: #11981-1, #12319-1

Changes made to Plan or EIS: None

RNA001 Response: The area of the RNA was determined based on surveys of unique ecosystems. Boundaries are based on the extent of the Thurber Fescue meadow ecosystem for which the RNA was recommended.

Wetland Jewels Management Area

WJMA001/002/WRS059: There is support for the Wetland Jewels Management Area (WJMA), which focus attention on high priority wetlands without taking away management opportunities in riparian and wetland areas forest-wide, and link aquatic and terrestrial systems in the forest. Some commenters have asked that the Santa Fe NF should provide draft plan components for the WJMA and provide a supplemental comment period for the public to provide comment on the proposed management direction prior to issuing a final EIS. The final EIS must include detailed analysis on the environmental impacts related to the WJMA.

Associated Comments: #12494-9, #12494-24, #12702-2, #12752-42, #12752-47

Changes made to Plan or EIS: Plan

WJMA001/002/WRS059 Response: We added a management approach to the Riparian and Wetland Ecosystems section:

FW-RWE-MA-5: Consider working with partners to develop wetland action plans for headwater wetland restoration projects to addresses wetland stressors by identifying and prioritizing mitigation and restoration actions.

We also added a sentence to the narrative of the Riparian and Wetland Ecosystems section of the final Plan discussing the importance of headwater wetlands: *“Restoration on headwater wetlands and first order streams has benefits that cascade throughout the watershed and can facilitate future restoration downstream. Fixing watershed problems at their source assists natural recovery and increases the potential for future restoration lower in the watershed.”*

We contest that in our final Plan, all wetlands are managed to the extent by which it was proposed we manage “wetland jewels”. During our analysis we compared the plan components submitted for the Wetland Jewels Management Area and found them to be similar to the forestwide plan components already in the Riparian and Wetland Ecosystems section of the draft Plan. These components are carried forward in the final Plan.

Although the WJMA is not called out in a specific chapter of the FEIS, it is analyzed as part of various resource analyses (e.g., under the Vegetation section, as part of the motorized route density and watershed condition indicators under the Water Resources section, and as part of the recreation opportunity and sustainable recreation indicators under the Recreation section). The analysis was focused on topics that would give the responsible official necessary information to make decisions about changed management direction.

See also: WRS032 for more on headwater wetlands.

WJMA003: Commenters were concerned that the impacts of climate change on water resources make it imperative to designate a WJMA. They are concerned that the forest-wide approach does not adequately protect watershed and water resource values and that the Santa Fe NF can strengthen its approach by at least protecting high-value Wetland Jewels.

Associated Comments: #12702-6 (b)

Changes made to Plan or EIS: None

WJMA003 Response: See WJMA001/002/WR5059 for more information on the Wetland Jewels management area and WR5028 for more on how we address climate change impacts on water resources.

Recommended Wilderness

General

RW001: There is concern that increased wilderness on the Santa Fe NF will negatively impact public access and recreation

Associated Comments: #12367-7

Changes made to Plan or EIS: None

RW001 Response: Areas that will be managed as recommended wilderness are not designated except by an act of Congress. None of the areas chosen to be managed for recommended wilderness will change public access or recreation in those areas, as these uses were considered during the recommended wilderness process.

Recommended wilderness will not negatively impact public access because areas with publicly accessible roads were eliminated from consideration as recommended wilderness during the first step of the process, the inventory. Specifically, areas with the following roads were eliminated from consideration as recommended wilderness (FEIS, Vol 3, Appendix J, Table J-1):

- Permanently authorized roads for which a valid easement or interest has been properly recorded.
- Forest roads maintained to levels 2, 3, 4, or 5 identified on the Santa Fe National Forest's Motor Vehicle Use Map (MVUM) in the Travel Management decision of 2012 (Level 2 roads are open for use by high-clearance vehicles.
- Level 3 roads are open and maintained for travel by a prudent driver in a standard passenger car. Level 4 and 5 roads are open and provide a moderate to high degree of user comfort and convenience).
- Roads identified as 'provisional' under the Travel Management decision in 2012.
- Provisional routes are those that were included in the Travel Management decision in 2012 but that required surveys, usually for archaeological or Federally Listed Threatened and Endangered species, prior to being published on the MVUM.

This being the case, access was not decreased by the recommended wilderness in the final Plan, as none of the areas recommended had road access to the forest. In terms of recreation in the forest, recreation on the Santa Fe NF is varied and includes motorized recreation on one end and primitive recreation on the other end. Primitive recreation opportunities were considered in the evaluation step and therefore recommended wilderness increases primitive recreation opportunities.

Finally, during the analysis, areas chosen for recommended in the selected alternative had no untenable tradeoffs identified (major non-conforming uses, high need for restoration treatments). Non-conforming uses would include some existing uses such as popular for mountain biking, motorized access for range management or traditional and cultural practices, motorized trails, roads regularly used for administrative needs, recurring competitive events or lands special use permits that would require construction or mechanized transport/motorized equipment to maintain. High needs for restoration treatments would include large areas that would require motorized equipment to rehabilitate them to desired conditions for vegetation.

RW002/003/047: There is opposition to expanded designated and recommended wilderness as long as the Forest Service fails to clarify that wilderness designations, whether existing wilderness or recommended, are subject to valid acequia easements rights which may be fully exercised within those lands to operate, maintain, repair and replace those systems as needed without being impeded by forest service staff or mandated to do it in a certain way or subject to permit requirements.

There's concern that expanded wilderness on the forest, including recommended wilderness, will negatively impact acequia users and undermine their valid existing rights. Commenters expressed particular concern expanding the Pecos Wilderness to include the Enchanted Lake polygon. They expressed general opposition to any recommended or designated wilderness expansion so long as the Forest Service fails to clarify that designated Wilderness and recommended wilderness are subject to valid acequia easements rights which may be fully exercised within those lands to operate, maintain, repair and replace those systems as needed without being impeded by forest service staff or mandated to do it in a certain way or subject to permit requirements.

To mitigate this concern, commenters asked that the Forest Service inventory all valid existing rights and indicate in the Plan that these rights are not subject to wilderness restrictions and should be considered baseline activities on the landscape and part of the special character of wilderness areas. The right to exercise valid existing rights should be reflected in all desired conditions, guidelines, standards, management approaches, and proposed and possible actions related to designated Wilderness and Recommended Wilderness Management Areas.

Associated Comments: #12510-16, #12510-13, #12555-8, #12690-22, #13614-9, #12690-24, #13614-6

Changes made to Plan or EIS: Plan

RW002/003/047 Response: We added acequia users to FW-RECWILD-S-2e. The modified plan component reads, “Motorized **and mechanized** travel and uses shall not be allowed, unless specifically authorized for emergency use or the limited needs required for management of a grazing allotment **or an acequia**, within the bounds of other guidance (e.g., the Northern New Mexico Acequia Guidance Document).”

As part of the evaluation step of the recommended wilderness process, acequias were taken into account as part of multiple evaluation criteria. In addition, the presence of acequias are specifically mentioned as part of criterion 3 in the evaluation. This can be found in Table J-9 of appendix J of the EIS. While many acequia locations are known to forest service staff, during the comment period we were made aware of the location of several previously unknown acequias, which were taken into account.

In addition, recommended wilderness management does not supersede valid existing rights. This is acknowledged in MA-RECWILD-DC-2, which includes acequia management as an important part of the desired conditions for local communities that are tied to a recommended wilderness

management area. MA-RECWILD-DC-1a directs that constructed features can exist in recommended wilderness management area when they “reflect the historic and cultural landscape.” Treatment of pre-existing valid rights is already provided for under the Wilderness Act, Wild and Scenic Rivers Act, specific designation laws, and agency regulations. Those laws are not restated here and apply already. The forest plan cannot deviate or change these existing laws.

RW004: There is concern that wilderness designation will hamper active management (e.g., fire risk management, wildlife habitat improvement, watershed health management, livestock and acequia management, etc.) and increase management costs.

Associated Comments: #12503-5, #12507-3

Changes made to Plan or EIS: None

RW004 Response: The Plan cannot designate wilderness, as this is an action that can only be taken by Congress. In managing recommended wilderness, the Plan indicates that active management can be taken to move the area toward desired conditions, preserve wilderness characteristics, protect public health and safety, or uphold other Federal laws or regulations (MA-RECWILD-G-2). Ongoing budgetary concerns are outside the scope of the planning process, however all plan components are based on current forest service budgets, as per the 2012 Planning Rule.

RW012: Many commenters expressed a desire for increased wilderness management for the purpose of increasing aquatic and terrestrial habitat connectivity on the forest. Particular interest was expressed for using wilderness management to connect current designated Wilderness areas.

Associated Comments: #11981-3, #12319-4, #12535-1, #12634-1, #12638-11 (b), #12930-1

Changes made to Plan or EIS: None

RW012 Response: The strategy in our plan is to use forest wide plan components that support and improve habitat forest wide and therefore accommodate changes in wildlife migrations and movements that could occur within or across time and space. These forest wide habitat benefits and the benefits provided by recommended wilderness supplement each other. While protected areas like recommended wilderness can be beneficial to wildlife, forest-wide management to achieve healthy upland and riparian areas provides the most benefits for maintaining wildlife habitat and connectivity. Restoring vegetation resilience, which includes managing for healthy uplands and riparian areas was one of the issues that drove the formation of the alternatives. To accomplish this, objectives for habitat improvement varied by alternative which directly improves wildlife habitat and also improves connectivity across the entire Santa Fe NF. See EIS section 3.18.1.3.2 for a description of how recommended wilderness polygons proposed under each alternative would contribute to wildlife habitat and connectivity.

See also: Response to WILD001/022/052 for more on habitat connectivity.

RW013: There is opposition to recommending wilderness in the Jemez Mountains.

Associated Comments: #12507-1

Changes made to Plan or EIS: None

RW013 Response: There is no recommended wilderness in the Jemez Mountains in the final Plan.

RW014: Cultural and heritage sites on the forest should be protected.

Associated Comments: #12679-1

Changes made to Plan or EIS: None

RW014 Response: We agree these important resources deserve protection. There are numerous plan components that protect cultural and heritage sites on the forest (see the Northern New Mexico Traditional Communities and Uses, and the Cultural Heritage and Archaeology sections; and our four cultural interpretive management areas). In all management areas, forest wide plan components are applied, unless there is a more stringent management direction specific to that area (as seen in the management area's section of the Plan).

RW016: There is support for wilderness in general, and many commenters also express a desire for an expanded number of acres managed as recommended wilderness in the proposed action.

Associated Comments: #480-1, #481-3, #11981-4, #12319-6, #12382-1, #12540-2, #12569-5, #12590-3, #12591-1, #12591-3, #12620-1, #12620-2, #12638-10, #12696-1, #12699-3, #12708-9, #12744-1, #12749-1, #12941-7, #498-17, #12582-1, #13498-1, #13499-2

Changes made to Plan or EIS: EIS

RW016 Response: We received many comments advocating for adding more recommended wilderness, as in alternative 3, and many comments advocating for less recommended wilderness, as in alternative 4. We analyzed both scenarios. The final Record of Decision explains how the forest supervisor considered public comments, wilderness characteristics, and other factors to determine which wilderness areas to recommend in alternative 2.

Alternative 2 includes 23,845 acres of recommended wilderness. The following areas were included in the selected alternative: Dark Canyon (2,218 acres), White Rock Canyon (10,274 acres), Thompson Peak (9,483 acres), Enchanted Lakes (925 acres), and Grace Tract (945 acres). It is important to note that lands included in the inventory provide a starting point for further wilderness recommendation process as part of the revision of the forest plan; lands included in the wilderness inventory do not convey or require any particular kind of management.

Several factors were considered in determining the recommended wilderness areas in each alternative. The areas were selected based upon criteria developed that was appropriate for the theme of each alternative. The information from the wilderness evaluation was often a part of this criteria, but not the sole criteria. Areas with no overall wilderness characteristics or areas with low or moderate wilderness characteristics that were not part of an existing Inventoried Roadless Area were not included in any alternative because they didn't fit with any alternative themes. These areas are listed in appendix J of the FEIS, section, "Areas not Recommended in any Alternative."

See volume 3, appendix J of the FEIS, section “Analysis by Alternative,” for descriptions of each polygon included as recommended wilderness in each of the alternatives. These descriptions contain the information on which we based including each recommended wilderness areas in each alternative. In the FEIS section 3.18.1.3.2, we also describe our reasoning behind choosing the recommended wilderness polygons in the final Plan, with descriptions of the untenable tradeoffs we needed to avoid (e.g., many of the polygons analyzed under alternative 3 had pre-existing uses that are incompatible with wilderness management). These descriptions have been updated and clarified in the final EIS.

The forest supervisor of the Santa Fe NF carefully considered a range of recommended wilderness areas, as well as other allocations, to determine the mix of land and resource uses that would best meet public needs. Based on the analysis in the environmental impact statement and public input received, the Forest Supervisor of the Santa Fe NF made a decision on specific areas to recommend for inclusion in the National Wilderness Preservation System. This decision can be found in the Record of Decision, as well as the “Recommendation” section of appendix J of the FEIS. Plan components will provide direction for managing areas recommended for wilderness designation. These areas must be managed to protect and maintain the ecological and social characteristics that provide the basis for wilderness recommendation.

RW017: There is general opposition to wilderness management on the forest, and particularly for expanding the number of acres managed as recommended wilderness.

Associated Comments: #753-5, #753-9, #12716-5, #12750-3, #13498-2, #13499-6

Changes made to Plan or EIS: None

RW017 Response: The final Plan recommends 23,845 acres of wilderness. The responsible official carefully considered a range of recommended wilderness areas from none (alternative 4) to almost doubling designated Wilderness (alternative 3) to determine the mix of land and resource uses that would best meet public need. The areas recommended for wilderness in the preferred alternative are an appropriate choice for the SFNF in consideration of the four-step wilderness process (as required by the 2012 Planning Rule), alternative analyses, and public comments.

No recommended wilderness areas were included in the final Plan that would require untenable tradeoffs between wilderness management and necessary management or popular use (e.g., popular mountain biking trails, economic and traditional uses). The Plan also includes standards and guidelines that allow for limited motorized uses to manage grazing allotments and acequias, and mechanized uses to preserve or enhance wilderness characteristics in recommended wilderness.

RW020: There is concern that wilderness designation or recommendation will adversely impact the Forest's ability to manage for fire risk, leading to increased catastrophic fires and associated outcomes (e.g., watershed health impacts, post-fire debris flow, economic impacts, etc.).

Associated Comments: #12638-8, #498-17, #12582-1, #13498-1, #13499-2

Changes made to Plan or EIS: None

RW020 Response: The concern that managing an area as recommended wilderness will impact managing vegetation to reduce fire risk was a frequently heard concern from the public. During the wilderness process, concerns about wildfire and fire risk in wilderness areas was one of the most commonly raised topics of concern, as were concerns about restoration in wilderness areas

(FEIS, Vol. 3, appendix J, Table J-8). The final Plan also includes standards and guidelines (e.g., MA-RECWILD-S-1, MA-RECWILD-G-2) that allow management activities to occur to move an area toward desired conditions (which includes fire functioning in its natural ecological role (MA-RECWILD-DC-1b)), protect public health and safety, and uphold Federal laws and regulations.

RW027: There is opposition to wilderness management on the forest due to potential adverse impacts on livestock grazing and communities that depend upon it as an important cultural and economic resource, as noted in the 2012 NMSU Range Improvement Task Force Report No. 83.

Associated Comments: #498-15

Changes made to Plan or EIS: None

RW027 Response: The Wilderness Act requires that pre-existing grazing use be allowed to continue in designated Wilderness. While recommended wilderness is managed separately from designated Wilderness in the Plan, multiple components support the maintenance of livestock grazing in recommended wilderness in recognition of the Wilderness Act's intent. Relevant plan components include FW-RECWILD-DC-2 and FW-RECWILD-S-2e.

Furthermore, in the wilderness process grazing was considered during the evaluation in terms of manageability, and motorized access and maintenance by permittees was considered as a use that could impact naturalness and solitude. Areas where permittees used extensive motorized or mechanized management were not selected as recommended wilderness management areas in the Final Decision as this was considered an untenable tradeoff.

RW056: There is support for the recommend wilderness management area in the proposed action.

Associated Comments: #12494-19, #343-4, #4204-2, #12499-3, #12542-1, #12609-5, #12617-1, #12655-1, #12724-1, #12629-3, #12721-1, #12724-2, #12753-1, #12754-1

Changes made to Plan or EIS: None

RW056 Response: All recommended wilderness from the proposed action is carried forward into the final Plan.

RW057: Wilderness in New Mexico should be protected, along with the unique species, habitats, ecosystems, and cultural resources contained within.

Associated Comments: #12591-3, #12638-9, #12638-10, #12669-3, #12725-14, #12742-2, #12792-1, #13007-2

Changes made to Plan or EIS: None

RW057 Response: We agree these important resources deserve protection. There are numerous plan components that protect wildlife (see the Wildlife, Fish, and Plants section of the final Plan), ecosystems (see the Vegetation, Water, Riparian and Wetland Ecosystems, Soils, Air, and Sustainable Rangelands and Grazing sections of the final Plan), and cultural and heritage sites on the forest (see the Northern New Mexico Traditional Communities and Uses, and the Cultural Heritage and Archaeology sections of the final Plan).

RW062: Restoration work should continue in recommended wilderness areas to the extent possible in light of wilderness management requirements, and areas that were identified as potential recommended wilderness but not included in the proposed action should be considered for increased protections to maintain high-quality landscapes.

Associated Comments: #12752-38 (a)

Changes made to Plan or EIS: None

RW062 Response: Plan components in the Recommended Wilderness section of the Plan provide direction on how we will maintain wilderness characteristics in recommended wilderness management areas. For example, MA-RECWILD-G-2 allows us to continue doing work to maintain or improve wilderness characteristics and protect public health and safety. MA-RECWILD-S-1 states that “natural processes shall be maintained within recommended wilderness management areas.”

Areas that are not selected as recommended wilderness management areas are managed under forest-wide direction. If an area falls within the boundary of a separate management area, such as IRAs, it is managed under these additional plan components (see the Management Areas section of the Plan). In all cases, when there is forestwide direction and management area-specific direction, or overlapping management area-specific direction, the most stringent direction applies.

RW063: The economic benefits of preserving and expanding wilderness (e.g., tourism dollars coming into the state) should be recognized.

Associated Comments: #13386-1

Changes made to Plan or EIS: None

RW063 Response: We analyze the economic benefits of recreation in the section 3.17.4.1 of the EIS, in the Socioeconomic analysis. This is recognized in the Plan under the Recreation section, where desired conditions support varied sustainable recreation opportunities and partnerships (FW-REC-DC-3 and DC-6).

RW064: There is opposition to wilderness with regard to the potential adverse impacts to rural communities.

Associated Comments: #498-20

Changes made to Plan or EIS: None

RW064 Response: During the wilderness process, current uses of the landscape were taken into account in the evaluation. Popular sites for motorized or mechanized traditional uses, such as fuelwood gathering, allotment management, collection of traditionally used products, or areas of tribal importance were rated lower for manageability. In the analysis for alternative 2, the criteria include “no untenable tradeoffs;” frequent motorized access for range management or traditional and cultural practices and high need for restoration treatments were both considered untenable trade-offs. These criteria were in part laid out to help mitigate impacts to rural communities that rely on the forest for their day-to-day lives.

RW065: There is opposition to wilderness with regard to limiting recreation opportunities.

Associated Comments: #12609-1

Changes made to Plan or EIS: None

RW065 Response: There are many types of recreation that take place on the forest. Wilderness promotes primitive recreation, solitude, or distance from non-motorized or mechanized experiences. During the wilderness process, these characteristics were taken into account as part of the evaluation. In the analysis for recommended wilderness the criteria used for alternative 2 included "no untenable tradeoffs." For instance, areas with popular mountain biking trails or that are popular for other mechanized or motorized recreation were excluded. Other types of recreation are promoted on other parts of the forest. For instance, the Plan contains sections on both developed and dispersed recreation, and generally promotes varied sustainable recreation opportunities (FW-REC-DC-6).

RW067: Protection of watersheds and managing water yield should be prioritized over wilderness expansion on the forest.

Associated Comments: #13498-2

Changes made to Plan or EIS: None

RW067 Response: Recommended wilderness and designated Wilderness management on the Santa Fe NF is meant to protect important natural resources including water. Wilderness areas in general occupy only 2.5 percent of the land base but contribute 4.9 percent of the water supply of the coterminous U.S. In Region 3 of the National Forest System (primarily Arizona and New Mexico, with a small part of Texas), 9.2 percent of the total volume of mean annual contributions to water supplies originate from Wilderness areas on NFS lands, which is 19.5 percent of the total volume of water that originates on NFS lands. (Brown and Froemke 2009)

On the Santa Fe NF, both designated Wilderness and recommended wilderness management areas house many headwaters and provide high-quality water to the natural systems and communities below. Ecosystem services provided by recommended wilderness management areas include supporting ecosystem services such as nutrient and water cycling; biodiversity; and regulating ecosystem service such as water filtration, air quality protection, and climate change adaptation. Provisioning ecosystem services of food from hunting and foraging also occur here

Within the Plan's 23,845 acres of recommended wilderness, motorized and mechanized (e.g., bicycle) travel are not authorized, and motorized and mechanized roads and trails are not present; only walking trails are permitted. Therefore, these management areas have only positive effects on surface water resources in that they lack the adverse effects caused by roads and road density. Management of wilderness also establishes wilderness guidance for recreation activities (e.g., camping a minimum distance from surface water). Wilderness management protects water resources through minimizing ground disturbance and associated effects to water resources.

Alternatives and Analysis

RW005: There is support for the recommended wilderness acreages proposed in alternative 3, which includes all inventoried roadless areas on the forest, due to desires for increased habitat connectivity and increased protections of unique ecological and cultural resources. In particular, many commenters expressed support for expansion of the Pecos Wilderness and San Pedro Parks Wilderness, and for maximizing recommended wilderness in the Caja del Rio area, which includes the White Rock Canyon and Ortiz Mountain recommended wilderness management areas.

Associated Comments: #12382-3, #12382-4, #12382-7, #12433-7, #12433-8, #12489-4, #12494-4, #12494-5, #12497-8, #12497-9, #12497-12, #12501-4, #12515-8, #12515-9, #12515-10, #12527-5, #12577-2, #12638-11 (a), #12647-12, #12647-14, #12647-15, #12694-15, #12699-1, #12725-1, #12725-3, #12725-4, #12725-7, #12725-9, #12725-10, #12752-38 (d), #12494-12, #30-2, #4151-1, #4165-1, #4246-2, #12382-5, #12495-3, #12497-10, #12567-6, #12579-3, #12694-22, #12725-5, #13416-46, #12685-17

Changes made to Plan or EIS: None

RW005 Response: We received many comments advocating for adding more recommended wilderness, as in alternative 3, and many comments advocating for less recommended wilderness, as in alternative 4. We analyzed both scenarios. The final record of decision explains how the forest supervisor considered public comments, wilderness characteristics, and other factors to determine which wilderness areas to recommend in alternative 2.

The decision on which recommended wilderness polygons to carry forward in the final Plan was made based on the presence of non-motorized system trails where mountain bike use is frequent, pre-existing mining claims (P85B), and roads from the MVUM (E44A). Other areas are so small that adding them to the recommended wilderness on the forest would, for example, provide no real benefit (P85), conflict with existing NEPA decisions (e.g., E40A), or conflict with community desire for forest thinning to reduce wildfire risk (P79B, P85d). The White Rock Canyon recommended wilderness area is present in the final Plan at a reduced acreage.

See also: RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW006: There is support for the alternative 4 recommended wilderness proposal.

Associated Comments: #12640-12

Changes made to Plan or EIS: None

RW006 Response: We received many comments advocating for adding more recommended wilderness, as in alternative 3, and many comments advocating for less recommended wilderness, as in alternative 4. We analyzed both scenarios. The final record of decision explains how the forest supervisor considered public comments, wilderness characteristics, and other factors to determine which wilderness areas to recommend in alternative 2.

See also: RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW007: Commenters expressed a desire for a greater range of alternatives with regard to recommended wilderness acreage. There is concern that the four alternatives analyzed in the EIS are too narrow, representing a failure to comply with NEPA requirements for a “reasonable range of alternatives.” To achieve NEPA compliance, the Forest Service should analyze additional alternatives with recommended wilderness acreages in between the entirety of inventoried acres (885,350 acres) and alternative 3 (270,130 acres), and in between alternative 3 and the proposed action (23,845 acres). The latter is of particular concern due to the large discrepancy of acres between alternative 3 and the proposed action.

Associated Comments: #12494-10, #12494-11, #12494-12

Changes made to Plan or EIS: None

RW007 Response: After considering the analysis in alternatives 1 through 4, and the alternatives considered but eliminated from detailed study, the Forest believes a reasonable range of alternatives was carefully evaluated in compliance with NEPA. NEPA regulations at 36 CFR 220.5(e) state that “no specific number of alternatives is required or prescribed.” Beyond this, all alternatives were developed to address:

- the purpose and need, as described in chapter 1, which includes the need for change;
- changes in socioeconomic or environmental conditions since the 1987 Forest Plan; and
- issues identified from comments received during public scoping of the revision effort and from comments received on initial plan components, alternative themes, and management areas.

In terms of recommended wilderness, there is no requirement for all lands included in the recommended wilderness inventory and subsequent evaluation to be carried forward in an alternative (FSH 1909.12, Ch 70). Wilderness acreage greater than that described in alternative 3 was determined to not meet the purpose and need of the Plan, and thus these alternatives, while considered, were not analyzed in detail (see section 2.3 of the FEIS). Although there is a large difference between the recommended wilderness acreages of alternative 2 and alternative 3, the alternatives were developed to cover a full spectrum of management intensity based on the themes of each alternative. These themes ranged from a natural processes emphasis in alternative 3 which included an over 90 percent increase in acres to lands managed as recommended and designated wilderness, to a human-uses emphasis in alternative 4, which included a recommendation to remove acres from designated Wilderness. All of these alternatives are consistent with the purpose and need, laws and regulations, and/or budget constraints; and are realistic, implementable, and responsive to the revision topics.

RW021: The Forest should perform a threat analysis with regards to fire and post-fire debris flow risk on areas being analyzed for wilderness recommendation.

Associated Comments: #13498-1

Changes made to Plan or EIS: None

RW021 Response: This is neither within the scope of the forest plan nor part of the evaluation criteria for wilderness as defined in FSH 1909.12 Chapter 72.1. During prescribed fire projects and wildfire response incidents, risk management is a key element of project design and emergency planning.

Plan Components and Language

RW019: Clarification should be added to MA-RECWILD-DC-1c. The modified DC should read, “Recommended wilderness management areas provide recreation opportunities where social encounters are infrequent and occur only with individuals or small groups, so there are opportunities for solitude. Visitors experience self-reliance, challenge, and risk while enjoying freedom to pursue non-motorized or **non**-mechanized activities with only the regulation necessary to protect wilderness characteristics.”

Associated Comments: #12494-18

Changes made to Plan or EIS: Plan

RW019 Response: We have made this change in the final Plan.

RW022: The recommended Wilderness section of the Plan should include language that recognizes the importance of fish and wildlife in recommended wilderness areas, and that Santa Fe NF will work with the NMDGF on exceptions to wilderness restrictions in order to manage wildlife populations in the event of wilderness designation.

Associated Comments: #12665-95

Changes made to Plan or EIS: None

RW022 Response: Under the Designated Wilderness section of the Plan, DA-WILD-MA-2 asks project managers to “Coordinate with the New Mexico Department of Game and Fish on management of wildlife within wilderness using techniques consistent with preserving wilderness character.” In the event a recommended wilderness management area becomes designated Wilderness, this management approach (and all other plan components and management approaches) will come into effect. In the Recommended Wilderness Management Area narrative, we discuss how, “Ecosystem services provided by recommended wilderness management areas include supporting ecosystem services such as...biodiversity... Provisioning ecosystem services of food from hunting and foraging also occur here.” Fish and wildlife are additionally recognized as important forest-wide and plan components throughout the document manage for species and habitat. Additionally, in the Wildlife, Fish, and Plants section of the Plan, there are multiple management approaches that ask project managers to consider collaborating with the NMDGF. For any specific project or management actions, the Forest Service works collaboratively with partners and other agencies to meet shared goals while remaining in compliance with the Plan. This is discussed in the Partnership section of the Plan (see FW-PARTNERS-DC).

RW026: There is opposition to livestock grazing in recommended wilderness areas on the forest, and this should be reflected in plan components in the Recommended Wilderness section of the Plan. MA-RECWILD-DC-2 should have “livestock grazing” removed, and a new standard should be added that reads, “Livestock grazing allotments located in recommended wilderness areas that are unused, in non-use, or vacant shall be prioritized for voluntary permit retirement.”

Associated Comments: #12727-27, #12727-28

Changes made to Plan or EIS: None

RW026 Response: While it is beyond the scope of the forest planning process to eliminate grazing or allotments (see response to RNG005 and RNG072 for more on allotment management), the forest plan details numerous protections for recreation, ecological resources and wildlife in the face of potential grazing pressures. Example plan components include: FW-VEG-G-5, FW-RWE-G-2, FW-RWE-G-7, FW-TERRASH-S-1, FW-TERRASH-G-1, FW-TERRASH-G-2, FW-ATRISK-G-1, FW-SOIL-G-4, FW-RANGE-DC-4, FW-RANGE-DC-5, FW-RANGE-DC-6, FW-RANGE-DC-7, FW-RANGE-O-1, FW-RANGE-S-1, FW-RANGE-S-2, FW-RANGE-S-3, FW-RANGE-G-1, FW-RANGE-G-2, FW-RANGE-G3, FW-RANGE-G-4, FW-RANGE-G-5, FW-RANGE-G-8, FW-REC-DC-4.

Wilderness designation would prohibit access by motorized vehicle and use of mechanized equipment for maintenance of stock water developments, salt placement and potentially restrict installation of new range improvements (for instance water troughs) unless approved following a minimum requirements decision. Wilderness designation of those areas recommended under the final revised plan would therefore not be expected to restrict current permitted grazing levels differently than under the current forest plan. Thus, it does not follow to restrict grazing in recommended wilderness when it is allowed in designated Wilderness (Wilderness Act of 1964, Public Law 88-577).

RW028: MA-RECWILD-G-2b should be modified to read, “Mechanized equipment should only be allowed in recommended wilderness if the tool is being used to enhance wilderness characteristics, including restoring or enhancing apparent naturalness, opportunities for primitive recreation, or manageability.”

Associated Comments: #12494-20

Changes made to Plan or EIS: None

RW028 Response: The Forest Service Directives state that, “all plan components applicable to a recommended area must protect and maintain the social and ecological characteristics that provide the basis for wilderness recommendation” (FSH 1909.12 74.1). With this in mind, guidelines under the Recommended Wilderness section of the Plan direct project managers to “preserve or enhance very high scenic integrity objective, manage for primitive ROS, and maintain or improve wilderness characteristics” (FW-RECWILD-G-1, G-3, and G-4). Under recommended wilderness management, mechanized equipment is reserved for management actions that will move the area toward desired conditions or protect health and safety (e.g., fire management).

RW048: The Santa Fe NF and the Carson NF should have common plan components for managing the Pecos Wilderness as it lies within the boundaries of both forests and requires a collaborative approach for effective management.

Associated Comments: #12607-6, #12607-8

Changes made to Plan or EIS: None

RW048 Response: We worked with the Carson NF to make plan components for designated Wilderness as similar as possible, given that the Pecos Wilderness is the only designated Wilderness we share, and designated Wilderness plan components direct the management of multiple designated Wildernesses on each forest. Beyond this, each designated Wilderness has its own management plan, the development and maintenance of which is outside the scope of the forest planning process.

RW066: MA-RECWILD-DC-2 should be deleted, because while livestock grazing and acequia management may be acceptable uses in recommended wilderness areas, these uses should not be elevated to a primary management emphasis within the recommended wilderness area in the form of a desired condition.

Associated Comments: #12494-18

Changes made to Plan or EIS: None

RW066 Response: These desired conditions are based on the Santa Fe NF’s decision to have differential management between recommended wilderness and designated Wilderness. Extensive public comment and meetings with our local communities revealed that this was an area of concern, particularly as it pertains to how traditional uses of forest lands. Part of the Forest Vision is to:

- Work closely with traditional communities, including Tribes and community land grants, to ensure access to sacred sites, ceremonies, and forest products. Protect, enhance, and interpret our cultural resources.

- Provide and enhance sustainable and community-centered recreation opportunities by collaborating and leveraging resources.
- Support jobs, economic opportunities, excellent visitor and learning experiences, and critical public services through innovative and responsive youth engagement, outreach, special uses, and outfitter and guide programs.
- Ensure sustainable rangelands and livestock grazing to benefit producers and the resource.
- Protect and maintain public access to the forest for recreation, hunting, and traditional uses.

Furthermore, under the Wilderness Act, grazing and acequia management are allowed to continue on designated Wilderness.

RW070: An objective should be added to the Recommended Wilderness section of the Plan that reads, “Complete Steps 1-4 of recommended wilderness process for Dark Canyon, White Rock Canyon, Thompson Peak and Enchanted Lake/Grace Tract.”

Associated Comments: #12502-4

Changes made to Plan or EIS: None

RW070 Response: The recommended wilderness process was completed for the entire forest. This process is documented in appendix J of the FEIS.

Process

RW018: There is a desire for more context to be added to the Recommended Wilderness section of the final Plan and FEIS. The Plan should contain the total acreage of recommended wilderness areas (23,845 acres), along with the percentage of the forest that is being recommended (1.54 percent). This would help place recommended wilderness in the larger context of the forest. The impacts analysis should explain how much designated Wilderness exists in New Mexico compared to the other western states and include this information as a percentage of the overall land base in New Mexico. This information can be used to help justify wilderness recommendations in the forest plan.

Associated Comments: #12494-17

Changes made to Plan or EIS: None

RW018 Response: We added total acres for all of the management areas in the final Plan. In the FEIS, the percentage of the forest recommended for wilderness under each alternative can be found in section 3.18.1.3.2 Recommended Wilderness Indicators. The spatial bounds for a cumulative impacts analysis is the area in which a specific resource may be affected by management actions; whether they are past, present, or future. Affected areas can vary in size by resource and by the type of effect that may occur. (FSH 1901.15.2a ch.10) For the recommended wilderness on the Santa Fe NF, the cumulative effects analysis area includes the adjoining federally managed lands, including the Carson NF, National Park Service (NPS) and Bureau of Land Management (BLM), which also manage wilderness, wilderness study areas, or recommended wilderness. We do not think it is necessary to contextualize it in regards to the entire state, as the ecosystems of northern New Mexico are unique from those of southern New Mexico and land management actions (past and future) outside of northern New Mexico are not reasonable anticipated to have “a cumulatively significant impact on the environment.” 40 CFR 1508.27(b)(7).

RW023: Some commenters expressed a desire to have all inventoried roadless areas recommended for wilderness designation, with particular concern focused on IRAs adjacent to existing designated and recommended wilderness, and the Santa Fe Watershed.

Associated Comments: #12030-3, #13416-54

Changes made to Plan or EIS: None

RW023 Response: See the response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW024: There is concern that the Plan and EIS are in violation of Federal and New Mexico State law. The 2012 Planning Rule violates the Wilderness Act, and thus any Plans and EIS based on it are illegal. Furthermore, the wilderness process in the Plan and EIS violates New Mexico's Public Law 96-550 (New Mexico Wilderness Act of 1980). The Plan and EIS should be re-issued to address these violations.

Associated Comments: #12472-4, #12472-5, #12510-14, #12528-96, #12555-7, #12690-23, #12698-101

Changes made to Plan or EIS: None

RW024 Response: The New Mexico Wilderness Act of 1980 (Public Law 96-550) at Section 104 was developed in context of the on-going events related to the Roadless Area Review and Evaluation of 1979 (RARE II). This was a nationwide effort that made recommendations by States, for potential wilderness recommendations. The RARE II process was the subject of judicial reviews that eventually led to the overturning of the Environmental Impact Statement for RARE II in 1980. This was followed by over 30 state-by-state Forest Service wilderness statutes between 1980-1990 that provided release language for RARE II areas (See Congressional Research Service, R41610, April 17, 2014). Section 104(c) is specifically related to the release of this type of “roadless” area from pending judicial requirements for re-evaluation. Although these ‘released’ areas were released for purposes of multiple-use, this release does not prohibit re-evaluation of these areas at a later date as indicated in other sections of the law.

The New Mexico Wilderness Act of 1980 (Public Law 96-550) at Section 104(b)(2) specifically states, “...the Department of Agriculture shall not be required to review the wilderness option prior to revision on the initial plans, and in no case prior to the date established by law for completion of the initial planning cycle.(emphasis added). This was explained during the introduction of the New Mexico Wilderness Act. See 96 Cong. Rec. pp. 30566 to 30568 and 31135 to 31138. This Congressional Record explains the language of the P.L. 96-550 Section 104(b)(2) and the expectation for re-evaluation in the next generation of forest planning.

Federal law requires the Forest Service to continue to periodically revise forest plans and in doing so to re-evaluate wilderness resources during plan revision efforts. See 16 U.S.C. 1604(d)(2) and f(5); 36 CFR 219. The forest plans in New Mexico are well over the 10- to 15-year revision cycle described in the National Forest Management Act and any wilderness evaluation would be covered by the requirements for plan revisions. USDA's regulations and directives implementing the National Forest Management Act requires wilderness evaluation in plan adoption and revision. These regulations are described in the 2012 National Forest System Land Management Planning Rule and the manual and handbook issued in 2014. In the planning rule, Section 219,7 (c)(v) states that revisions shall “Identify and evaluate lands that may be suitable for inclusion the National Wilderness Preservation System and determine whether to recommend any such lands for wilderness designation.” Forest Service Manual 1923 and Handbook 1909.12 Chapter 70 provide the direction for how this inventory and evaluation should be accomplished.

Based on the New Mexico Wilderness Act of 1980 (Public Law 96-550), Section 104(b) (2), Federal law requirements that wilderness be reviewed during forest plan revisions and the published requirements in US Forest Service rule, manual and handbook for how wilderness evaluation is to be accomplished, the on-going revision efforts and evaluation of wilderness potential are in full compliance with applicable law and policy.

RW029: There is concern about the use of chainsaws in wilderness areas for things other than approved emergency use.

Associated Comments: #12540-11

Changes made to Plan or EIS: None

RW029 Response: Chainsaws and other mechanized uses are not authorized for use in designated Wilderness, but the forest plan treats recommended wilderness differently, authorizing mechanized uses under certain circumstances, as outlined in FW-RECWILD-S2e and FW-RECWILD-G-2:

FW-RECWILD-2e:

2. The following projects or activities shall not be authorized in recommended wilderness management areas:

- e. Motor vehicles, motorized equipment (e.g., chainsaws or wheelbarrows), and mechanical transport, with the following exceptions:
 - i. unless specifically authorized for emergency use,
 - ii. for management activities that move the area toward desired conditions while protecting existing wilderness characteristics over the long-term, or
 - iii. for the limited needs required for authorized management of a grazing allotment or acequia access, which will not result in long-term degradation to wilderness characteristics.

FW-RECWILD-G-2: Intervention in natural processes through management activities should only occur where this would move the area toward desired conditions, preserve wilderness characteristics, protect public health and safety within and adjacent to the recommended wilderness management area, or uphold other Federal laws and regulations.

- a. Unplanned and planned ignitions should be allowed to reduce the risks and consequences of uncharacteristic wildfire to increase apparent naturalness, or to enhance ecosystem function.

This decision was in part based on comments submitted by the public that the Forest should have differential management of designated Wilderness and recommended wilderness, and in part because of concerns around maintaining fire risk management and economic and traditional uses. See response to RW028 for more on the use of mechanized equipment in recommended wilderness.

RW030: The wilderness evaluation process did not adequately consider the evidence of significant historic and current mining prospects, and their socioeconomic importance for the area and the nation. Wilderness is not compatible with modern mining.

Associated Comments: #12713-4, #12713-12

Changes made to Plan or EIS: None

RW030 Response: Mining was considered in the wilderness process as part of manageability. See Table J-10, where it is listed as an example of manageability criteria under legally established rights and uses.

RW031: Commenters expressed the opinion that long as mountain biking is not allowed in designated or recommended wilderness areas, wilderness management on the forest should not be increased.

Associated Comments: #12696-1, #772-1, #12542-2, #12616-1, #12655-2, #12683-2, #12696-2, #12696-4, #12716-3, #12723-1, #12734-2, #12739-1, #12746-1, #12754-3

Changes made to Plan or EIS: None

RW031 Response: Public involvement is required early and during each step of the Wilderness Recommendation Processes (2012 Planning Rule and Forest Service Handbook Directives, 1909.12, Chapter 70.61). Public comments were used throughout the wilderness process and taken into account by the responsible official. These included comments on mountain bike use on the forest. Mountain biking use was considered an untenable tradeoff during the analysis process, and areas that were known to have popular mountain biking trails were not included as recommended wilderness management areas in the final Plan.

RW037: Commenters expressed a desire to have more information about the methods for evaluation and analysis process, and how the Forest arrived at the final acreage results of polygon E39 (White Rock Canyon) and polygon P85b (Thompson Peak), as both of these polygons have decreased acreages in the Proposed Action from what was originally presented. Once this information is provided, the Plan and EIS should be resubmitted for public review and comment, as this is required information to provide the public the NEPA-compliant information for its review.

Associated Comments: #12472-11

Changes made to Plan or EIS: EIS

RW037 Response: See RW040 for how we have clarified the differences between E39 in alternative 2 and alternative 3.

See also: RW032/Edit002 for more on how we adjusted the boundary of the Thompson Peak recommended wilderness polygon in alternative 2.

RW049: There is concern that some of the legislatively proposed additions to the Pecos Wilderness have been incorrectly evaluated as having “low” or “no” wilderness character. Of particular concern are P88B, which is included as recommended wilderness in alternative 1 and alternative 3, but not in the proposed action. Additionally, portions of P79C, P85A, and P85C were not carried forward in the analysis, and thus, were not included as recommended wilderness in any alternative, despite the additional information provided to the Forest to be taken into account in the evaluation.

Associated Comments: #12694-12

Changes made to Plan or EIS: None

RW049 Response: The polygons in question were evaluated in the wilderness process (see appendix J of the FEIS). Their evaluation determination is based on the data the Forest gathered (including from public comment during the wilderness process). For instance, P88b has inholdings, cherry-stemmed roads, among other factors that make it difficult to manage to preserve wilderness characteristics. Thus, it received a manageability rating of “low.” Furthermore, it did not meet the criteria to be included in any alternative. Our reasoning for the final selection of recommended wilderness polygons can be found in the record of decision.

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW069: Commenters expressed concern of the wilderness inventory and evaluation process the Forest undertook during Plan Revision, and its overall methodology and disclosure. Some commenters were concerned that a rating of “low” on any criteria disqualified a polygon from consideration, and that ratings overall were applied inconsistently. One group was particularly concerned with how the criteria was defined and applied. The criteria used for apparent naturalness improperly relied on the presence of human activities or improvements when evaluating naturalness rather than their effect on the area's naturalness as seen by the average visitor. Activities or improvements that are “substantially unnoticeable” are not a reason to reject an area's apparent naturalness. The “outstanding opportunities for solitude and primitive and unconfined recreation” criteria were applied inconsistently, without acknowledgment that an area need only possess one or the other, not both, and not on every acre. Finally, in terms of manageability, much of the evaluation improperly considered management trade-offs, which is outside the scope of the wilderness evaluation. Manageability and apparent naturalness were both wrongly impacted by the presence of livestock and range improvements, which are common across the west and in wilderness and should not be disqualifying.

Associated Comments: #12494-16, #12577-4, #12577-5, #12577-6, #12577-7, #12694-4, #12694-5, #12694-6, #12694-7, #12694-8, #12694-9, #12694-10, #12694-11, #12694-13

Changes made to Plan or EIS: None

RW069 Response: Our wilderness process is documented in Appendix J of the EIS. This process included extensive public input on both the areas included in the process and the criteria used to evaluate polygons for wilderness characteristics. Some polygons with a “low” overall rating were included in alternative 3, and polygons that had a “low” determination in one criterion did not necessarily receive a “low” determination overall (Table J-12).

Apparent naturalness was defined by the dominant vegetation types, associations, and plant and animal communities; the distribution and amount of vegetation restoration treatments, timber harvest areas, and associated activities; and the extent to which improvement cause the appearance of an area to depart from apparent naturalness to the area as a whole (Table J-7). Improvements on the landscape did not necessarily earn a polygon a “low” rating for apparent

naturalness. For example, in Table J-7, under “Guidelines for Determining Amount of Wilderness Characteristics,” we state that a “high” determination for apparent naturalness can be given when “the presence or appearance of improvements does not detract from apparent naturalness.”

In appendix J, we state that “the outstanding opportunities for solitude or primitive and unconfined recreation type criterion is composed of two questions: (a) opportunities for solitude or (b) opportunities for primitive and unconfined type recreation. Since this criterion is worded as either solitude or primitive and unconfined type recreation, the question with the higher wilderness characteristics of the two was chosen to be factored into the overall determination of wilderness characteristics for the area.”

Although some management trade-offs were in the draft evaluation, these were removed from the final and instead considered in the analysis. In alternative 2, one of the criteria for selecting polygons as recommended wilderness included that there be no untenable trade-offs, like mountain biking. In terms of manageability, it was not the presence of cattle or range improvements that led to a lower determination. Rather, we examined the presence of motorized or mechanized use for allotment maintenance. We state this in Table J-10.

Polygons

DA029: The Rancho Viejo IRA should be recommended wilderness. It includes wildlife, is surrounded by protected lands, has qualities indistinguishable from wilderness, has regenerated from large wildfires without human intervention, is already managed to maintain roadless charters and conservation value, and would result in management continuity with adjacent Pecos Wilderness.

Associated Comments: #12515-11

Changes made to Plan or EIS: None

DA029 Response: The Rancho Viejo IRA is part of the E45, Rio Nambé recommended wilderness polygon, which is included in the alternative 3 recommended wilderness analysis (FEIS, Vol. 2). The polygon was included in this alternative because it met the one of the alternative 3 criteria for recommended wilderness, which is to be

- part of an inventoried roadless area (the Ranch Viejo IRA),
- have low or moderate wilderness characteristics, and
- is adjacent to existing wilderness.

In addition to the qualities listed by the commenter, system trails within the IRA are extremely popular with mountain bikers. The southern portion of the polygon is also managed as wildland-urban interface (WUI). The rationale for our selection of the final set of recommended wilderness polygons is described in our record of decision (ROD).

DA030: The Rio Medio IRA should be recommended wilderness. It includes tributaries and reservoirs important for agriculture, domestic water supply, livestock, wildlife, and recreation and it is important that these waterways remain protected, natural, and undisturbed. It shares a boundary with the Pecos Wilderness and the Santo Domingo de Cundiyo Land Grant. It is already managed to retain its roadless character and retain its conservation value and has no trails other than animal tracks. Managing as recommended wilderness would result in management consistency of continuity.

Associated Comments: #12515-12

Changes made to Plan or EIS: None

DA030 Response: The Rio Medio IRA is part of the E49B, Rio Medio recommended wilderness polygon, which is included in the alternative 3 recommended wilderness analysis (FEIS, Vol. 2). The polygon was included in this alternative because it met the one of the alternative 3 criteria for recommended wilderness, which is to be

- part of an inventoried roadless area (the Ranch Viejo IRA),
- have low or moderate wilderness characteristics, and
- is adjacent to existing wilderness.

In addition to the qualities listed by the commenter, there is also a quarter section of land in the middle of the polygon that is private land and there is some historic and ongoing motorized access occurring for range management. The final set of recommended wilderness polygons, and our rationale for this selection, is described in our record of decision (ROD).

RW010: There is concern the Caja del Rio Wildlife and Cultural Interpretive Management Area and the White Rock Canyon recommended wilderness management area as described in the proposed action could limit future power supply alternatives for the Los Alamos National Laboratories.

Associated Comments: #13658-4

Changes made to Plan or EIS: None

RW010 Response: As required by the National Forest Management Act, all projects and activities authorized by the Forest Service, after record of the decision for the final Plan, must be consistent with the forest plan (16 U.S.C. 1604(i) as described at 36 CFR 219.15). This is accomplished by a project or activity being consistent with applicable plan components. If a proposed project or activity is not consistent with the applicable plan components, the responsible official has the following options (subject to valid existing rights):

- Modify the proposed project or activity to make it consistent with the applicable plan components;
- Reject the proposal or terminate the project or activity;
- Amend the plan so that the project or activity will be consistent with the plan as amended; or
- Amend the plan contemporaneously with the approval of the project or activity so that the project or activity will be consistent with the plan as amended. This amendment may be limited to apply only to the project or activity. (36 CFR 219.15(c))

RW011: There is support for the Caja del Rio Wildlife and Cultural Interpretive Management Area to be carried forward into the final Plan.

Associated Comments: #12515-13

Changes made to Plan or EIS: None

RW011 Response: The Caja del Rio Wildlife and Cultural Interpretive Management Area is part of the final Plan.

RW032/Edit002: Commenters have expressed concern about the boundaries of the Thompson Peak recommended wilderness. One commenter was concerned that the boundaries are not clear in the draft Plan, in Figure 6-East. Other commenters expressed concern that the boundary should be located 100 feet to the east of the existing user-generated trail between Glorieta Baldy and Thompson Peak, and should not extend over Forest Road 375/La Cueva Road to the south.

Associated Comments: #12500-3, #12500-4, #12747-1, #12500-2

Changes made to Plan or EIS: None

RW032/Edit002 Response: Figure 6-East in the forest plan is not meant for analysis purposes, but rather as a visual reference to the areas that are discussed in the Plan. Larger maps can be found online—these maps provide more detail about the locations of the boundaries of each recommended wilderness area.

The boundary of Thompson Peak recommended wilderness area presented in the draft and final Plan was adjusted based on public comments from previous public comment periods so that the user created trail has a buffer of 100 feet on each side and is not included within the boundaries of the recommended wilderness. The recommended wilderness boundary was also adjusted so that it does not extend across Forest Road 375.

RW033: The alternative 3 recommended wilderness area (7,038 acres) in the Oil & Gas Leasing Management Area should be included in the Proposed Action to continue to protect wildlife and watersheds from the impacts of oil and gas development.

Associated Comments: #12681-7

Changes made to Plan or EIS: None

RW033 Response: See the response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW034: There is support for the White Rock Canyon (19,258 acres) and Ortiz Mountain (10,157 acres) recommended wilderness areas to be included in the Proposed Action.

Associated Comments: #343-3, #459-10, #4095-9, #12362-4, #12433-8, #12494-4, #12494-7, #12494-15, #12497-8, #12515-15, #12527-5, #12647-12, #12752-21, #12752-38 (c) , #12382-5, #12497-10, #12722-4, #12725-5

Changes made to Plan or EIS: None

RW034 Response: The White Rock Canyon recommended wilderness polygon was included in the in the final Plan. The Ortiz Mountain recommended wilderness polygon was not carried forward into the final Plan as it contains areas popular for mountain biking, which is considered an “untenable tradeoff” (see FEIS, Vol. 3, appendix J).

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW036: There is support for the Enchanted Lakes and Grace Tract IRAs as recommended wilderness management area in the Proposed Action.

Associated Comments: #12577-1

Changes made to Plan or EIS: None

RW036 Response: Both the Enchanted Lakes and the Grace Tract recommended wilderness polygons, which contain IRAs, are included in the final Plan.

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW039: There is support for the White Rock Canyon (10,280 acres) and Thompson Peak (11,599 acres) recommended wilderness management areas as described in the Proposed Action.

Associated Comments: #12362-11, #12499-3, #12708-9, #12752-21, #12752-38 (b)

Changes made to Plan or EIS: None

RW039 Response. Both the White Rock Canyon and the Thompson Peak recommended wilderness polygons are included in the final Plan.

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW040: The White Rock Canyon recommended wilderness management area is mischaracterized in the DEIS in terms of size and make-up, as the polygon boundaries do not include the entirety of the two Caja del Rio IRAs nor do the two IRAs contain the entirety of the White Rock recommended wilderness. Thus, the entirety of the polygon is not, as the agency states, being currently managed as an IRA. The area's existing ROS classes are also misrepresented, as the description fails to inform the public that both Semi-Primitive Non-Motorized and Semi-Primitive Motorized ROS classes are present, indicating that there is legal motorized use going on in the area. Finally, the agency terms the wilderness characteristics to be "very high." Given that the evaluation process only includes descriptive values ranging "no" to "high," it is unclear what criteria or analysis was used to get the "very high" result. The agency had not disclosed any process for the "analysis of recommended wilderness by alternative."

Associated Comments: #12472-10

Changes made to Plan or EIS: EIS

RW040 Response: In our evaluation of the White Rock recommended wilderness polygon (E49; FEIS, Vol. 3, appendix J), we have added details differentiating between the western and eastern portions of the polygon. We have also updated the wilderness analysis tables for E49 in both alternative 2 and alternative 3 to provide clarification on the boundaries for the polygon and the portions of the IRAs that are encompassed by the polygon in each alternative.

While it is true that the polygon shows a narrow strip of Semi-Primitive Motorized along the river, this area does not include any motor vehicle use map. The old roads that exist in the area cannot be accessed because they are on tribal land. Additionally, we have modified our desired ROS for this area going forward (see final Plan, appendix A, to view desired ROS maps).

See also: CAJA023 for more on corrections made to the Caja del Rio WCIMA boundaries in the FEIS.

RW041: Los Alamos National Laboratories structures and activities may at times be observable from the proposed White Rock Canyon recommended wilderness management area, which may impact the sense of solitude in the area.

Associated Comments: #12606-4, #13658-9

Changes made to Plan or EIS: None

RW041 Response: We noted this potential impact in the evaluation of this polygon in the FEIS (Vol. 3, appendix J), stating that the Los Alamos is visible and may detract from feeling of solitude.

RW042: White Rock Canyon does not have the appropriate wilderness characteristics to be recommended for wilderness designation, and there is concern that the Forest Service's evaluation of the area was inaccurate. The polygon in question has both NFS roads and non-system roads clearly visible, as well as existing range improvements; these elements negate the rating of "high" for the naturalness criteria. The solitude of the area is impacted by clear views of Los Alamos National Laboratories and the communities of Los Alamos and White Rock. The manageability of the area is also impacted by a pre-existing wild horse management area, management of which is not compatible with wilderness management. The acknowledged motorized and mechanized uses of the area by the Pueblo de Cochiti further conflicts with wilderness management and makes recommending the area for wilderness designation inappropriate. Given these concerns, the Agency should re-evaluate the White Rock Canyon polygon and re-issue a corrected Draft Plan and DEIS.

Associated Comments: #12472-9

Changes made to Plan or EIS: None

RW042 Response: The guidelines for determining the amount of wilderness characteristics for each criterion is described in the FEIS (Vol. 3, appendix J) in Tables J7-J10. We followed these guidelines in our evaluation of the White Rock Canyon polygon (E39). The concerns expressed by the commenter were taken into consideration during the evaluation (see the FEIS, Vol. 3, appendix J) and were part of our reasoning for analyzing separate versions of E39 for alternative 2 and alternative 3. We have included further clarification of the differences between the two versions of the polygon for the FEIS (see RW040). We don't believe that managing a wild horse territory conflicts with criteria for manageability, and the Caja Wild Horse Territory is already being managed as an IRA. The rationale for our selection of the final set of recommended wilderness polygons is described in our record of decision.

RW044/045/046: There is support for expanding the Pecos Wilderness. For instance, many commenters expressed support for including a Citizen Proposal to expand the Pecos Wilderness by 120,000 acres in the final Plan. There is also support for increasing the amount of wilderness on the Caja del Rio Plateau.

Associated Comments: #4230-1, #4-1, #30-3, #10551-1, #12028-1, #12362-5, #12362-12, #12481-4, #12494-4, #12540-7, #12638-5, #12704-1, #13018-1, #4165-4, #12235-1, #12567-8, #12697-1, #12722-5, #12742-3, #12941-9, #343-4, #4165-5, #4246-1, #10569-1, #12537-1, #12567-5, #12579-2, #12638-1, #12638-2, #12722-3, #12728-3, #13367-1, #12567-4, #12567-3

Changes made to Plan or EIS: None

RW044/045/046 Response: The Citizen's Proposal was analyzed as part of alternative 3.

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW050/051/052/060/061/068: There is support for the following recommended wilderness polygons:

- The E40 polygon (Black Canyon, 3,841 acres) to be added to the recommended wilderness management area in the Proposed Action.
- Polygons P89A, P89C, P88A, P88B, P86A, P86B (10,410 acres collectively) to be added to the recommended wilderness management area in the Proposed Action.
- Polygon P79B (15,925 acres) to be added to the recommended wilderness management area in the Proposed Action.
- Adding the Rancho Viejo IRA to the recommended wilderness management area in the Proposed Action. Managing this area as recommended wilderness would result in management consistency and continuity between the Pecos Wilderness and the IRA.
- Adding the Rio Medio IRA as part of the recommended wilderness management area in the Proposed Action. Recommending this area would result in management consistency and continuity of untrammeled ecological zones of the wilderness and IRA.
- Adding the San Pedro Park Wilderness additions to the recommended wilderness management area in the Proposed Action, in particular the western portion that is already being managed as an IRA.

Associated Comments: #12694-16, #12694-18, #12694-19, #12694-20, #12694-21, #12382-6, #12433-9, #12494-6, #12497-11, #12515-14, #12647-13, #12694-23, #12725-6

Changes made to Plan or EIS: None

RW050/051/052/060/061/068 Response: Many of these polygons were not recommended because they contained untenable trade-offs (e.g., mountain biking, traditional uses, motorized or mechanized activity, ongoing or planned future management, significant private inholdings, etc.) or did not achieve an overall rating of “high” for wilderness characteristics during the evaluation process. P89C (Grace Tract) and P88A (Enchanted Lakes) were both carried forward into the final Plan as recommended wilderness.

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW053/054/071: There is evidence of significant unauthorized motorized vehicle use on the existing road network in P85B, and little enforcement, making it unsuitable for wilderness recommendation.

Associated Comments: #12713-10, #12514-4, #12514-5, #12514-12, #12713-2, #12713-11, #12713-13

Changes made to Plan or EIS: EIS

RW053/054/071 Response: We have updated the analysis of P85b to reflect differences between the polygon recommended for alternative 2 and alternative 3 (e.g., some mountain biking and proposed mining claims in the polygon as analyzed for alternative 3), but in neither case does our data indicate there is significant motorized use or MVUM roads. See appendix J in Volume 3 of the FEIS for a full description of each polygon and our data sources.

RW055: There is opposition to recommending the areas around the Polvadera Creek headwaters as wilderness, as the watershed needs active management and placing it in wilderness would risk catastrophic fire.

Associated Comments: #498-19

Changes made to Plan or EIS: None

RW055 Response: This polygon was not selected as part of the recommended wilderness in the final Plan. See response to RW020 for more about fire risk management in recommended wilderness.

RW058: The areas around Rio Capulin, Rio Nambe, and Rancho Viejo should not be recommended as wilderness, as this area is a favorite riding area and would be greatly missed if it were designated wilderness.

Associated Comments: #12716-1

Changes made to Plan or EIS: EIS

RW058 Response: We looked at mountain biking as part of our analysis (FEIS, Vol. 3, Appendix J, Step 3. Analysis of Recommended Wilderness by Alternative). We do not include polygons with trails popular for mountain biking in the alternative 2 recommended wilderness analysis, as they are considered an untenable trade-off (see FEIS Vol. 3, Appendix J, Step 3. Analysis of Recommended Wilderness by Alternative, Alternative 2 for our selection criteria for polygons analyzed in alternative 2). We did analyze polygons with mountain biking activity in alternative 3, in which about 175 miles of non-motorized system trails occur within the recommended wilderness areas. This accounts for just over 38 percent of the current non-wilderness system trails forestwide that would become unavailable for mountain bike use.

Based on public input, consideration of mountain biking trails and motorized trails were removed from the evaluation criterion for manageability as possible components of legally established rights and uses within the area. While mechanized and motorized uses are prohibited in designated Wilderness per the Wilderness Act, such uses could continue if an un-designated area became recommended wilderness and therefore are not incompatible with the wilderness characteristic for manageability. We also ensured that other components of these uses, such as the visibility of their trails and the sights and sounds associated with their activity, were included as part of the wilderness characteristics for apparent naturalness, in the improvements question specifically, and solitude. Although these uses were removed from consideration during the wilderness evaluation, they were brought forward for consideration during the analysis.

There are multiple Rio Capulin's on the forest, only one of which is known to be popular with mountain bikers. This section is near Rancho Viejo and the analysis of that polygon covers the uses near Rio Capulin. The other two Rio Capulin polygon's—one near San Pedro Park and the other south of Johnson Mesa—were not included as part of the recommended wilderness analysis for any alternative, so mountain biking was not considered in those area.

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

RW059: Rancho Viejo, Little Tesuque, Lost Lake, Grass Mountain, Maestas, Sparks Creek, and the Juan de Gabaldon Grant should be included in the final wilderness recommendation. These areas were wrongly excluded from the draft wilderness recommendation despite meeting the wilderness characteristics described by the Forest and being adjacent to the Pecos Wilderness.

Associated Comments: #12694-14

Changes made to Plan or EIS: EIS

RW059 Response: None of the listed polygons align with the analysis criteria for alternative 2 (see FEIS, appendix J, Step 3: Analysis of Recommended Wilderness by Alternative). Rancho Viejo, Juan de Gabaldon, Grass Mountain, and Little Tesuque were excluded from the recommended wilderness in the final Plan as all are areas with mountain biking activity, which is considered an untenable tradeoff. Lost Lake and Maestas are both small polygons (less than 5,000 acres) that would not enhance existing wilderness. Additionally, the Maestas polygon has private property situated between it and the Pecos Wilderness; access needs for this property make management of the polygon as wilderness difficult.

See also: Response to RW016 for more on how the recommended wilderness management areas in the final Plan were chosen.

Designated Areas

General

DA001: The forest plan should include an objective for National Trails which could include adding more National Trails (Scenic, Historic, or Recreation), such as the Santa Barbara - Pecos Divide Trail and completing survey and signage for the Continental Divide National Scenic Trail (CDNST).

Associated Comments: #12502-3

Changes made to Plan or EIS: None

DA001 Response: Objectives describe how the Santa Fe NF intends to move toward the desired conditions and were established for the work considered most important to address the needs for change and make progress. DA-CDNST-O-1 is for connecting the remaining segments of the trail.

As National Scenic and Historic Trails are designated by Congress, we do not have the authority to establish or advocate for them. Proposals for National Trails can be entertained and pursued outside of the plan revision process in partnership with local groups and partners.

DA002: The forest plan should include acequias in the description of Designated Areas. Acequias are part of the natural landscape including in Wilderness and Wild and Scenic Rivers - and contribute to the unique and special character of the area.

Associated Comments: #12510-11

Changes made to Plan or EIS: Plan

DA002 Response: We added a description of the San Gregorio Reservoir and Nacimiento Ditch to the description of the San Pedro Parks Wilderness. The new sentence in the narrative reads, "The culturally important Nacimiento Ditch (acequia) and San Gregorio Reservoir can be found at the southern edge of the Wilderness and pre-date its establishment by Congress."

DA003: In the forest plan the definition of Designated Areas should be expanded to include areas or features designated in collaboration with other state and federal agencies, tribes, and other NGOs. Some examples should include Wildlife Management Areas designated by the NMDGF and the Rio Grande Cutthroat ID Team, Birdlife International/Audubon Society Important Bird Areas Program, and Trout Unlimited's Conservation Watershed Network.

Associated Comments: #12575-18

Changes made to Plan or EIS: None

DA003 Response: Some categories of designated areas may be designated only by statute and some categories may be established administratively in the land management planning process or by other administrative processes of the Federal executive branch (36 CFR 219.19). The scope of designated areas cannot be expanded. FSM 1909.12 Ch. 20 lists the designated areas and the laws under which they are designated.

Designated Wilderness

DA004: Acequias in Wilderness have valid existing rights since they preexist the designation of the Santa Fe NF and the plan should clarify that acequia easements within Wilderness are valid and enforceable. In addition, acequias in Wilderness should be able to modern methods (including motorized) and materials for maintenance, repairs, and replacement. The Acequia Guidance Document does not provide specific guidance related to this type of work in Wilderness. Finally, the FS regulation 36 CFR § 251.50 (e) (3) which requires special use permits for operation and maintenance of ditches in wilderness areas has no basis in law.

Associated Comments: #12510-12, #12510-15, #12677-5

Changes made to Plan or EIS: None

DA004 Response: The Plan follows existing law, policy, and regulations, including those governing the operation of pre-existing uses in Designated Wilderness. Treatment of pre-existing valid rights is already provided for under the Wilderness Act, Wild and Scenic Rivers Act, specific designation laws, and agency regulations. Under the 2012 Planning Rule, the Plan does not need to restate all the laws it must follow and for ease of use, and as such those laws are not restated here although they apply already. The forest plan cannot deviate or change these already existing laws.

Acequias covered by a ditch bill are covered by a valid existing right. However, acequias in wilderness including those covered by a valid existing right do need to follow guidance from that law and policy and need minimum requirements analysis to perform work to ensure the preservation of wilderness character. The Acequia Guidance Document and regulations pertaining to acequia operation and maintenance are outside of the forest plan revision process.

In the Plan, DA-WILD-DC-1a directs that, "Constructed features exist only when they reflect the historic and cultural landscape, when they are the minimum necessary for administration of the area as wilderness, or for the protection of resources." Acequias are considered part of the historical and cultural landscape in New Mexico, as described in the Traditional Communities and Uses section of the Plan, and the Assessment. In that section, guidelines direct that, "Acequia associations should be provided adequate access to operate, repair, maintain, and improve acequia infrastructure located on NFS lands."

DA005: The narrative on restoration needs for the Pecos River Canyon GA includes fuel treatments and thinning. Science does not support these as restoration activities and rather indicates that wildfire in the Wilderness is a natural, beneficial event. Further, tampering with natural processes in the Wilderness is contrary to the Wilderness Act and the untrammeled characteristic of Wilderness. Wilderness areas are critical to protect in light of climate change.

Associated Comments: #12577-14, #12534-1

Changes made to Plan or EIS: None

DA005 Response: Any prescribed fire proposal that includes Wilderness would need to meet NEPA requirements and include a minimum requirements analysis to ensure that it is not harming wilderness character. In addition, we do not find evidence to support the assumption that leaving forests unmanaged is an effective mitigation for climate change. While mechanical thinning and prescribed burning do result in a short-term loss of forest carbon emissions, over the long term (several decades to one century) forest restoration results in more total ecosystem carbon and lower wildfire emissions than a no-harvest scenario (Hurteau 2017, McCauley et al. 2019). Carbon “losses caused by thinning and burning treatments are out-weighted by the [carbon] gains from decreased tree mortality rates and increased sequestration” (Hurteau et al. 2016).

DA006: Voluntary Permit Retirement should be included as an Objective for Wilderness Areas (DA-WILD-O): Within the life of the plan, voluntary livestock grazing permit retirement will be considered for each allotment.

Associated Comments: #12727-23

Changes made to Plan or EIS: None

DA006 Response: This is outside the scope of the forest plan. Management and administration of grazing permits is already addressed by existing regulation and policy. The authority to permanently retire an allotment from grazing is retained by the Forest Service and is not held by the permittee. Permits can be canceled by Rangers due to resource concerns (FSH 2209.13 Ch. 10 16.2, 36 CFR 224.4), but this is a project-level decision and thus, outside of the scope of the Plan.

The rangelands management and livestock grazing program has multiple mechanisms to evaluate, review, and adapt management as needed to effectively protect resources and respond to changing conditions (as codified in the Forest Service Handbook on Grazing Permit Administration and Rangeland Decision Making—FSH 2209.13 Ch. 96.2—and R3 Guidance 92.23b). Project-level analysis would cover changes to authorized grazing through term grazing permits (subject to forest-wide standards and guidelines); allotment management plans; and annual operating instructions.

Grazing permit retirement is outside the scope of the forest plan. See RW026 for more on this subject.

DA007: DA-WILD-S2 (“2. Research conducted in wilderness must not adversely affect wilderness character”) should be amended to include “and cannot include any permanent or semi-permanent installations.”

Associated Comments: #12727-24

Changes made to Plan or EIS: None

DA007 Response: Installation in Wilderness areas are governed by the Wilderness Act. Any mechanical or mechanized uses are restricted under law and are governed by Congress. DA WILD-DC-1a describes under what conditions structures are allowed and in Wilderness, and DA-WILD-S-5 describes the process that must be followed for considering prohibited uses in designated wilderness.

DA008: DA-WILD-G4 should be amended to include “Livestock shall not be used for vegetation treatments in designated areas.”

Associated Comments: #12727-25

Changes made to Plan or EIS: None

DA008 Response: Livestock are not typically used by the Forest Service for active management of vegetation, and the Plan does not outline this as a management activity under any resource. Livestock grazing in Wilderness is based on allotment-level NEPA that is done outside of the Planning Process.

DA009: Management Approaches for Wilderness should be amended to include the following (in capitals)

- Consider adaptive management and corrective measures if overuse causes unacceptable resource damage or unacceptable loss of opportunities for solitude, including voluntary permit retirement for livestock grazing permits. INCLUDING VOLUNTARY PERMIT RETIREMENT FOR LIVESTOCK GRAZING PERMITS. Use proactive approaches in identifying and addressing visitor use management challenges before effects to resources become unacceptable.
- PRIORITIZE THE USE OF VOLUNTARY PERMIT RETIREMENT FOR LIVESTOCK GRAZING PERMITS, ESPECIALLY ON ALLOTMENTS WITHIN DESIGNATED WILDERNESS AREAS THAT ARE UNUSED, IN NON-USE, OR UNPERMITTED FOR MORE THAN ONE YEAR.
- Consider removing non-conforming structures (E.G., LIVESTOCK FENCING AND OTHER LIVESTOCK RELATED INFRASTRUCTURE) from wilderness that are no longer in use and do not meet the desired conditions.

Associated Comments: #12727-26

Changes made to Plan or EIS: None

DA009 Response: The Plan has direction for dealing with non-conforming structures that are no longer in use:

- FW-RANGE-O-1: Annually remove, improve, or reconstruct at least 5 percent of the forest's range infrastructure that is no longer necessary or in poor or non-functional condition.
- DA-WILD-MA-14: Consider removing non-conforming structures from wilderness that are no longer in use and do not meet the desired conditions.

Grazing permit retirement is outside the scope of the forest plan.

See also: RW026 and DA006 for more on this subject.

DA010: The plan should minimize cattle grazing in Wilderness because of the damage it causes and its low economic benefit.

Associated Comments: #13023-1

Changes made to Plan or EIS: None

DA010 Response: The Wilderness Act requires the Forest Service to authorize grazing in Wilderness where it existed on that land prior to it being designated as Wilderness. We are also required to manage grazing in accordance with congressional grazing guidelines. See the Sustainable Rangelands and Grazing section for more on grazing on the forest.

DA011: We appreciate that the narrative for each of the designated Wilderness areas includes an identification of management issues and the maps of designated Wilderness and other designated areas.

Associated Comments: #12494-33, #12494-34, #12494-35

Changes made to Plan or EIS: None

DA011 Response: Thank you for your comment.

DA012: The final Plan must include protections for Wilderness areas, their values, and ways to avoid degrading wilderness characteristics.

Associated Comments: #12501-3, #13353-2

Changes made to Plan or EIS: None

DA012 Response: Plan components in the Designated Wilderness section of the Plan protect wilderness character.

DA013: Add to the Need for Changing the 1987 Forest Plan (page 16) “Management of presently or newly designated wilderness areas must insure that access (i.e., roads) is available to allow fire-fighting, recovery, and prevention activities.”

Associated Comments: #12652-2

Changes made to Plan or EIS: None

DA013 Response: Designated Wilderness areas do not have roads and the Wilderness Act does not allow motorized access although motorized and mechanized equipment can be authorized for emergency situations like firefighting. We have a suite of tools and plan components that help us fight fire in remote areas including in designated Wilderness and other remote lands. One example is DA-WILD-G-3, which allows interventions in natural process, such as fires, in the event it is needed to “protect public health and safety within and adjacent to wilderness, or uphold other Federal laws and regulations.”

DA014: The Plan needs to specify that the New Mexico Department of Game and Fish can manage wildlife populations in Wilderness (e.g., aquatic resource management; construction, reconstruction, and maintenance of habitat structures; wildlife water development and maintenance sometimes with motorized use or helicopter; aircraft use for wildlife surveys, captures, and releases).

Associated Comments: #12499-4, #12720-14

Changes made to Plan or EIS: None

DA014 Response: See DA-WILD-MA2. Santa Fe NF values its collaborative relationship with NMDGF and is committed to working with them to identify, plan, and implement projects of mutual interest and benefit. We are required under the Wilderness Act to preserve wilderness character and have ultimate authority to authorize any uses that could impact wilderness character. For example, using motorized and mechanized equipment for construction or maintenance of instream or terrestrial structures or habitat improvements. Additionally, uses can be authorized in Wilderness through a minimum requirements analysis, as per DA-WILD-S-5.

DA015: We support the recommendation for removing the San Gregorio Reservoir from the San Pedro Parks Wilderness as is it is described in alternative 4.

Associated Comments: #12507-4, #12665-113

Changes made to Plan or EIS: None

DA015 Response: Only Congress has the authority to remove areas from designated Wilderness. Recommending it for removal will not alter how the land is managed day to day. Because of this, the Forest made the decision to pursue a resolution to the issues surrounding San Gregorio's management outside of the planning process.

DA016: There are concerns that plan component DA-WILD-S3 states there will be no introduction on non-native species into Wilderness. Recreational fishing in San Gregorio Reservoir can only continue if NMDGF stocks rainbow trout because of management needs and local water quality limitations and availability and this activity is important to the local community.

Associated Comments: #12665-89, #12665-113

Changes made to Plan or EIS: Plan

DA016 Response: We modified DA-WILD-S-3 to say, "Nonnative plant species must not be introduced..."

DA017: There are concerns that San Gregorio Reservoir is out of compliance with plan component DA-WILD-G3 which says that management actions will not intervene in natural processes because the reservoir is actively managed for irrigation and recreation and must be repaired and maintained according to rights under US and NM State Law.

Associated Comments: #12665-90, #12690-27

Changes made to Plan and EIS: Plan

DA017 Response: We changed DA-WILD-G-3 to reflect that management actions that uphold valid existing rights, such as the dam, is an acceptable intervention.

Research Natural Areas (RNAs)

DA018: The management direction for proposed and recommended Research Natural Areas is excellent and should be retained in the final Plan.

Associated Comments: #12494-38

Changes made to Plan or EIS: None

DA018 Response: The management direction for proposed and recommended RNAs is carried forward into the final Plan.

DA019: DA-RNA-G-1 should be expanded to indicate the scenic integrity objective of each Research Natural Area or reference the Scenic Integrity Objective Map as is done for the similar guideline for recommended RNAs.

Associated Comments: #12494-39

Changes made to Plan or EIS: None

DA019 Response: The Scenic Integrity Objective Map indicates the SIO for each RNA, and detailed mapping information from GIS will be used in project planning.

Inventoried Roadless Areas (IRAs)

DA020: The DEIS analysis for IRAs needs to be expanded to include an analysis of the IRAs' contribution to a range of ecological values such as air, soil, and water quality, ecological integrity, system drivers, wildland fire and restoration of fire-adapted ecosystems, diversity of ecosystems and native species, rare ecological communities.

Associated Comments: #12494-32

Changes made to Plan or EIS: None

DA020 Response: The purpose of the FEIS is to analyze differences between alternatives so that they can inform the Responsible Official to make a decision. Since IRAs are administratively designated, no alternative proposes changes to the number or boundaries of IRAs. As a result, the factors that were analyzed regarding IRAs in the FEIS include what changed between alternatives: the ability to protect their roadless character and how much overlapped with recommended wilderness.

DA021: The inclusion of a map of the IRAs in the draft Plan is good but additional detail including the name, acreage, and ranger district of each IRA along with total acreage of IRAs across the Forest should be included.

Associated Comments: #12494-25

Changes made to Plan or EIS: Plan

DA021 Response: A map with this information can be found in the Assessment. The total acreage of IRAs across the Forest is included in the FEIS and was added to the narrative for IRAs in the Plan.

DA022: In the draft Plan, DA-IRA-G-1 should be changed to remove the option of having semi-primitive motorized ROS as it encourages the expansion of motorized recreation in the IRA and therefore makes it difficult to achieve the IRA's desired conditions. Specifically managing for a relatively undisturbed state, preserving biodiversity, reducing the spread of invasive species, and fragmentation.

Associated Comments: #12494-29 (a)

Changes made to Plan or EIS: None

DA022 Response: There are IRAs that have motorized trails and even roads. As a result, it is appropriate to have semi-primitive motorized ROS classifications.

DA023: In the draft Plan, DA-IRA-G-2, which requires the IRA to be managed for a high scenic integrity objective, is appropriate.

Associated Comments: #12494-29 (b)

Changes made to Plan or EIS: None

DA023 Response: This guideline is carried forward into the final Plan.

DA024: The draft Plan should add a guideline requiring the use of weed-free hay for livestock and that reseedling is done with native species or sterile cover crops. This would support DA-IRA-DC-1, which includes language about safeguarding against invasive species.

Associated Comments: #12494-29 (c)

Changes made to Plan or EIS: None

DA024 Response: Within the boundaries of any designated area, direction provided specific to that area takes precedence over forestwide direction. Where specific direction is silent, but exists in forestwide plan components, the forestwide direction applies. FW-INVASIVE-G-1 states that weed-free or native mixes will be used for revegetation. FW-INVASIVE-MA-8 encourages that pack-animal users to use pelletized weed-free feed.

DA025: The IRA section of the draft Plan should include a cross reference to MA-OGLEASE-G-1b that indicates there should be no surface occupancy in IRAs.

Associated Comments: #12494-29 (d)

Changes made to Plan or EIS: None

DA025 Response: This guidance is included in the Plan. Since it only applies to IRAs within the Oil and Gas Leasing Management Area, which is the only area on the forest with the potential for oil and gas development, we think it is most appropriate in that it is specific to the Oil and Gas Leasing Management Area as opposed to being direction for all IRAs across the Forest.

DA026: In the draft Plan DA-IRA-DC-1 should be amended to remove the plant in relation to invasive species as IRAs can serve as safeguards against the spread of invasive animal species as well.

Associated Comments: #12494-27

Changes made to Plan or EIS: None

DA026 Response: This language comes directly from the Roadless Rule (36 CFR 294). As such, we feel it is appropriate and choose not to implement any changes.

DA027: The draft Plan should include more designated IRAs as there is enough land that can be accessed by motorized vehicles.

Associated Comments: #12744-5

Changes made to Plan or EIS: None

DA027 Response: The Forest Service does not have the authority to add designated IRAs through the forest planning process.

DA028: The draft Plan should include objectives for IRAs. Proposed objectives include removing at least half of the roads in IRAs within ten years after plan approval, eradicating at least 90 percent of invasive species in IRAs within 10 years after plan approval, and adding at least 5 more IRAs (e.g., Rio Medio).

Associated Comments: #12494-30, #12502-2

Changes made to Plan or EIS: None

DA028 Response: The forest is engaged in restoration activities in priority landscapes. That includes invasive species removal and road decommissioning. Where those activities occur are determined by a multitude of factors, but not by the forest plan. This is to allow for more on-the-ground flexibility so that we can adapt our management to changing conditions on the forest. DA-IRA-MA-1 is a management approach that asks us to prioritize decommissioning roads in IRAs.

See also: Response to DA027 for more about adding IRAs.

DA031: The Plan should manage all IRAs as recommended wilderness.

Associated Comments: #12717-27, #13262-9

Changes made to Plan or EIS: None

DA031 Response: In alternative 3, all IRAs were analyzed as recommended wilderness. Many of these were not carried forward into the final Plan as they did not have high wilderness character or contained untenable trade-offs within their boundaries (e.g., mountain biking, motorized or mechanized uses, ongoing restoration work, etc.).

See also: Response to RW016 for more on how we determined the recommended wilderness in each alternative.

DA032: The Plan should include language to prevent mechanical thinning and most prescribed burning in IRAs because the intent of the final rule is to provide protection for these areas by immediately stopping activities that pose the greatest risks to the social and ecological values, which includes road construction, reconstruction, and timber harvest. Restoration projects lead to roads and damaged watersheds and habitats and is therefore in conflict to the Roadless Rule. Roadless areas are also lower priorities for fuels reduction because their fire regimes are less altered by suppression and they lack the ignition problems associated with roaded areas (e.g., see Roadless Conservation Rule, Columbia River Basin strategy, DellaSala and Frost 2001).

Associated Comments: #197-31, #12577-13, #12717-13

Changes made to Plan or EIS: None

DA032 Response: Mechanical thinning and prescribed burning within IRAs is covered by the 2001 Roadless Rule and the forest plan is not intended to repeat or modify that guidance. See the response to DA038 for more on the purpose of the Plan versus site-level planning.

The cited source is not peer-reviewed literature, but is an opinion piece summarizing arguments and ideas for management within National Forest Roadless Areas. The paper suggests treating roadless areas (when needed) with fire (both natural and prescribed). We agree with this point and our final Plan has several related plan components, including FW-FIRE-DC-3 and DC-6, FW-VEG-DC-1 and DC-2d, DA-ALLDA-DC-1, and the DA-IRA section.

DA033: The Plan should include a Roadless, Backcountry, and Conservation Management Area which consists of the IRAs and remains in place to ensure these areas are protected from logging and road construction should national direction on the interpretation of the Roadless Rule change.

Associated Comments: #12494-26

Changes made to Plan or EIS: None

DA033 Response: A Roadless, Backcountry, and Conservation Management Area would be redundant with the existing IRA designation. Any action on the 2001 Roadless Rule or IRAs is hypothetical and we do not plan for such hypothetical situations in the Plan.

DA034: The Plan should include a management approach for IRAs that prioritizes decommissioning roads within IRAs to maintain their roadless character.

Associated Comments: #12494-31

Changes made to Plan or EIS: None

DA034 Response: DA-IRA-MA-1 is a management approach that asks project managers to consider prioritizing decommissioning roads in IRAs.

DA035: In the Plan, the management approach that says “prioritize roads in IRAs for road decommissioning,” should include the qualifier "subject to the need for access to allow fire-fighting, recovery, and prevention activities."

Associated Comments: #12652-5

Changes made to Plan or EIS: None

DA035 Response: Please refer to the forestwide roads plan components (FW-ROADS) which provide guidance on the roads system. Specifically, FW-ROADS-DC-1 includes direction on the beneficial services that roads, including those few within IRAs, would provide.

DA036: The Plan fails to support or discuss R.S. 2477 roads and R.S. 2339 easements as they pertain to ensuring acequias have access to traditional routes within IRAs that are used to maintain and access acequia infrastructure or the river itself. This is a violation of acequia R.S. 2477 rights. The following recommendations should be implemented to correct this:

1. The final Plan should prohibit the unilateral closing, decommissioning and/or gating of Forest Service roads within the Santa Fe National Forest without notice or warning and should provide public notice and allow prior public discussion as to whether any proposed Forest Service action implicates R.S. 2477 rights, allowing acequias and other others holding such rights to come forward with proof.
2. Alternatively, or in conjunction with the preceding recommendation, the final Plan should include an inventory of all R.S. 2477 rights within the Santa Fe National Forest and should specifically find that such roads are to remain open for the purposes associated with each specific R.S. 2477 right.
3. Consistent with the Plan's commitment to Historic Rural Communities, like acequias, used and needed roads and trails should remain open whether or not they technically qualify as R.S. 2477 roads.
4. The Plan should include a Guideline that specifically calls attention to potential R.S. 2477 rights and should indicate that motorized vehicles should be allowed provided that their use is within the scope and purpose of such R.S. 2477 rights.

5. All desired conditions, guidelines, standards, management approaches, and proposed and possible actions related to Inventoried Roadless Areas should be adjusted to be consistent with these comments.

Associated Comments: #12555-9, #13614-7

Changes made to Plan or EIS: None

DA036 Response: R.S. 2477 roads require a process to be adjudicated before it can be legally acknowledged. How R.S. 2477 roads are handled and acknowledged are outside of the scope of the forest plan.

See also: Response to Trad010/011 for more on R.S. 2477 rights.

DA037: The Plan should include standards for IRA management. Standards should be added to protect the roadless character and ecological integrity of the IRA as well as help meet the desired conditions laid out for IRAs in the plan. These standards from the Carson NF's draft Plan are suggested:

6. "A road shall not be constructed or reconstructed in an inventoried roadless area, unless the responsible official determines that a road is needed according to the circumstances allowed in the 2001 Roadless Rule (66 FR 3244). Review authorities shall be followed."
7. "Timber shall not be cut, sold, or removed in inventoried roadless areas, unless the responsible official determines that activities meet the circumstances provided in the Roadless Rule (66 FR 3244). Review authorities shall be followed."

Associated Comments: #12494-28, #12752-37

Changes made to Plan or EIS: None

DA037 Response: The governing of these activities is part of the Roadless Rule itself, and it is therefore, not necessary to repeat or modify that guidance in the Plan, as under the 2012 Planning Rule, plans should not repeat laws, regulations, or program management policies, practices, and procedures that are in the Forest Service Directive System (36 CFR § 219.2).

DA038: The FEIS should disclose treatments proposed in IRAs and low density roaded areas (less than 1 mile of road per square mile of forest).

Associated Comments: #197-31

Changes made to Plan or EIS: None

DA038 Response: The Plan contains forest-specific guidance and information for project and activity decision making over the plan period, generally considered to be 10 to 15 years. With the direction laid out by the forest plan, management can adapt to better achieve the vision for the Santa Fe NF. The forest plan does not compel any agency action or guarantee specific outcomes. It does not list specific projects or priorities for work, although it can inform priorities based on the direction it provides. An accompanying monitoring plan provides feedback that actively tests assumptions, tracks relevant conditions over time, and measures management effectiveness.

Since the FEIS is intended to lay out differences between alternatives to inform the decision for the Responsible Official, specifying treatment locations is not appropriate for this type of NEPA (programmatic). Rather, this occurs during site-level of planning, which includes development of on-the-ground projects and activities, which are designed to achieve the desired conditions and objectives of the forest plan. All projects and activities must be consistent with the forest plan.

See also: Chapter 1 of the forest plan for more on the purpose of the Plan.

Wild and Scenic Rivers

DA039: In the Plan, DA-WSR-DC-2 should apply only to recreation segments of designated Wild and Scenic Rivers, not indiscriminately to all segments. In addition, there needs to be clarification for the “riparian zone,” “majority,” and “largely undisturbed.”

Associated Comments: #12494-36

Changes made to Plan or EIS: None

DA039 Response: Recreational classification does not have anything to do with recreational use, it has to do with the level of development and access along the shoreline and river corridor. Therefore, there is no reason that a desired condition about recreation should not apply wild, scenic, or recreational rivers. Although the terms identified by the commenter may be problematic if they were a standard or a guideline, they provide appropriate guidance for a desired condition that ensures projects do not preclude the attainment of desired conditions.

DA040: In the Plan, DA-WSR-G-7 provides ROS classes for scenic and recreational rivers, but no guidance is given for ROS for wild rivers. We suggest adding that wild rivers have an ROS classification of semi-primitive non-motorized as is provided for eligible wild rivers. In addition, both eligible and designated rivers with wild classifications should have the primitive ROS classification added to the plan component.

Associated Comments: #12494-37

Changes made to Plan or EIS: Plan

DA040 Response: We added to DA-WSR-G-7 that wild classified rivers should have a ROS classification of Primitive to Semi-primitive non-motorized, and we added similar language for eligible rivers.

DA041: The Plan mentions that designation of eligible wild and scenic rivers would not affect existing water rights or the existing jurisdiction of states and the Federal Government, as determined by established laws. But the Plan needs to specify that R.S. 2477 and R.S. 2339 right would also be protected if these areas are designated.

Associated Comments: #12510-22

Changes made to Plan or EIS: None

DA041 Response: R.S. 2477 and R.S. 2339 provide legal protections for acequias that are established under these statutes, whether a river is designated Wild and Scenic or not.

See also: Response to Trad010/011 for more on R.S. 2477 roads.

DA042: The final Plan should recognize the unique and special character of acequias within the designated areas and include specific reference to acequias' vested, preexisting rights to access, maintain, and improve acequia infrastructure and continue historical diversion practices within designated and eligible wild and scenic rivers. Further, these activities should not be in any way curtailed and rather considered baseline activities. All plan components should be consistent with the concepts of the Forest Service taking an inventory of all pre-wilderness rights, including acequia easement rights, and indicating that these rights are not subject to any restriction as a result of eligible, suitable, or designated Wild and Scenic River designation. Forest Service staff should receive training on the vested preexisting rights of acequias within Wild and Scenic Rivers.

Associated Comments: #12555-10, #12690-25

Changes made to Plan or EIS: None

DA042 Response: In-stream developments that exist at time of designation, whether they are or are not related to acequias, are considered baseline conditions and can remain in place although any improvements would need to be evaluated for effects to free flow with regard to the Wild and Scenic Rivers Act. We are not aware of any acequias within the existing designated or eligible wild and scenic rivers or recommended wilderness.

How the Forest Service engages and authorizes activities for acequias is dictated by Forest Service policy and existing law. Treatment of pre-existing valid rights is already provided for under the Wilderness Act, Wild and Scenic Rivers Act, specific designation laws, and agency regulations. Those laws are not restated here and apply already. The forest plan cannot deviate or change these already existing laws.

See also: Response to Trad010 for more on R.S. 2477 roads.

Wild Horse Territories (WHT)

DA043: The wild horse territories with appropriate management levels (AML) set to zero should have regular monitoring to ensure objectives are met and the Caja del Rio WHT should have an appropriate management plan and AML developed.

Associated Comments: #12503-30, #12503-36

Changes made to Plan or EIS: None

DA043 Response: The development of AMLs and WHT monitoring are outside the scope of the forest plan. WHT plans are written through their own, site-level planning process. However, management approaches in the WHT section of the Plan do ask project managers to consider monitoring horse populations (DA-WHT-MA-3) and collaboratively develop "an AML and management plan" (DA-WHT-MA-2) for the Caja del Rio WHT.

DA044 The WHT section in the Plan should include a definition of "wild horse" and describe which wild horses are protected under the Wild Free-Roaming Horse and Burros Act of 1971.

Associated Comments: #12503-30, #12665-91

Changes made to Plan or EIS: None

DA044 Response: The definition of "wild horses and burros" is in the Wild Free-Roaming Horse and Burros Act of 1971. The Plan does not repeat established law, policy, or regulation.

DA045: In the Plan, DA-WHT-S1 should include a statement clarifying that lethal methods may be used if non-lethal methods are ineffective. The Wild Free-Roaming Horse and Burros Act of 1971 allows for lethal control when there are no other reasonable alternatives and to help protect Forest resources.

Associated Comments: #12503-30, #12665-92

Changes made to Plan or EIS: None

DA045 Response: A discussion of lethal control is in the Act. The Plan does not repeat established law, policy, or regulation.

DA046: In the plan, DA-WHT-MA-3 should include language describing Forest management responses if wild horse or burro numbers increase beyond the stated management goal.

Associated Comments: #12503-30, #12665-93

Changes made to Plan or EIS: None

DA046 Response: DA-WHT-G-1 requires horse numbers within a territory should be aligned with the appropriate management level as described in wild horse territory management plans. Also, DA-WHT-MA-2 encourages partnering with other Federal Government agencies such as the Bureau of Indian Affairs, Animal and Plant Health Inspection Service, Fish and Wildlife Service, the State of New Mexico, universities, cattle and range organizations, advocate organizations, Native American Tribes, adjacent land owners, and grazing permittees. These partnerships may facilitate management of wild horse numbers.

DA047: The plan needs to include more specific direction for managing the Caja del Rio WHT. DA-WHT-DA1 needs to define what a “biologically sound and genetically viable population” is.

Associated Comments: #12681-5 (a)

Changes made to Plan or EIS: None

DA047 Response: Specific direction for managing WHT's are set in the individual management plans for each WHT. A biologically sound and genetically viable population is determined as part of this individual plan. Thus, this comment is outside the scope of forest plan revision process.

DA048 Since wild horses can be ecologically harmful, the Plan needs to articulate a timeframe on the establishment of an AML for the Caja WHT, which is mentioned in DA-WHT-MA-2.

Associated Comments: #12681-5 (b)

Changes made to Plan or EIS: None

DA048 Response: The objective of the Forest Service is to maintain wild free-roaming horse and burro populations in a thriving ecological balance in the areas they inhabit on National Forests (FSM 2200 - Range Management, Chap. 2260 - wild free-roaming horses and burros, 2260.2). As per the direction of The Wild Horses and Burros Protection Act of 1971 (P.L. 92-195, 85 Stat. 649, as amended; 16 U.S.C. 1331-1340), as amended by the Federal Land Policy and Management Act of 1976 and the Public Rangelands Improvement Act of 1978, establishes wild free-roaming horses and burros as a part of the natural system where they occur on National Forest System lands. The acts require management, protection, and control of these horses and burros. Four acts important in protection and control of wild free-roaming horses, and burros are the Multiple Use-Sustained Yield Act of 1960, the National Environmental Policy Act of 1969, and the Resource Planning Act as amended by the National Forest Management Act.

The forest plan recognizes horse numbers within a territory should be aligned with the appropriate management level as described in wild horse territory management plans (DA-WHT-G-1). These plans address short mid, and long-term goals for the territories which are not specific to herd management only and are required by FSM 2200 Sec. 2263.1. Specific herd management plans for a territory would provide comprehensive management, which can address genetic diversity and desired resource conditions in the area.

DA-WHT-MA-1 encourages coordination with Federal Government agencies such as the Bureau of Indian Affairs, Animal and Plant Health Inspection Service, Fish and Wildlife Service, the

State of New Mexico, universities, cattle and range organizations, advocate organizations, Native American Tribes, adjacent landowners, and grazing permittees. This could include creating management plan and funding opportunities to manage wild horse territories.

DA049: The FEIS needs to study strategies for culling the herd of the Caja del Rio WHT as is mentioned in DA-WHT-S-1.

Associated Comments: #12681-5 (c)

Changes made in Plan or EIS: None

DA049 Response: The forest plan recognizes horse numbers within a territory should be aligned with the appropriate management level as described in wild horse territory management plans (DA-WHT-G-1). These plans address short mid, and long-term goals for the territories which are not specific to herd management only and are required by FSM 2200 Sec. 2263.1. Specific herd management plans for a territory would provide comprehensive management which can address genetic diversity and desired resource conditions in the area.

Designated Trails

REC028b: Primitive or semi-primitive non-motorized ROS class “Social Setting” guidance for party size and encounters would meet the National Scenic Trail Act (NTSA) comprehensive planning requirement for addressing carrying capacity in a forest plan.

Associated Comments: #11984-5 (b)

Changes made to Plan or EIS: None

REC028b Response: Trail carrying capacity is not addressed at the Forest level. We do not repeat law, regulation, and policy in the plan.

REC032: The FEIS should include desired conditions for primitive and semi-primitive non-motorized settings that better address existing roads and ROS class inconsistencies to minimize effects to the CDNST.

Associated Comments: #11984-30

Changes made to Plan or EIS: None

REC032 Response: The desired ROS is based both on desired management and feasible management of an area. Areas where roads and trails will require management over time are classed appropriately to how they will be managed. It is assumed, for National Scenic, Historic, and Recreational Trails, that ROS setting will vary as it is not always possible to route trails with no motorized activity. So, while it may be desired that trails only pass through primitive or semi-primitive non-motorized, this is not realistic on the landscape and management is improved by acknowledging the actual setting the trails pass through.

DA050: Under the “Designated Areas” section on page 16 of the Plan, the need to address the CDNST Comprehensive Plan, E.O. 13195, and related directives should be described

Associated Comments: #11984-1

Changes made to Plan or EIS: None

DA050 Response: Page 16 is the Need for Change, which is directly reiterated from the Notice of Intent published in 2015. DA-CDNST-S1 directs us to comply with the most recent version of the CDNST Comprehensive Plan. We believe this is sufficient for explaining the need to address the Comprehensive Plan. Law, regulation, and policy is followed throughout the Plan, even when it is not directly cited.

DA051: The CDNST corridor is unsuitable for timber production, as this use is incompatible with the nature and purpose of the trail and is not allowed by the NTSA. To reflect ROS principles, the CDNST corridor with an extent of one-half mile on each side should be identified unsuitable for timber production and timber harvest should only occur within the CDNST Management Area to protect CDNST values.

Associated Comments: #11984-3

Changes made to Plan or EIS: None

DA051 Response: We developed plan components in accordance with the 2012 Planning Rule, the 2015 Planning Directives, and direction from the Regional Foresters. Additionally, all plan components in the forest plan have been designed to protect the nature and purposes of the CDNST during future proposed site-specific management activities. In areas where the CDNST corridor overlaps lands that are suitable for timber production and other areas where harvest is allowed, timber harvest activities would be constrained by the plan components for the CDNST (e.g., DA-CDNST-G-3 and G-4). The trail is not removed from lands that may be suited for timber production because sustainable timber harvest is not inconsistent with the law, regulation, policy, or plan direction that directs management of these lands. Site-specific actions along the CDNST, such as timber harvesting, will be analyzed through NEPA outside of the land management planning process.

DA052: The CDNST corridor for existing and high-potential route segments must be clearly described and indicate desired ROS primitive or semi-primitive non-motorized settings.

Associated Comments: #11984-7

Changes made to Plan or EIS: None

DA052 Response: Desired ROS maps are in appendix A of the Plan. The CDNST corridor will go through multiple ROS classes. The intent for the trail is to keep it in primitive or semi-primitive non-motorized ROS settings as much as possible; however, due to the fact that some areas of the forest are heavily roaded and there are private land holdings, in some places the trail may intermittently pass through more developed ROS settings. DA-CDNST-G-2 is the direction in the Plan that describes this, while the desired conditions maintain scenic integrity in all ROS settings.

DA053: Maps in the final Plan and FEIS should clearly depict the location of the CDNST and CDNST corridor. Specifically, in Fig 5 in the draft Plan and Fig 3 of the DEIS, but also in Fig 6, 8, 10, and 12 of the DEIS.

Associated Comments: #11984-8, #12513-21

Changes made to Plan or EIS: Plan

DA053 Response: The final Plan includes the most current location of the CDNST, which includes changes that have occurred during the planning process (e.g., re-routes, new construction), as well as a map of the CDNST corridor that we added between draft and final.

DA054: A CDNST management area extending at least one mile from the CDNST trail should be established along existing and high-potential route segments. The management area should include comprehensive plan components.

Associated Comments: #11984-9

Changes made to Plan or EIS: None

DA054 Response: We developed plan components using the 2012 Planning Rule, the 2015 Planning Directives, and direction from the Regional Foresters. All plan components are designed to protect the nature and purposes of the CDNST trail. We have plan components that are specific to how the corridor will be managed as part of a designated areas (DA-CDNST-G-1 and G-3). DA-CDNST-S-1 also directs us to adhere to the most up to date CDNST Comprehensive Plan, which provides additional guidance. Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST. The responsible official determined that appropriate protection and direction to provide for the nature and purposes of the CDNST can be provided through designated area plan components and the mapped corridor shown (see appendix A of the forest plan). The corridor is defined and mapped as part of existing plan components. Within the section on the trail there are plan components that are specific to the trail, the corridor, or both. Therefore, the intent of having the corridor as a management area is met with the existing set of plan components but in a way that is more streamlined in our plans. The Forest has not identified any high-potential route segments at this time. If any are identified in the future, they will be evaluated appropriately under the forest plan.

DA055: DA-CDNST-DC-1 does not align with the 2009 CDNST Comprehensive Plan. The language should be altered to reflect the nature and purpose language in the CDNST Plan.

Associated Comments: #11984-10

Changes made to Plan or EIS: None

DA055 Response: Non-motorized activities are allowed so long as they do not interfere with the nature and purposes of the trail. Forest plan direction is in addition to law, regulations, and policies and does not need to repeat the direction in the 2009 CDNST Comprehensive Plan. We believe DA-CDNST-DC1 supports and complements the nature and purpose of the trail as stated in the 2009 Comprehensive Plan. The desired condition was developed in response to the multi-regional guidance from the Regional Foresters and describes the vision for the Santa Fe NF toward which management of the land and resources of the plan are directed.

DA056: DA-CDNST-DC-3b conflicts with the nature and purpose of the CDNST.

Associated Comments: #11984-11

Changes made to Plan or EIS: None

DA056 Response: We developed plan components using the 2012 Planning Rule, the 2015 Planning Directives, and direction in response to the multi-regional guidance from the Regional Forester. All plan components are designed to protect the nature and purposes of the CDNST trail. Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST.

DA057: DA-CDNST-S-1 is inconsistent with NFMA and NEPA, and must therefore be deleted.

Associated Comments: #11984-12

Changes made to Plan or EIS: None

DA057 Response: We do not agree that this plan component is inconsistent with the NEPA and NFMA. Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST.

DA058: DA-CDNST-S-2 is not consistent with the NTSA implemented through the CDNST Comprehensive Plan and policy.

Associated Comments: #11984-13

Changes made to Plan or EIS: None

DA058 Response: We developed plan components using the 2012 Planning Rule, the 2015 Planning Directives, and direction in response to the multi-regional guidance from the Regional Forester. All plan components are designed to protect the nature and purposes of the CDNST trail. Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST. DA-CDNST-S-2 is consistent with policy set forth in the Comprehensive Plan. New motorized vehicle use by the general public is prohibited on the CDNST. In general, established motorized uses, both summer and winter, are allowed to continue, but new motorized uses will not be designated on the Trail.

DA059: DA-CDNST-G-1 is not relevant to CDNST management as a CDNST corridor is required through the revision process.

Associated Comments: #11984-14

Changes made to Plan or EIS: Plan

DA059 Response: Santa Fe NF does not designate the CDNST corridor as a management area, but manages it as an extension of the CDNST through the designated area plan components. This guideline defines the corridor boundaries as part of the designated trail area. The responsible official determined that appropriate protection and direction to provide for the nature and purposes of the CDNST can be provided through designated area plan components and a mapped corridor. The mapped corridor can be found in appendix A of the final Plan.

DA060: DA-CDNST-G-2 should be revised so that it describes where ROS inconsistencies will be allowed (G-2a) and emphasizes that locating the CDNST is a forest planning criterion. Both G-2c and G-2d should be removed as they are tasks for forest planning, not implementation.

Associated Comments: #11984-15

Changes made to Plan or EIS: None

DA060 Response: Desired ROS and the CDNST corridor are both mapped in appendix A. Viewed together, these maps show where the corridor crosses through different ROS settings. In all cases, the CDNST is routed through primitive and semi-primitive non-motorized ROS classes when possible, as directed in DA-CDNST-G-2. Both G-2c and G-2d provide guidance for site-specific projects, which are outside the scope of the plan to enact. DA-CDNST-G-2 is consistent with recommended direction in response to the multi-regional guidance from the Regional Forester.

DA061: DA-CDNST-G-3 should be changed to a desired condition.

Associated Comments: #11984-16

Changes made to Plan or EIS: Plan

DA061 Response: We added a desired condition to the Scenic Resources section of the final Plan indicating that scenic integrity objectives are considered desired conditions.

- FW-SCENIC-DC-6: Scenic Integrity Objectives serve as the Desired Conditions for scenery (see Appendix A, Fig. 8-west and Fig. 8-east).

We do not agree that DA-CDNST-G-3 should be a desired condition, as it provides management constraints rather than describing a vision for the forest (see Forest Plan, Chapter 1, Contents of the Forest Plan, Forest Plan Components).

DA062: DA-CDNST-G-4 should be modified to read: “If management activities **that do not substantially interfere with the nature and purposes of the CDNST, but** result in short-term impacts to the scenic character along the Continental Divide National Scenic Trail, mitigation measures should be included (e.g., screening, feathering, and other scenery management techniques), to minimize visual impacts at key points (e.g., vistas), within 0.5 mile either side of the trail.”

Associated Comments: #11984-17

Changes made to Plan or EIS: None

DA062 Response: Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST. DA-CDNST-S-1 states we will comply with the most recent version of the CDNST Comprehensive Plan. This includes the nature and purpose stated within.

DA063: DA-CDNST-G-7 should be modified to read: “To protect the CDNST's scenic values **and ROS setting**, new communication sites, utility corridors, and renewable energy sites developed under special-use authorizations should not be visually apparent within visible foreground (up to 0.5 mile) and should be visually subordinate in the middleground viewshed (up to 4 miles).”

Associated Comments: #11984-18

Changes made to Plan or EIS: None

DA063 Response: No modifications were made to the guideline. DA-CDNST-G-7 focuses on scenic values. ROS settings are addressed in DA-CDNST-G-2.

DA064: DA-CDNST-G-9 would be better addressed through establishing ROS settings and through public motorized use that is allowed by NTSA.

Associated Comments: #11984-19

Changes made to Plan or EIS: None

DA064 Response: Desired ROS and the CDNST corridor are both mapped in appendix A of the final Plan. DA-CDNST-G-2 also address ROS settings. DA-CDNST-G-9 is consistent with recommended direction from the consistent with the National Continental Divide National Scenic Trail Administrator and policy set forth in the Comprehensive Plan.

DA065: Locating the CDNST route on high-potential segments should be a Plan objective, and the route should not be located on a road where timber haul is allowed. High-potential route segments should be identified and protected from timber production to ensure this.

Associated Comments: #11984-20

Changes made to Plan or EIS: None

DA065 Response: We developed plan components using the 2012 Planning Rule, the 2015 Planning Directives, and direction in response to the multi-regional guidance from the Regional Forester. All plan components are designed to protect the nature and purposes of the CDNST trail. DA-CDNST-G-10 is a constraint on project and activity decision making to help achieve or maintain desired conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

DA066: DA-CDNST-G-12 should be changed to a Standard.

Associated Comments: #11984-21

Changes made to Plan or EIS: None

DA066 Response: Activities that would substantially interfere with the purposes for which the trail was designated should be avoided to the extent practicable (16 U.S.C. 1246). Flexibility and adaptability are tenants of the 2012 Planning Rule. Thus, unless there is a specific need for the intent of a direction to be reached in a specific way, guidelines are the default type of management direction.

DA067: The forest plan needs to monitor progress toward the desired conditions for National Scenic Trails, with specific indicators.

Associated Comments: #11984-22

Changes made to Plan or EIS: None

DA067 Response: Elements of the CDNST Comprehensive Management Plan are monitored based on the direction in the most current CDNST Comprehensive Plan (DA-CDNST-G-1). There is no need to repeat this monitoring as a part of the forest plan. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST, but the final Plan has been designed to be a focused document adding to, but not reiterating existing law, regulation and policy, consistent with the 2012 planning regulations (36 CFR section 219.2 (b) (2)).

DA068: The FEIS should address the CDNST corridor that includes existing and high potential route segments and identify the scenery inventory along the CDNST.

Associated Comments: #11984-26

Changes made to Plan or EIS: None

DA068 Response: The existing CDNST corridor is mapped in appendix A of the final Plan. The Forest has not identified any high-potential route segments at this time. If any are identified in the future, they will be evaluated appropriately under the forest plan. The scenery inventory for the CDNST is part of the forest-wide SIO map in appendix A of the Plan.

DA069: A supplemental EIS must be created to describe the degree to which current management direction is protecting the values for which each National Trail was designated, including protecting cultural landscapes, recreation settings, scenic integrity, and addressing the conservation purposes of the CDNST. Guidance for this supplemental analysis should be drawn from the CDNST Planning Handbook, Ch IV part D.

Associated Comments: #11984-27

Changes made to Plan or EIS: EIS

DA069 Response: Under the Effects Common to All Alternatives for the Nationally Designated Trails section of the FEIS (FEIS, Vol. 2, Nationally Designated Trails, section 3.18.7.4.1.1 Effects common to all alternatives), we have made the following change to indicate that the most current guidance on the CDNST will be followed under any alternative: “the **most current** comprehensive plans for the CDNST and national historic trails would guide management for these trails under all alternatives.”

DA070: The forest plan fails to establish ROS plan components to protect the nature and purpose of the CDNST, and comprehensive planning for the trail is inconsistent with NTSA, Section 5(f) and 7(c) direction as implemented through the CDNST Comprehensive Plan, E.O. 13195, and directives.

Associated Comments: #11984-28

Changes made to Plan or EIS: None

DA070 Response: Plan components were developed for all designated areas, including those that protect the nature and purposes of the National Scenic and Historic Trails. All action alternatives include plan components for the CDNST and establish a CDNST corridor that extends 1/2 mile either side of the CDNST. Plan components for the CDNST provide direction within this corridor regardless of the ROS setting. Please see the CDNST section under Designated Area section of the forest plan. The corridor map is displayed in Appendix A of the final Plan. Analysis for the CDNST trail corridor is included in the FEIS. Desired ROS is mapped in Appendix A of the final Plan, indicated by FW-REC-G-7. DA-CDNST-G-2 and the Recreation section of the final Plan also address ROS settings.

Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST. All future site-specific project analysis will consider the CDNST trail and the CDNST corridor as displayed in the final Plan and will need to follow the associated plan components, and all laws, regulations, and policies for the CDNST. E.O. 13195: Federal agencies will, to the extent permitted by law and where practicable and in cooperation with Tribes, States, local governments, and interested citizen groups, protect, connect, promote, and assist trails of all types throughout the United States. This will be accomplished by: (b) Protecting the trail corridors associated with national scenic trails and the high priority potential sites and segments of national historic trails to the degrees necessary to ensure that the values for which each trail was established remain intact.

Additionally, DA-CDNST-S-1 states that management of the CDNST must comply with the current CDNST Comprehensive Plan.

DA071: The DEIS does not address the expected effects of resource management under each alternative on CDNST nature and purposes values as measured through the ROS planning framework, and must disclose effects on scenic integrity, ROS class conditions, and carrying capacities. A Supplemental DEIS effects analysis must include cross-tabular tables that explore and disclose the relationship between (1) the proposed CDNST travel route location and management corridor/rights-of-way extent and (2) the intersection and overlap with the proposed ROS Classes and Scenic Integrity Objectives allocations. Utilizing the ROS and Scenery Management System will help ensure that NEPA assessments are systematic and accurately describe the affected environment and expected outcomes from each alternative.

Associated Comments: #11984-31

Changes made to Plan or EIS: None

DA071 Response: The plan revision process does not designate new segments of the trail, but directs management of existing trail segments. The FEIS analyzes the effects of our proposed management on the trail under each alternative in section 3.18.7, Nationally Designated Trails. The type of analysis being asked for in the comment is more appropriate for a site-specific trail delineation or re-route, rather than for a programmatic management analysis.

Plan components in the forest plan have been designed to protect the nature and purposes of the CDNST during future proposed site-specific management activities. Regardless of the recreation opportunity setting that designated trails pass through they are managed according to the National Scenic, Historic, and Recreation Trails section of the final Plan, including DA-CDNST-DC-1 which directs management to protect the nature and purposes of trail designations.

In the final Plan, DA-CDNST-G-2 reflects the desire that the Continental Divide National Scenic Trail passes mainly through primitive or semi-primitive non-motorized settings. This is the case on the Santa Fe NF to the extent possible.

DA072: National Scenic and Historic Trails must be managed in accordance with the NTSA, as amended. The Plan should be revised to provide for the integrated management of congressionally designated areas and to clarify and strengthen the direction for NTSA.

Associated Comments: #11984-34, #11984-36

Changes made to Plan or EIS: None

DA072 Response: We developed plan components using the 2012 Planning Rule, the 2015 Planning Directives, and direction in response to the multi-regional guidance from the Regional Forester. Plan components are included in the final Plan that provide for the continuation of management of any designated National Scenic and Historic Trails on the Santa Fe NF (e.g., DA-CDNST-DC-1, DC-2, DC-3, DC-4, and G-1). Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies the National Trails System Act and any others that provide direction for the CDNST.

DA073: DA-NTRL-S-5 should be modified so as to not contradict DA-NTRL-S-2. It should be modified to reflect the language recommended by the Washington Office's Continental Divide National Scenic Trail (CDT) Recommended Forest Plan Components document, which is as follows: "Existing motorized use may continue on the CDT. New motorized events shall not be permitted on the CDT. Motorized use shall not be allowed on newly constructed segments of the CDT."

Associated Comments: #12472-14

Changes made to Plan or EIS: None

DA073 Response: We disagree that a contradiction exists between DA-NTRL-S-2 and DA-NTRL-S-5 in the final Plan. On the Santa Fe NF, no motorized events or motorized special use permits are currently permitted or authorized on the Continental Divide National Scenic Trail. DA-NTRL-S-5 prohibits any permitting or authorization of these activities in the future. DA-NTRL-S-2 prohibits motorized use on newly constructed segments of the CDNST while allowing existing motorized uses to continue. These standards are entirely consistent with the national suggested language.

DA074: There is support for plan components related to managing the CDNST.

Associated Comments: #12513-5, #12513-7, #12513-13, #12513-14, #12513-16, #12513-17, #12513-19, #12513-20, #12513-23

Changes made to Plan or EIS: None

DA074 Response: Plan components for management the CDNST will be carried forward into the final Plan.

DA075a: The CDNST narrative should include the nature and purpose statement from the 2009 Comprehensive Plan.

Associated Comments: #12513-6

Changes made to Plan or EIS: Plan

DA075a Response: Language from the 2009 Comprehensive Plan has been added to the CDNST narrative in the final Plan.

DA75b: The scenery integrity standard should not be subject to a forest plan exemption if projects (both FS and external) are proposed.

Associated Comments: #12513-23

Changes made to Plan or EIS: Plan

DA75b Response: We have added a desired condition indicating that the Scenic Integrity Objectives mapped in Appendix A of the final Plan are desired conditions for scenery management (FW-REC-DC-6 and FW-SCENIC-DC-6). Additionally, FW-SCENIC-G-3 provide direction for achieving scenic integrity objectives in the long term. See the Scenic Resources section of the FEIS for environmental consequences to scenic resources of various management activities.

Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for scenic resources when conducting site specific NEPA for management activities.

DA076: DA-CDNST-O-1 should be modified to read: “Within 10 years of the adoption of the plan, connect the remaining unconnected segments (5 miles on NFS lands and approximately 7 miles within San Pedro Parks Wilderness) in the Cuba Ranger District.”

Associated Comments: #12513-8

Changes made to Plan or EIS: None

DA076 Response: No change was made in response to this comment. The assumed life of the plan is 10 to 15 years.

DA077: DA-CDNST-S-3 should be modified to read: “No surface occupancy for oil and gas or geothermal energy leasing activities shall occur within 0.5 mile either side of the Continental Divide National Scenic Trail.”

Associated Comments: #12513-9

Changes made to Plan or EIS: None

DA077 Response: The exploration for and production of oil and gas resources is generally allowed on National Forest System lands as required by the Mining and Minerals Policy Act of 1970 (30 U.S.C. 21a). Exceptions include lands formally withdrawn from mineral leasing by Congress or Executive order. The decision to lease lands is not dictated by the land management plan but by a leasing analysis (FSH 1909.12 23.23i(4)(d)). Leasing analyses are different in scope, proposed action, and level of detail than a programmatic plan revision. The required dual level of analysis complicates the plan revision process and decision to be made. The Santa Fe NF is not completing a revised oil and gas leasing availability analysis at this time per the requirement of 36 CFR 228 Subpart E, 228.102. Instead, the final Plan identifies components for multiple resources that would guide future leasing decisions (e.g., MA-OGLEASE-DC-1, S-1, G-1, G-3, and G-4).

DA078: DA-CDNST-G-10 should be modified to read: “The CDNST should not be used for landings (e.g., timber, slash, decking) or as a temporary road. Hauling or skidding along the trail itself should be allowed only when design features are used to minimize impacts to the trail and infrastructure and: (a) Where the CDNST is currently located along an open road, and (b) No other haul route or skid trail options are available.”

Associated Comments: #12513-10

Changes made to Plan or EIS: None

DA078 Response: Desired ROS is mapped in appendix A of the Plan, and we will add a map of the CDNST corridor in the final Plan. DA-CDNST-G-2 also address ROS settings. DA-CDNST-G-10 is consistent with the recommended direction from the Regional Foresters multiple region guidance, and provides better direction for progress toward the desired condition or objectives for the Santa Fe NF:

- DA-CDNST-G-10: “Except where the CDNST follows a road, the trail should not be used for landings (e.g., timber, slash, decking) or as a temporary road. Hauling or skidding along the trail itself should be allowed only when design features are used to minimize impacts to the trail infrastructure and:
 - a. where the CDNST is currently located on an open road, and
 - b. no other haul route or skid trail options are available.”

DA079: DA-CDNST-MA-1 should be modified to read: Work with volunteer groups, partners, **federal, state, tribal,** and local governments, and adjacent landowners to maintain CDNST corridors, the condition and character of the surrounding landscape, and to facilitate CDNST user support that promotes 'Leave No Trace' principles and reduces user conflict.

Associated Comments: #12513-11

Changes made to Plan or EIS: Plan

DA079 Response: The suggested change has been made in the final Plan.

DA080: DA-CDNST-MA-5 should be modified to read: Consider evaluating proposed trail relocations or new trail segments using the Optimal Location Review process for the CDNST, including to locate the CDNST as close as possible to the geographic Continental Divide.

Associated Comments: #12513-11

Changes made to Plan or EIS: Plan

DA080 Response: DA-CDNST-MA-7 was changed in the final Plan to read: “Consider evaluating proposed trail relocations or new trail segments (e.g., using methods such as the Optimal Location Review process for substantial trail relocation) for the CDNST, including to locate the CDNST as close as possible to the geographic Continental Divide.”

DA081: The CDNST should be considered for its importance as a wildlife corridor and for habitat connectivity. Recognition of the trail and trail corridor's role in aquatic and terrestrial habitat connectivity should be incorporated and at least acknowledged in the Designated Area Standards, Guidelines and Management Approaches.

Associated Comments: #12513-12

Changes made to Plan or EIS: None

DA081 Response: The CDNST may provide habitat connectivity for wildlife species; however, this is not the purpose of the CDNST. Management Direction found in the CDNST Designated Resource Section is to provide management direction for the purpose of the CDNST designation. The final Plan includes many plan components that are designed improve wildlife habitat connectivity, which could be applied to the CDNST. Plan components related to habitat connectivity are indicated in Appendix E, section C, of the FEIS.

See also: WILD001/022/052 for more on how the final Plan supports habitat connectivity across the forest.

DA082: FW-SCENIC-DC-3 should be modified to read: “High-quality scenery dominates the landscape in areas the public values highly for scenery (such as the Continental Divide National Scenic Trail, scenic byways, major roads and trails, developed recreation sites, backcountry areas, and high scenic integrity areas such as Wilderness, recommended wilderness and additions, wild and scenic rivers, and inventoried roadless areas).”

In addition, we would like to encourage the Forest to utilize the soon-to-be-completed Scenic Inventory and Assessment for the CDNST in order to map scenic resources along the CDNST.

Associated Comments: #12513-15

Changes made to Plan or EIS: None

DA082 Response: No change was made to FW-SCENIC-DC-3. The Santa Fe NF has one national scenic trail, three national historic trails, and two national recreation trails which provide high quality scenic views and all of these are covered by the phrase, "major roads and trails" in this desired condition. The Santa Fe NF scenery inventory was completed forestwide in 2015 and is discussed and referenced in the Scenic Resources section of the FEIS. We look forward to any scenic inventories or assessments completed for the CDNST.

DA083: A management approach should be added to acknowledge the connection and proximity of the CDNST to WSRs and the importance of the trail in telling the story of watersheds across the North American continent.

Associated Comments: #12513-18

Changes made to Plan or EIS: None

DA083 Response: No change was made in response to this comment. The recommendation does not fit as a management approach. Management approaches are described in chapter 1 of the forest plan: "Management approaches may be used to inform future proposed and possible actions. These techniques and actions provide options for plan implementation, and represent possibilities, preferences, or opportunities, rather than obligatory actions. Not all plan components are addressed with management approaches, only those for which additional information is warranted. They may illustrate suggestions as to how desired conditions or objectives could be met, convey a sense of priority among objectives, or indicate possible future course of change to a program."

DA084: An objective should be added to the CDNST section calling for the creation of a CDNST Unit Plan, as required by FSM 2353.44b(2). Suggested language: "Complete a CDNST unit plan in compliance with FSM 2353.44(b)(2)) within 3 years."

Associated Comments: #12513-24

Changes made to Plan or EIS: None

DA084 Response: Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for the CDNST. FSM 2353.44b directs the Forest Service to complete a CDNST Unit Plan for those segments of the trail that cross the Santa Fe NF. Since the unit plan is mentioned in the Forest Service Manual, this direction does not need to be repeated in the forest plan.

DA367: The CDNST corridor is unsuitable for timber production, as this use is incompatible with the nature and purpose of the trail. To reflect ROS principles, the CDNST corridor with an extent of one-half mile on each side should be identified unsuitable for timber production and timber harvest should only occur within the CDNST Management Area to protect CDNST values.

Associated Comments: #11984-2

Changes made to Plan or EIS: None

DA367 Response: Timber suitability does not have to do with location or distance from roads, nor does it necessarily mean there will be a timber harvest on the land. Rather, suitability has to do with soils and how lands are designated (see FEIS Vol. 2, appendix D). FW-FFP-S-1, 2, and 8 defines how resources will be protected during harvests. Wild and scenic rivers with scenic and

recreation are considered suited, as there are nothing in scenic or recreational classifications that are against timber suitability, but primitive and semi-primitive non-motorized ROS are not suited to timber production (see FEIS Vol. 2, appendix D, Table 27).

See also: Response to FP011 for more on timber suitability.

DA074: There is support for plan components related to managing the CDNST.

Associated Comments: #12513-5, #12513-7, #12513-13, #12513-14, #12513-16, #12513-17, #12513-19, #12513-20, #12513-23

Changes made to Plan or EIS: None

DA074 Response: We mapped the CDNST corridor in the final Plan and all plan components are carried forward.

DA075: There is support for the Plan's use of the Scenery Management System, but the scenery integrity standard should not be subject to a forest plan exemption if projects (both FS and external) are proposed.

Associated Comments: #12513-23

Changes made to Plan or EIS: None

DA075 Response: Forest plan direction is in addition to law, regulations, and policies. The Forest Service must follow all laws, regulations, and policies that provide direction for scenic resources when conducting site specific NEPA for management activities. FW-SCENIC-G-3 provide direction for achieving scenic integrity objectives in the long term. See the Scenic Resources section of the DEIS for environmental consequences to scenic resources of various management activities.

Edit008: The glossary of the forest plans and FEIS should be consistent and expanded to include description or definitions of the NTSA, National Scenic Trail, National Scenic and Historic Trail nature and purposes, and Scenic Integrity. Additionally, ROS class definitions need to be expanded to add descriptions of Access, Remoteness, Non-Recreation Uses, Visitor Management, Social Encounters, and Visitor Impacts setting indicators. The forest plan glossary should include other descriptors for clarity and recommend adding those definitions and terms that are found in the attached CDNST Planning Handbook.

Associated Comments: #11984-35

Changes made to Plan or EIS: Plan and EIS

Edit008 Response: An entry for National Trails has been added to the glossaries for the final Plan and final environmental impact statement which references the Act and the nature and purposes for all National Trails:

National Trail. One among a network of national scenic, historic, and recreation trails designated by the National Trails System Act of 1968, as amended. These trails provide for outdoor recreation needs, promote the enjoyment, appreciation, and preservation of open-air, outdoor areas and historic resources, and encourage public access and citizen involvement.

In general, the glossaries in the final Plan and the FEIS reflect the terminology used in the respective documents. Acts of Congress, including the National Trails System Act of October 2, 1968, are generally not included in the glossary. Significant law, regulation, and policy are listed

in appendix C of the final Plan (note that not all relevant law, regulation, and policy are listed in this appendix, and the fact that a law, regulation, or policy does not appear in appendix C is not an indication that we are not adhering to it). The nature and purposes of specific national trails is developed based on legislative history and enabling legislation, and typically stated in each trail's Comprehensive Plan.

DA307: In comments submitted on January 22, 2018, I requested that the DEIS disclose specific effects relationships of the proposed action and alternatives on the CDNST corridor. This disclosure is not part of the DEIS, so I ask that a Supplemental DEIS disclose the effects on scenic integrity and ROS class conditions of the proposed action and each alternative on a CDNST MA. The Supplemental DEIS effects analyses must include cross-tabular tables that explore and disclose the relationship between (1) the proposed CDNST travel route location and management corridor/rights-of-way extent and (2) the intersection and overlap with the proposed ROS Classes and Scenic Integrity Objectives allocations.

Associated Comments: #11984-24

Changes made to Plan or EIS: None

DA307 Response: The plan revision process does not designate new segments of the trail, but directs management of existing trail segments. The FEIS analyzes the effects of our proposed management on the trail under each alternative in section 3.18.7, Nationally Designated Trails. The type of analysis being asked for in the comment is more appropriate for a site-specific trail delineation or re-route, rather than for a programmatic management analysis.

Plan components in the forest plan have been designed to protect the nature and purposes of the CDNST during future proposed site-specific management activities. Regardless of the recreation opportunity setting that designated trails pass through, they are managed according to the National Scenic, Historic, and Recreation Trails section of the final Plan, including DA-CDNST-DC-1 which directs management to protect the nature and purposes of trail designations.

In the final plan DA-CDNST-G-2 stipulates that the Continental Divide National Scenic Trail passes mainly through primitive or semi-primitive non-motorized settings, to the extent possible.

Monitoring

Mon001: The Monitoring Plan should follow requirements laid out in 36 CFR section 219.12, and should be tied to state and federal law.

Associated Comments: #23-3; #24-9; #12717-20

Change to Plan or EIS: None

Mon001 Response: As a federal agency we are governed by federal law, regulation, and policy. Direction for the monitoring and evaluation of forest plans is found under the 2012 Planning Rule at 36 CFR 219.12. Under the 2012 Planning Rule, monitoring consists of two elements: the plan monitoring program developed by the forest, and broader-scale monitoring strategies developed by the Regional Forester. Although not required to follow state laws, we work collaboratively with state agencies, such as NM Department of Game and Fish and NM Department of the Environment, to manage public lands. Partnership and collaboration goals are outlined in the Partnership section of the Plan and can be found in the management approaches of most sections. Consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions

beyond the forest boundary. Project and activity monitoring may also be used to gather information for the plan monitoring program.

Mon014: There is general support for a strong monitoring program on the forest that is implemented before, during, and after project implementation and that ensures real-time adaptive management of resources when adverse impacts are noted.

Associated Comments: #24-3; #24-6; #12720-19

Change to Plan or EIS: None

Mon014 Response: We discuss adaptive management in chapter 5 of the Plan, Forest Plan Monitoring Program: “Monitoring provides feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the responsible official to determine if a change in plan components or other plan content that guides management of resources on the plan area may be needed, forming a basis for continual improvement and adaptive management.”

Mon018: Studies should be required prior to thinning treatments, including studies of impacts to local property values, tourism, recreation, and fisheries.

Associated Comments: #24-8

Change to Plan or EIS: None

Mon018 Response: This is outside of the scope of the plan revision process, as this concern statement is regarding practices surrounding project-level decisions. Before projects are implemented, they are examined through the NEPA process to identify, discuss, and mitigate any potential effects while also providing opportunities for partners, tribes, and public input and feedback about proposed project activities.

Mon005: “Benthic macro invertebrate biotic indices” should be added to the list of indicators used to monitor the health of aquatic habitats, as it would be more precise than the indicators currently in the monitoring plan.

Associated Comments: #178-1

Change to Plan or EIS: Plan

Mon005 Response: “Presence of endemic, at-risk, or appropriate indicator species” has been added to the indicators list for the Aquatic Habitats category within the Santa Fe NF plan monitoring chapter instead of identifying only benthic macroinvertebrates. A wider approach or range of indicator species gives us flexibility in what we monitor, so that the correct monitoring can be done for different locations on the forest.

Mon003: Air quality monitoring is under the purview of the State of New Mexico, and the air quality monitoring plan should act to ensure state regulations are being met. To this effect, the air quality monitoring question should be: “Are all prescribed and managed wildfires conducted in accordance with state air quality regulations governing prescribed and managed wildfire?”

Associated Comments: #3266-10

Change to Plan or EIS: Plan

Mon003 Response: We added a temporal component to the monitoring plan in the column, “Monitoring Frequency.” In the monitoring plan, we look at whether air quality is meeting defined standards, which we say in our desired conditions are the New Mexico and Federal air quality standards. While we do not reference wildfire or prescribed fire specifically in terms of our air quality monitoring, examining air quality across the Forest includes the impacts of all projects, including those that create smoke impacts. The monitoring chapter in the plan is not intended to depict all monitoring, inventorying, and data-gathering activities undertaken in the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in this chapter of the plan. Consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions beyond the Forest boundary. Project and activity monitoring may also be used to gather information for the plan monitoring program.

Mon019: As the ERUs are not valid, the monitoring question in the Forest Ecosystem section of the Monitoring Plan should be revised to read: “Are management practices moving ponderosa pine and dry mixed-conifer forests toward desired conditions and increasing their resilience to future disturbances?”

Associated Comments: #3266-11

Change to Plan or EIS: Plan

Mon019 Response: The wording of the question within the monitoring chapter was edited as suggested by the commenter. However, the categorization of ecosystems found on the Forest into ERUs is valid for the purposes of forest plan revision.

See also: Veg014 for more on the use of ERUs.

Mon012: The number of acres of high-risk fires suppressed is not a good indicator of the desired conditions for Fire and Fuels. This indicator should be deleted.

Associated Comments: #3266-13

Change to Plan or EIS: Plan

Mon012 Response: After consulting with Interdisciplinary Team, this indicator was removed from the monitoring chapter of the Santa Fe NF plan based on comment received.

Mon010: The Santa Fe National Forest should employ a forest botanist to ensure BASI is met with concern to plant science, and associated monitoring and data gaps.

Associated Comments: #12527-1

Change to Plan or EIS: None

Mon010 Response: Hiring and personnel needs are outside of the scope of plan revision. Interdisciplinary teams are convened for project development. While the Forest does not currently have a designated botanist, there are knowledgeable staff who provide input on plant science issues and the Forest regularly collaborates with other groups and agencies that have this expertise.

Mon017: Monitoring questions in the Species Conservation section of the Monitoring Plan need be adjusted to be inclusive of all At-Risk species, their habitats, and population trends especially in the face of climate change. These questions should contribute to maintaining or increasing at-risk species populations.

Associated Comments: #12543-10

Change to Plan or EIS: None

Mon017 Response: The monitoring chapter included in the plan is not intended to depict all monitoring, inventorying, and data-gathering activities to be undertaken in the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in this chapter of the plan. Following the release of the Plan, an implementation guide for monitoring will be developed which will contain greater detail surrounding monitoring practices and may lend greater clarity on monitoring to address concerns such as at-risk species. The Plan contains several desired conditions pertaining to the improvement or persistence of at-risk species and their habitat, with an additional relevant plan component added following comment response reviews (FW-VEG-DC-3c). Additionally, consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions beyond the Forest boundary for at-risk species.

Mon011: The effects of climate change on wildlife behavior should be monitored through work with the USA National Phenology Network (<https://www.usanpn.org/>) or other partners to assess potential changes in breeding times, seasonal migratory patterns, and other important life history events.

Associated Comments: #12665-98

Change to Plan or EIS: None

Mon011 Response: The monitoring chapter included in the Plan is not intended to depict all monitoring, inventorying, and data-gathering activities to be undertaken in the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in this chapter of the Plan. Following the release of the Plan, an implementation guide for monitoring will be developed that will contain greater detail surrounding monitoring practices and may lend greater clarity on monitoring to address concerns such as climate change impacts on wildlife behavior. Consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable (such as the USA National Phenology Network mentioned by the commenter) will increase efficiencies and help track changing conditions beyond the Forest boundary. Specific impact monitoring would be developed and implemented through project-level monitoring plans.

Mon004: The monitoring plan should include monitoring protocols for the alpine and tundra ERUs.

Associated Comments: #12665-99

Change to Plan or EIS: None

Mon004 Response: The impacts specifically related to alpine and tundra ERUs have not been identified as a plan-level monitoring item. Monitoring questions are chosen to provide the information necessary to evaluate whether plan components are effective and appropriate, and whether management is being effective in maintaining or achieving progress toward the desired conditions and objectives for the plan area. We do not have any objectives in the alpine and

tundra ERU, indicating that it is not an ERU we are proposing to implement projects for which monitoring information is needed. We do include monitoring questions for wildlife to ensure movement toward desired habitat conditions (see the Vegetation section of the Plan for alpine and tundra ERU desired conditions) and connectivity. Not every plan component has a corresponding monitoring question due to financial and technical constraints of the agency.

Mon015: The Rio Grande chub and/or the Rio Grande sucker should be added to the Riparian Habitat monitoring plan as focal species, as these species occupy different ecoregions across the forest.

Associated Comments: #12665-100

Change to Plan or EIS: None

Mon015 Response: From appendix F (FEIS, Vol. 2), “Focal species are selected because they are believed to be responsive to ecological conditions in a way that can inform future plan decisions. Forest Service handbook direction (FSH 1909.12 chapter 30, section 32.13c) for focal species further specifies that every plan monitoring program must identify one or more focal species and one or more monitoring questions and associated indicators addressing the status of the focal species.” The Santa Fe NF chose 7 focal species for assessing ecosystem conditions over the life of the plan. At this time, an interdisciplinary team has decided not to add additional focal species (e.g., the Rio Grande sucker and/or chub suggested by a commenter) for plan-scale monitoring on the Forest. Those species may still be monitored at the project scale to gain valuable information about aquatic habitat and health conditions.

Mon006: The desired condition under aquatic habitat monitoring should consider recreationally important species such as rainbow trout and brown trout, not just native fish.

Associated Comments: #12665-101

Change to Plan or EIS: None

Mon006Response: The desired condition reads, “Aquatic habitats are distributed across the forest in sufficient quantity and with appropriate habitat components to support self-sustaining populations of native fish and other aquatic species.” Rainbow trout and brown trout are included under the wording “other aquatic species” and do not need to be specifically mentioned within the desired condition in order for the intent to be met.

Mon016: The monitoring chapter of the Plan should include the monitoring of springs in the Riparian Habitat section.

Associated Comments: #12665-107

Change to Plan or EIS: None

Mon016 Response: This monitoring chapter is not intended to depict all monitoring, inventorying, and data-gathering activities undertaken in the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in this chapter of the Plan. Following the release of the Plan, an implementation guide for monitoring will be developed that will contain greater detail surrounding monitoring practices and lend greater clarity on monitoring to address concerns such as spring status or function. Consideration and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions beyond the Forest boundary.

Mon009: The USFS should adopt the New Mexico Rare Plant Conservation Strategy and devote sufficient resources to implementing it.

Associated Comments: #12673-4

Change to Plan or EIS: None

Mon009 Response: The Plan recognizes that consideration of and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and capacity beyond the Forest boundary. In this way, aspects of specific protocols such as the NM Rare Plant Conservation Strategy could be incorporated into project design where populations of rare plant populations are present. However, this is outside of the scope of plan revision.

Mon013: There should be adequate funding provided to support a strong forest monitoring program.

Associated Comments: #12720-10

Change to Plan or EIS: None

Mon013 Response: Available funding for future work of the Agency is outside of the scope of plan revision. However, the Santa Fe NF plan contains objectives for treatments and a monitoring chapter that were developed with the capacity of the agency in mind (e.g., anticipated availability of funding, personnel, etc.). Consideration of and coordination with broader-scale monitoring strategies; multi-party monitoring collaboration; and cooperation and coordination with other agencies, organizations, and individuals where practicable will increase efficiencies and help track changing conditions beyond the Forest boundary.

Mon002: There is support for robust adaptive management practices on the forest to support multiple uses.

Associated Comments: #12729-4; #13500-5

Change to Plan or EIS: None

Mon002 Response: We discuss adaptive management in chapter 5 of the Plan, Forest Plan Monitoring Program: “Monitoring provides feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the responsible official to determine if a change in plan components or other plan content that guides management of resources on the plan area may be needed, forming a basis for continual improvement and adaptive management.”

Mon008: There should be more monitoring of at-risk plant species on the forest, including surveys to identify and locate them performed by a qualified botanist.

Associated Comments: #12673-4

Change to Plan or EIS: None

Mon008 Response: The Santa Fe NF does not have a designated botanist on staff, but does have staff well-equipped to assess habitats for at-risk plant species. Though outside of the scope of plan revision, proposed projects are developed using an interdisciplinary team and are examined through the NEPA process, which calls for input from members of the public or other interested

parties. We recognize that there is a great deal of knowledge and expertise on at-risk or rare plant species within regional and locally based groups in New Mexico and value coordination and collaboration with them to document locations of rare species and aid in their persistence on the landscape.

Mon020: The Forest should conduct monitoring for watershed health. To this end, the monitoring plan should include tracking acres treated for watershed restoration, using the indicator of watershed health as determined by USFS's WCC Framework for measuring watershed improvement, and include a similar measure for stream health. It should also track miles of decommissioned roads as an indicator for watershed health.

Associated Comments: #12752-39

Change to Plan or EIS: Plan

Mon020 Response: Watershed health monitoring is included in the monitoring chapter of the Plan, primarily under the watersheds heading, but is also relevant to riparian areas and habitats and aquatic habitats. The monitoring chapter of the Plan is not intended to be all-inclusive of the monitoring that can occur on the Forest, and does not specify all of the guidelines, data, or sources that will be used to gather, analyze, or determine results (e.g., WCC Framework), as the monitoring implementation guide has yet to be developed. The indicator of miles of decommissioned or improved roads was added into the monitoring chapter, watershed section, based on the request of the commenter and plan components in support of this inclusion.

Mon007: Monitoring indicators for at-risk aquatic species should include the number of fish passage barriers removed or created, number of roads decommissioned within the riparian management zone, and number of culverts removed or upgraded.

Associated Comments: #12752-39

Change to Plan or EIS: Plan

Mon007 Response: The monitoring chapter included in the Plan is not intended to depict all monitoring, inventorying, and data-gathering activities to be undertaken in the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in this chapter of the Plan. There is an indicator for fish barriers under the Aquatic Habitats heading and miles of decommissioned roads was added to the monitoring chapter under the Watersheds heading. Culverts were not included as an indicator at the plan scale, though they may still be monitored at the project level.

Mon022: Commenters have expressed concern that adaptive management will not be enough to protect the Mexican spotted owl, as adaptive management requires robust long-term region-wide population monitoring to succeed. Additionally, adaptive management without credible monitoring is not BASI as set forth in section 219.3 of the NFMA Planning Rule

Associated Comments: #12685-12c

Changes made to Plan or EIS: None

Mon022 Response: The Southwestern Region of the Forest Service is committed to implementing all applicable parts of the most recent Mexican spotted owl Recovery Plan. The revised forest plan provides a long-term framework for resource use and management, including species conservation. The details for single species management are not included specifically in

this framework but are included as plan components that reference current recovery plans and allows for incorporating the best available science for the species.

We discuss adaptive management in chapter 5 of the forest plan, “Forest Plan Monitoring Program.” “Monitoring provides feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the responsible official to determine if a change in plan components or other plan content that guides management of resources on the plan area may be needed, forming a basis for continual improvement and adaptive management.”

Climate Change

Clim001: The revised EIS must consider additional scientific literature related to wildfire emissions. Consideration should include Mitchell (2015); Rhodes and Baker (2008); Mitchell et al. (2009); Jones et al. (2019)

Associated Comments: #197-51

Changes made to Plan or EIS: EIS

Clim001 Response: We have added to our EIS analysis citations for research that is based in the southwest and supports the use of combined mechanical thinning and controlled burning as a method for increasing the resilience and carbon storage potential of our forest:

- Hurteau, M.D. 2017. Quantifying the Carbon Balance of Forest Restoration and Wildfire under Projected Climate in the Fire-Prone Southwestern United States. Plos One 12(1): e0169275. <https://doi.org/10.1371/journal.pone.0169275>
- McCauley, L.A., M.D. Robles, T. Wooley, R.M. Marshall, A. Kretchun, and D.F. Gori. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States. Ecological Applications. 29(8):1-14.

Clim036: The forest plan should direct managing forests to serve as vast carbon sinks. The forest plan should acknowledge and optimize the climate value of national forests and maximize long-term carbon storage on public lands. Given that the adverse impacts of climate change on the forest are caused by excessive carbon emissions into the atmosphere, and that carbon sequestration can offset these emissions and hence reduce this cause, it follows that maximizing carbon sequestration promotes the overall ecosystem function over the long-term.

Associated Comments: #11980-7, #11980-13, #12030-4 (a), #13262-1(a), #11980-13

Changes made to Plan or EIS: None

Clim036 Response: While the Santa Fe NF recognizes the vital role that forested lands play in carbon sequestration the final Plan manages for overall ecosystem function which implies inherent levels of carbon sequestration and greenhouse gas emissions.

The basic approach involves managing C through managing the health and productivity of the Nation’s forests. The approach focuses on managing risks to the health, productivity, and ability of the resource to provide the goods and services called for in management plans. Management actions have C outcomes and those are considered among the benefits being managed. Forest systems are dynamic and emit and capture C

regardless of human intervention. The Forest Service C strategy is embedded in a larger adaptation strategy for managing the resource that considers multiple impacts of natural and anthropogenic stressors. (Birdsey et al. 2019, p 15)

We disagree that managing to maximize carbon sequestration promotes ecosystem function and management to maximize carbon sequestration over other ecosystem services is not a primary management focus in the plan and is not agency policy. Favoring persistent carbon storage in fire-adapted forests can involve managing tree density to prevent catastrophic fire and the long-term conversion of resilient forests (carbon sinks) to uncharacteristic grass-forb-shrub conditions (carbon sources) (Hurteau 2017). Janowiak et al. (2017) briefly summarize how land management planning incorporates carbon sequestration, “The long-term capacity of forest ecosystems to capture and store carbon depends in large part on their health, productivity, resilience, and adaptive capacity.” (2017)⁶

Land management in a dynamic system considers cumulative effects across time, factoring in risk, severity, scale, and likely outcome of disturbances. For example, storing carbon in overly dense forests increases the risk of losing the carbon through fire and decomposition of fire-killed trees following large wildfires (Hurteau and Brooks 2011)⁷. Dense stands are less vigorous and more susceptible to insect attack ([Oliver] and Larson 1996). Land management programs that restore forests to healthy and productive conditions will help ensure the long-term maintenance and transformation of forest carbon stocks. (Janowiak et al. 2014)⁸

The value of the Santa Fe NF for carbon sequestration, storage, and cycling is noted in several places in the final Plan including FW-VEG-DC-1 and DC-2f, FW-SOIL-DC-2, and the narratives of the vegetation, riparian and wetland ecosystems, and soil sections of the Plan.

Clim003/004/016/017/031/032/035/007: The forest plan should direct managing the Santa Fe NF to facilitate carbon-rich ecosystems by increasing the number of trees. The Forest Service's assertion that thinning or burning treatments will increase carbon storage over the long-term is faulty and incomplete, failing to consider the best available science on the effects of thinning and burning a forest, and its relation to long-term carbon storage, forest health, and fire impacts such as wildfire emissions. It has also failed to calculate the carbon sequestration and storage capacity of the lands suited for timber production, and analyze how harvest levels would affect the net carbon emissions and carbon carrying capacity of the forest by alternative. Reductions in the number or density of trees should be eliminated as a tool used in the forest plan because it reduces the forest's carbon storage capacity, its carbon sequestration potential and releases carbon emissions. Treatments that reduce the number of trees in the forest, including timber harvests, fail to recognize the best available science in terms of mitigating and adapting to climate change. Nor is timber harvest and designating lands suited for timber production consistent with the 2012 Planning Rule, which requires that plans must ensure that “[t]imber harvest [for any purpose] would be carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources.” 36 CFR. § 219.11(d)(3). As climate change has the potential to adversely affect every item on that list, harvesting important carbon sinks is inconsistent with protecting these interests as

⁶ Janowiak, Maria; Connelly, William J.; Dante-Wood, Karen; Domke, Grant M.; Giardina, Christian; Kayler, Zachary; Marcinkowski, Kailey; Ontl, Todd; Rodriguez-Franco, Carlos; Swanston, Chris; Woodall, Chris W.; Buford, Marilyn. 2017. Considering Forest and Grassland Carbon in Land Management. GTR-WO-95, USDA.

⁷ Hurteau, M.D.; Brooks, M.L. 2011. Short- and long-term effects of fire on carbon in US dry temperate forest systems. *BioScience*. 61(2): 139-146.

⁸ Janowiak, M.K.; Swanston, C.W.; Nagel, L.M.; Brandt, L.A.; Butler, P.R.; Shannon, P.D.; Iverson, L.R.; Matthews, S.N.; Prasad, A.; Peters, M.P. 2014. A practical approach for translating climate change adaptation principles into forest management actions. *Journal of Forestry*. 112(5): 424–433.

doing so would exacerbate the climate crisis. Rather the Forest should consider active restoration as a tool to improve carbon stability.

Associated Comments: #11980-7, #11980-10, #11980-11, #11980-13, #12030-4 (b), #11980-13, #12684-20, #12349-16, #12680-2, #11980-15, 11980-13, #12684-11 (a), #12680-5

Changes made to Plan or EIS: EIS

Clim003/004/016/017/031/032/035/007 Response: We stand by the balance of scientific information that thinning and prescribed fire in fire-adapted forests and woodlands favors net carbon sequestration over longer time frames (Hurteau 2017, Krofcheck et al. 2017, McCauley et al. 2019), which we discuss in the Air Quality, Carbon Sequestration, Effects Common to All Alternatives section and the Vegetation, Climate Change section of the FEIS. We have added additional references to these sections to support our assumptions (see Clim001 and Air004).

While the Santa Fe NF recognizes the vital role that forested lands play in carbon sequestration the final plan manages for overall ecosystem function which implies inherent levels of carbon sequestration and greenhouse gas emissions. For example, part of the Forest Vision is to restore fire resiliency. Healthy, resilient landscapes have a greater capacity to survive natural disturbances and large-scale threats to ecological sustainability. This is especially true under shifting and uncertain future environmental conditions, such as those driven by a changing climate and increasing human uses. Through restoring natural fire regimes, forests move closer to desired conditions where structure, species composition, and function return to their natural conditions, building resiliency in the ecosystem. These desired conditions are the goal toward which our vegetation treatment objectives work. By moving the forest toward a more natural fire regime, the frequency of treatments that may negatively affect other resources may be reduced. The final plan includes components related to restoring fire frequency, including FW-VEG-DC-2, FW-VEG-DC-2d, and FW-FIRE-DC-3.

Additionally, desired conditions in the Plan promote natural disturbance processes that sustain forest carbon sequestration by increasing ecosystem resilience and returning the forest to a more natural fire regime, which include low, mixed, and high-severity fires depending on the ERU (e.g., FW-MCD-DC-3, FW-SFF-DC-2b, FW-MCW-DC-2a, FW-MCW-DC-5, FW-MSG-DC-2, FW-CPGB-DC-2).

Clim008/014/019/020/030: It does not appear the Forest Service considered factors related to climate change and other stressors in developing this Plan as required by the 2012 Planning Rule. Responsible officials must identify and evaluate a baseline assessment of carbon stocks, as a part of the assessment phase. Climate change must be taken into account when the responsible official is developing plan components for ecological sustainability. When providing for ecosystem services and multiple uses, the responsible official is required to consider climate change. Measurable changes to the plan area related to climate change and other stressors affecting the plan area must be monitored.

Associated Comments: #11980-13, #11980-5, #12494-87, #271-6, #12607-13, #12715-4

Changes made to Plan or EIS: None

Clim008/014/019/020/030 Response: A baseline assessment of carbon stocks was conducted during the assessment phase and is documented on pages 301-311 of the Assessment, Vol. 1. With this analysis, the Forest has complied with agency directives regarding carbon by estimating carbon stocks (FSH 1909.12 Ch. 10, 12.4). There are no regulatory requirements to evaluate carbon flux or to analyze and contrast future carbon among alternatives in an EIS. Nor are there agency directives for the management of carbon.

Clim001/012/026/027: The Plan needs to take into account the ongoing and future impacts of a changing climate, and the role forest management plays in it. The Forest Service should address this need by adding plan components in the vegetation and water resources sections that address

1. ecosystem resiliency, climate change, carbon sequestration, uncharacteristic fire; and
2. the impacts of climate change on water resources, habitats, and aquatic species.

Furthermore, the FEIS does not provide an adequate basis for the Forest Service to assert that it is optimizing climate change mitigation efforts or balancing the benefits of these efforts with other benefits, as it fails to provide an assessment of how timing, extent, and certainty of change in net carbon emissions under each alternative compare with the need for carbon reductions by 2030.

Associated Comments: #12752-26, #12702-6 (a), #11980-16, #271-7, #271-8, #5457-1, #12288-4, #12521-5, #12569-2, #12574-1, #12680-7, #12742-4, #13262-1(b)

Changes made to Plan or EIS: None

Clim001/012/026/027 Response: The final Plan has incorporated climate change into the management of resources and has pinpointed desired conditions and objectives that increase the ecological resiliency of the Santa Fe NF to predicted changes in climate. For example, vegetation management practices in the final Plan are capable of reducing drought stress and the risk of uncharacteristic fire, both of which can result in reduced ecosystem resiliency and carbon storage. Other examples include FW-VEG-DC-1 and DC-2, FW-VEG-O-1, and FW-WATER-DC-1. Management practices are also designed to allow for the flexibility to address changing conditions over time.

See also: Clim008/014/019/020/030.

Clim005/035: There is no comprehensive section concerning climate change in either the Plan or FEIS. The piecemeal approach to the issue of climate change makes it difficult to get a good sense of how the Santa Fe NF is planning to address climate change and how climate change is likely to impact the forest. It also makes it hard to determine what gaps exist in the Santa Fe's climate-related management direction and environmental analysis. The incomplete consideration of climate change in the draft plan and DEIS is inconsistent both with the requirements of NEPA and Forest Service policy.

The Forest should include a section on climate change in the draft plan that describes climate change impacts on the forest, explain how the Santa Fe plans to address climate change (including climate mitigation, adaptation, and resilience), and cross-references all plan components that concern climate change. The Santa Fe NF should also include a comprehensive section on climate change in the FEIS. The analysis should describe current and expected climate impacts in the Santa Fe and explain how the various alternatives would address climate change.

Associated Comments: #12494-88, #12494-90, #12727-18

Changes made to Plan or EIS: None

Clim005/035 Response: Projected climate change impacts on the Santa Fe NF were described in the Climate Change Vulnerability Assessment (CCVA) and in the Santa Fe National Forest Assessment, Vol. 1 (pages 46-49). The FEIS is organized by resource and projected climate change is discussed throughout the analysis as a stressor and driver of change in terms of its impact on individual resources. The final Plan does not describe impacts; however, restoration of ecosystem resiliency is identified as both an important Need for Change and as part of the Santa Fe NF Vision (final Plan, chapter 1). Desired conditions throughout the plan reduce stressors to improve resiliency increase adaptive capacity, and plan components provide for ecological

integrity of ecosystems so they are resilient to climate change (e.g., FW-VEG-DC-1 and DC-2, FW-VEG-O-1, and FW-WATER-DC-1). Additionally, the final Plan includes management approaches that describe possible strategies that may be useful under future climatic conditions such as FW-VEG-MA-1 and MA-2.

See also: Clim001/012/026/027

Clim002/033: The EIS should include a climate change alternative focusing on maximizing climate change mitigation and carbon sequestration, and that fully analyzes current and projected climate impacts on the forest and clearly identifies how the Santa Fe can increase the forest's resilience and ability to adapt to climate change. This alternative should be developed, fully-considered, and published for public review. A failure to do so violates the NFMA requirement to base decisions on the best available scientific evidence and the NEPA requirement to address allegedly insufficient information in the EIS.

The Climate Change “Alternative Not Analyzed in Detail” presented in the DEIS is insufficient, as it claims climate change is incorporated into the analysis of the four analyzed alternatives. However, the DEIS does not meaningfully engage with climate change, or its current and projected impacts. Even without a new alternative, the climate analysis in the final EIS needs to be significantly expanded.

Associated Comments: #11980-4, #11980-8, #11980-9, #11980-12, #12494-13, #12727-18, #12494-13, #12727-18

Changes made to Plan or EIS: EIS

Clim002/033 Response: An alternative that would manage forest lands for climate change was considered but eliminated from detailed study. The reasons for not studying this alternative were available to the public in the DEIS and are included in the FEIS (chapter 2, Alternatives Considered but Eliminated from Detailed Study). We have added more detail to this section about carbon sequestration, specifically. Management to maximize carbon sequestration over other ecosystem services is not a goal of the Plan. As with climate change in general, the Plan manages for overall ecosystem function and resiliency, which implies inherent levels of carbon sequestration.

See also: Clim005/035

Clim011: The revised EIS should consider a fifth alternative focused on closing and decommissioning a much higher percentage of its roads to curtail vehicular emissions that negatively impacts human health, forest health, and drives soil loss, stream siltation, and climate change.

Associated Comments: #13416-48 (b), #13416-49 (b)

Changes made to Plan or EIS: EIS

Clim011 Response: We have added a new section to the FEIS under the “Alternatives Considered but Eliminated from Detailed Study” section to address an alternative focused on road decommissioning. Additionally, alternative 3 proposes higher level of road decommissioning objectives than any of the other alternatives, the effects of which are analyzed in chapter 3 of the FEIS. In the Air section of the FEIS we have also addressed vehicular emissions under section 3.7.4.2.1 Emissions from Management Activities (predominantly fire). Vehicle emissions associated with roadwork, administrative use, on- and off-road travel, and recreational vehicle use release combustion gases (exhaust) and particulates to the air that contribute to ambient concentrations of pollutants regulated by the NAAQS. Most of these emissions are confined locally, are temporary, and are not expected to negatively affect ambient concentrations.

See also: RD009/010/013 for more on how the Plan mitigates impacts related to roads and vehicular or motorized traffic and RD047 for more information about a road decommissioning alternative.

Clim015: The Forest should prepare an economic analysis, such as a cost-benefit analysis, related to the economic benefits of carbon storage and the economic costs of carbon emissions in light of other management strategies outlined under each alternative.

Associated Comments: #11980-14, #12684-11 (b)

Changes made to Plan or EIS: None

Clim015 Response: The forest plan does not guide management based on cost-benefit analyses or net present value estimations and therefore these are not evaluated in the FEIS or with plan alternatives. Our economic concerns in terms of planning is to estimate the economic benefits of our management to surrounding communities (see FEIS, Socioeconomics section). Costs are considered on a project-level basis. Site-specific project costs are a function of unknown future site-specific plan or project proposals; it is, therefore, not possible to estimate or characterize changes in project-specific costs. Additionally, benefits of projects are often not necessarily monetary, such as reduction in fire risk and meeting needs of local communities (e.g., fuel wood).

The Planning Rule provides direction that the planning process and plan components and other plan content should be within the Agency's authority and the fiscal capability of the unit (36 CFR 219.1(g)). Forest budgets (that affect expenditures and salaries) are distributed by an act of Congress and may fluctuate over the life of the management plan, but are not dictated by the management plan or alternatives.

Clim021: Due to the numerous benefits, the interagency Climate Change Adaptation and Beaver Management Team has determined that the Forest Service should increase recognition of beavers in planning revisions because of the "climate change related benefits of expansion of beaver populations" and management units should "use beaver management practices and assessment tools in adapting to a changing climate."

Associated Comments: #12515-37

Changes made to Plan or EIS: None

Clim021 Response: The final Plan recognizes beavers as a focal species that will be used for monitoring habitat connectivity (final Plan, chapter 5; for more information on focal species, see appendix F of the FEIS). The restoration of beaver populations is also cited as an example of aquatic habitat restoration, in recognition of the important role this species places in ecosystem health and resiliency.

Clim022: Seeding and planting trees should be a restoration strategy the Forest is employing to help combat climate change.

Associated Comments: #12670-1

Changes made to Plan or EIS: None

Clim022 Response: Seeding and planting are project design features; implementation of specific project designs is outside the scope of the forest plan. The final Plan does contain guidance on seeding and planting, however, such as the following:

- FW-VEG-O-2: Over a 10-year period, complete 2,500 to 50,000 acres of combined vegetation treatments in highly departed non-forested ERUs* to move vegetation toward desired conditions (i.e., restoration). Treatments may include mechanical treatments, prescribed fire or naturally ignited wildfires, seeding, or other techniques still to be determined by best available science depending on the specific ERU.
- FW-VEG-MA-2: In support of restoration activities, consider using seeds or planting stock that is adapted to the ecological unit (or similar in elevation, soil type, and ecosystem) and to potential future conditions, to build resiliency in vegetative communities.
- FW-RWER-G-4: Plantings to reestablish native riparian vegetation should use local sources and occur only if natural regeneration is not sufficient to provide shading, bank cover, and streambank stability. For seeding, only certified, weed-free native seed mixes of local species varieties should be used when commercially available.
- FW-INVASIVE-G-1: Certified, weed-free native seed mixes of local species varieties should be used for revegetation when commercially available. Sterile, nonnative, non-invasive plant material that does not persist long term may be used in limited situations where considered necessary to protect resources and stabilize soils in a timely fashion.

Clim023/024/025: The Plan and EIS must address the impacts of the forest road system, road decommissioning or closure actions, and different levels of motorized use on climate change and greenhouse gas emissions on the forest. Some commenters were particularly concerned that the Forest address the issue of soil GHG sequestration as a function of its road system proposals, and were of the opinion that the EIS should analyze a fifth alternative focused on closing and decommissioning a higher percentage of its roads in the interest of curbing vehicle emissions that contribute to climate change.

Associated Comments: #13416-49 (a), #13416-48 (c), #13416-48 (a)

Changes made to Plan and EIS: None

Clim023/024/025 Response: Vehicle emissions associated with roadwork, administrative use, on- and off-road travel, and recreational vehicle use release combustion gases (exhaust) and particulates to the air that contribute to ambient concentrations of pollutants regulated by the NAAQS. Most of these emissions are confined locally, are temporary, and are not expected to negatively affect ambient concentrations, which are very good. (FEIS, section 3.7.4.1.1) Alternatively, the potential effects of climate change on the forest's road system are discussed in the FEIS, in section 3.13.4.1.1.

The minimum publicly accessible road system was identified and established during the implementation of the Travel Management Rule (36 CFR §212), which occurred as a process separate from the forest planning process. The final Plan has objectives for road decommissioning and repair in the Water Resources section, but the decision of when, where, and which roads are chosen for these actions is determined at the project level. When that decision is made, site-level NEPA processes are triggered. The entire process is outside the scope of the forest plan.

However, FW-SOIL-S-1 directs project managers to use BMPs (e.g., National Core Technical Guide for BMPs (FS-990A), FSH 2509.22 - Soil and Water Conservation Practices Handbook) and soil quality monitoring (e.g., Technical Guidance for Assessing and Monitoring Soil Quality in the Southwestern Region) to minimize management impacts to ensure long-term soil productivity and satisfactory soil condition (soil health). This direction, along with the guidelines in the section, help maintain soil productivity, function, and inherent physical, chemical, and biological processes that help maintain carbon sequestration.

See also: RD017/018/026

Clim028: Page 28 of the draft Plan states that "Other important ecosystem services include the regulation of climate through carbon sequestration..." This should be changed to read: through carbon sequestration and storage because carbon sequestration is a flux and stored carbon is a stock. Climate regulation only occurs when the carbon is taken-up and stored.

Associated Comments: #3266-2

Changes made to Plan or EIS: Plan

Clim023/024/025 Response: The final Plan has been changed in response to this concern.

Clim029: The sentence on page 114 of the draft Plan that states, "Thinning timber to create more space between trees allows grasses to grow, improves water retention and nutrient cycling, and mitigates the risk of uncharacteristic wildfire. Ultimately, trees grow larger and sequester more carbon than dense stands of small trees," should be revised to read, "When frequent-fire forests are managed to mitigate the chance of uncharacteristic wildfire, carbon stability increase."

Associated Comments: #3266-5

Changes made to Plan or EIS: Plan

Clim029 Response: We have added the suggested language to the final Plan.

Literature Cited in Appendix O

Vegetation and Fire Responses

- Ager, A.A., N.M. Vaillant, and M.A. Finney. 2010. A comparison of landscape fuel treatment strategies to mitigate wildland fire risk in the urban interface and preserve old forest structure. *For. Ecol. Manage.* 259: 1556–1570.
- Alexander, M.E. 1982. Calculating and interpreting forest fire intensities. *Canadian Journal of Botany.* 60: 349–357.
- Alexander, M. and M. Cruz. 2013. Limitations on the accuracy of model predictions of wildland fire behaviour: A state-of-the-knowledge overview. *The Forestry Chronicle.* Vol 89-3.
- Archer, S.R., E.M. Andersen, K.I. Predick, S. Schwinning, R.J. Steidl, and S.R. Woods. 2017. Woody plant encroachment: Causes and consequences. In *Rangeland Systems*. Springer, Cham. Pp. 25-84.
- Baker, W.L., 2009. *Fire Ecology in Rocky Mountain Landscapes*. Island Press, Washington, D.C.
- Baker, W.L. 2017. Restoring and managing low-severity fire in dry-forest landscapes of the western USA. *PLoS ONE* 12(2):e0172288.
- Bar Massada, A., V.C. Radeloff, and S.I. Stewart. 2011. Allocating fuel breaks to optimally protect structures in the wildland–urban interface. *Int. J. Wildl. Fire.* 20: 59–68.
<https://doi.org/doi:10.1071/WF09041>
- Barrett, S., D. Havlina, J. Jones, W. Hann, C. Frame, D. Hamilton, K. Schon, T. DeMeo, L. Hutter, and J. Menakis. 2010. *Interagency Fire Regime Condition Class guidebook*. Version 3.0. Technical guide available online <<http://www.frcc.gov/>>. USDA Forest Service, US Department of the Interior, and The Nature Conservancy.
- Beschta, R.L., D.L. Donahue, D.A. DellaSala, J.J. Rhodes, J.R. Karr, M.H. O'Brien, T.L. Fleischner, and C. Deacon Williams. 2012. Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild, and Feral Ungulates. *Environmental Management*. DOI 10.1007/s00267-012-9964-9
- Black, S.H., D. Kulakowski, B.R. Noon, and D.A. DellaSala. 2013. Do Bark Beetle Outbreaks Increase Wildfire Risks in the Central U.S. Rocky Mountains? Implications from Recent Research. *Natural Areas Journal* 33(1): 59-65. <https://doi.org/10.3375/043.033.0107>
- Bond, M.L., D.E. Lee, C.M. Bradley, and C.T. Hanson. 2009. Influence of Pre-Fire Tree Mortality on Fire Severity in Conifer Forests of the San Bernardino Mountains, California. *The Open Forest Science Journal*, 2009, 2, 41-47 41.
- Bostwick, P., J.P. Menakis, and T. Sexton. 2011. How Fuel Treatments Saved Homes from the Wallow Fire. USDA Forest Service, Southwest Region, Albuquerque, NM.
- Bowman, D.M.; J.K. Balch, P. Artaxo, W.J. Bond, J.M. Carlson, M.A. Cochrane, C.M. D'Antonio, R.S. DeFries, J.C. Doyle, and S.P. Harrison. 2009. Fire in the Earth system. *Science* 324:481-484.
- Brohman, R., and L.D. Bryant (eds.). 2005. Existing vegetation classification and mapping technical guide. USDA Forest Service General Technical Report WO-67. Ecosystem Management Coordination Staff, Washington Office, Washington DC. 305 pp.

- Clary, W.P. and A.R. Tiedemann. 1992. Ecology and values of Gambel oak woodlands. In: Ffolliott, Peter F.; Gottfried, Gerald J.; Bennett, Duane A.; Hernandez, C., Victor Manuel; Ortega-Rubio, Alfredo; Hamre, R.H., tech. coords. Ecology and management of oaks and associated woodlands: perspectives in the southwestern United States and northern Mexico; 1992 April 27-30; Sierra Vista, AZ. Gen. Tech. Rep. RM-218. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station: 87-95.
- Cochrane, M.A., C.J. Moran, M.C. Wimberly, A.D. Baer, M.A. Finney, K.L. Beckendorf, J. Eidenshink, and Z. Zhu. 2012. Estimation of wildfire size and risk changes due to fuels treatments. *Int. J. Wildl. Fire* 21, 357–367. <https://doi.org/http://dx.doi.org/10.1071/WF11079>
- Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological Systems of the United States: A working classification of US Terrestrial Systems. NatureServe technical guide available online <<http://www.natureserve.org>>. Home Office, Arlington, VA. 83 pp.
- Cruz, M. and M. Alexander. 2010. Assessing crown fire potential in coniferous forests of western North America: a critique of current approaches and recent simulation studies. *Int. J. of Wild. Fire*, 19(4): 377-398.
- Cruz, M.G., M.E. Alexander, and J.E. Dam. 2014. Using modeled surface and crown fire behavior characteristics to evaluate fuel treatment effectiveness: a caution. *For. Sci.* 60, 1000–1004.
- DellaSala, D. and C. Hanson. 2015. *The Ecological Importance of Mixed-Severity Fires: Nature's Phoenix*. Elsevier. 450 pp.
- DellaSala, D.; and C. Hanson. 2019. Are Wildland Fires Increasing Large Patches of Complex Early Seral Forest Habitat? *Diversity* 11(9): 157.
- DellaSala, D.A., R.L. Hutto, C.T. Hanson et al. 2017. Accommodating Mixed-Severity Fire to Restore and Maintain Ecosystem Integrity with a Focus on the Sierra Nevada of California, USA. *Fire Ecol.* 13: 148–171.
- Evans, A., S. Auerbach, L. Wood Miller, R. Wood, K. Nystrom, J. Loevner, A. Aragon, M. Piccarello, and E. Krasilovsky. 2015. Evaluating the effectiveness of wildfire mitigation activities in the wildland-urban interface. Forest Stewards Guild, Madison, WI.
- Evans, A.M., R. Everett, S. Stephens, and J. Youtz. 2011. A comprehensive guide to fuels treatment practices for mixed conifer forests: California, central and southern Rockies, and the Southwest. Forest Guild, Santa Fe, NM.
- Flannigan, M.D.; M.A. Krawchuk, W.J. de Groot, B.M. Wotton, and L.M. Gowman. 2009. Implications of changing climate for global wildland fire. *Int. J. Wild. Fire* 18:483-507.
- Fletcher, R., and W.A. Robbie. 2004. Historic and current conditions of southwestern grasslands. Pages 120-129 in D. M. Finch, editor. Assessment of grassland ecosystem conditions in the Southwestern United States. USDA Forest Service General Technical Report RMRs-GTR-135. Volume 1. Rocky Mountain Research Station, Fort Collins, Colorado, USA.
- Fulé, P.Z., T.W. Swetnam, P.M. Brown, D.A. Falk, D.L. Peterson, C.D. Allen, G.H. Aplet, M.A. Battaglia, D. Binkley, C. Farris, R.E. Keane, E.Q. Margolis, H. Grissino-Mayer, C. Miller, C. Sieg, C. Hull, C. Skinner, S.L. Stephens, and A. Taylor. 2014. Unsupported inferences of high-severity fire in

- historical dry forests of the western United States: Response to Williams and Baker. *Global Ecology and Biogeography*. 23(7): 825-830.
- Graham, R.T., S. McCaffrey, and T.B Jain. 2004. Science basis for changing forest structure to modify wildfire behavior and severity. USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.
- Guiterman, C.H., E.Q. Margolis, C.D. Allen, et al. 2018. Long-Term Persistence and Fire Resilience of Oak Shrubfields in Dry Conifer Forests of Northern New Mexico. *Ecosystems* 21, 943–959. <https://doi.org/10.1007/s10021-017-0192-2>.
- Hagmann, R.K., J.T. Stevens, J.M. Lydersen, B.M. Collins, J.J. Battles, P.F. Hessburg, C.R. Levine, A.G. Merschel, S.L. Stephens, A.H. Taylor, J.F. Franklin, D.L. Johnson, and K.N. Johnson. 2018. Improving the use of early timber inventories in reconstructing historical dry forests and fire in the western United States: Comment. *Ecosphere* 9:e02232. <https://doi.org/10.1002/ecs2.2232>.
- Hart, S.J., T.T. Veblen, N. Mietkiewicz, and D. Kulakowski. 2015. Negative feedbacks on bark beetle outbreaks: widespread and severe spruce beetle infestation restricts subsequent infestation. *Plos One* 10 (5):e0127975. doi:10.1371/journal.pone.0127975.
- Helmbrecht, D.J. and K. Blankenship. 2016. Modifying LANDFIRE Geospatial Data for Local Applications.
- Huffman, D.W., P.Z. Fulé, J.E. Crouse, and K.M. Pearson. 2009. A comparison of fire hazard mitigation alternatives in pinyon–juniper woodlands of Arizona. *For. Ecol. Manage.* 257, 628–635. <https://doi.org/10.1016/j.foreco.2008.09.041>
- Hutto, R.L., R.E. Keane, R.L. Sherriff, C.T. Rota, L.A. Eby, and V.A. Saab. 2016. Toward a more ecologically informed view of severe forest fires. *Ecosphere* 7(2):e01255. 10.1002/ecs2.1255.
- Ifekhar, M.S. and D.J. Pannell. 2015. "Biases" in Adaptive Natural Resource Management. *Conservation Letters* 8(6): 388-396.
- Kalies, E.L., and L.L. Yocom Kent. 2016. Tamm Review: Are fuel treatments effective at achieving ecological and social objectives? A systematic review. *For. Ecol. Manage.* 375, 84–95. <https://doi.org/http://dx.doi.org/10.1016/j.foreco.2016.05.021>
- Kaufmann M.R., G.H. Aplet, M. Babier, W.L. Baker, B. Bentz, M. Harrington, B.C. Hawkes, L. Stroh Huckaby, M.J. Jenkins, D.M. Kashian, R.E. Keane, D. Kulakowski, C. McHugh, J. Negron, J. Popp, W.H. Romme, T. Schoennagel, W. Shepperd, F.W. Smith, E. Kennedy Sutherland, D. Tinker, and T.T. Veblen. 2008. The status of our scientific understanding of lodgepole pine and mountain pine beetles - a focus on forest ecology and fire behavior. The Nature Conservancy, Arlington, VA. GFI technical report 2008-2.
- Kennedy, M.C. and M.C. Johnson. 2014. Fuel treatment prescriptions alter spatial patterns of fire severity around the wildland–urban interface during the Wallow Fire, Arizona, USA. *For. Ecol. Manage.* 318, 122–132. <https://doi.org/http://dx.doi.org/10.1016/j.foreco.2014.01.014>
- Keyser, A., D. Krofcheck, C. Remy, C. Allen, and M. Hurteau. 2020. Simulated Increases in Fire Activity Reinforce Shrub Conversion in a Southwestern US Forest. *Ecosystems*. 10.1007/s10021-020-00498-4.

- Kreye, J., N.W. Brewer, P. Morgan, J.M. Varner, A.M.S. Smith, C.M. Hoffman, and R.D. Ottmar. 2014. Fire behavior in masticated fuels: A review. *Forest Ecology and Management*. 314: 193-207. ISSN 0378-1127. <https://doi.org/10.1016/j.foreco.2013.11.035>.
- Labat-Anderson Incorporated. 2002. Residues of Fire Accelerant Chemicals, Volume 1 Risk Assessment, October 16, 2002.
- LANDFIRE. 2010. LANDFIRE 1.1.0 vegetation dynamics models and Biophysical Setting descriptions. Model files and reports available online <<http://www.landfire.gov/index.php>>, October 2010. USDA Forest Service, US Department of the Interior.
- Margolis, E.Q. and J. Balmat. 2009. Fire history and fire–climate relationships along a fire regime gradient in the Santa Fe Municipal Watershed, NM, USA. *Forest Ecol. Manage.* 258: 2416–2430.
- Margolis E.Q., T.W. Swetnam, and C.D. Allen. 2007. A stand-replacing fire history in upper montane forests of the southern Rocky Mountains. *Can. J. For. Res.* 37: 2227-2241.
- Margolis, E.Q., T.W. Swetnam, and C.D. Allen. 2011. Historical stand-replacing fire in upper montane forests of the Madrean Sky Islands and Mogollon Plateau, southwestern USA. *Fire Ecology* 7(3): 88-107. doi: 10.4996/fireecology.0703088.
- Margolis, E., C. Woodhouse, and T. Swetnam. 2017. Drought, multi-seasonal climate, and wildfire in northern New Mexico. *Climatic Change* 142: 433-446.
- Martinson, E.J. and P.N. Omi. 2013. Fuel Treatments and Fire Severity: A Meta-Analysis. USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.
- Meigs, G.W., H.S.J. Zald, J.L. Campbell, W.S. Keeton, and R.E. Kennedy. 2016. Do insect outbreaks reduce the severity of subsequent forest fires? *Environ. Res. Lett.* 11.
- Moore, M.M.; D.W. Huffman, P.Z. Fulé, W.W. Covington, and J.E. Crouse. 2004. Comparison of historical and contemporary forest structure and composition on permanent plots in southwestern ponderosa pine forests. *Forest Science* 50:162-176.
- Moritz, M.A., C. Topik, C.D. Allen, P.F. Hessburg, P. Morgan, D.C. Odion, T.T. Veblen, and I.M. McCullough. 2018. A Statement of Common Ground Regarding the Role of Wildfire in Forested Landscapes of the Western United States. Fire Research Consensus Working Group Final Report.
- Odion, D.C., C.T. Hanson, W.L. Baker, D.A. DellaSala, and M.A. Williams. 2016. Areas of Agreement and Disagreement Regarding Ponderosa Pine and Mixed Conifer Forest Fire Regimes: A Dialogue with Stevens et al. *PLoS ONE* 11(5):e0154579. <https://doi.org/10.1371/journal.pone.0154579>.
- Parks, S.A., C. Miller, J.T. Abatzoglou, L.M. Holsinger, M.A. Parisien, and S.Z. Dobrowski. 2016. How will climate change affect wildland fire severity in the western US? *Environmental Research Letters*, 11(3).
- Pollet, J. and P.N. Omi. 2002. Effect of thinning and prescribed burning on crown fire severity in ponderosa pine forests. *Int. J. Wildl. Fire*, 11: 1–10.
- Reynolds, R.T., A.J. Sanchez Meador, J.A. Youtz, T. Nicolet, M.S. Matonis, P.L. Jackson, D.G. DeLorenzo, and A.D. Graves. 2013. Restoring composition and structure in southwestern frequent-fire forests: a science-based framework for improving ecosystem resiliency. U.S. Forest Service General Technical Report RMRS-GTR-310, Washington, D.C., USA.

- Rodman, K.C., A.J.S. Meador, M.M. Moore, and D.W. Huffman. 2017. Reference conditions are influenced by the physical template and vary by forest type: A synthesis of *Pinus ponderosa*-dominated sites in the southwestern United States. *Forest Ecology and Management* 404: 316–329.
- Romme, W.H., C.D. Allen, J.D. Bailey, W.L. Baker, B.T. Bestelmeyer, P.M. Brown, K.S. Eisenhart, M.L. Floyd, D.W. Huffman, B.F. Jacobs, R.F. Miller, E.H. Muldavin, T.W. Swetnam, R.J. Tausch, and P.J. Weisberg. 2009. Historical and modern disturbance regimes, stand structures, and landscape dynamics in piñon-juniper vegetation of the western United States. *Rangeland Ecology and Management* 62:203–222.
- Romme, W., J. Clement, J. Hicke, D. Kulakowski, L. MacDonald, T. Schoennagel, and T. Veblen. 2006. Recent Forest Insect Outbreaks and Fire Risk in Colorado Forests: A Brief Synthesis of Relevant Research.
- Ryan, K.C., E.E. Knapp, and J.M. Varner. 2013. Prescribed fire in North American forests and woodlands: history, current practice, and challenges. *Front. Ecol. Environ.* 11 (Online Issue 1): e15–e24, doi:10.1890/12032.9
- Safford, H.D., J.D. Miller, and B.M. Collins. 2015. Differences in land ownership, fire management objectives and source data matter: A rep, to Hanson and Odion (2014). *International Journal of Wildland Fire* 24: 286–293. <https://doi.org/10.1071/WF14013>.
- Safford, H.D., J.T. Stevens, K. Merriam, M.D. Meyer, and A.M. Latimer. 2012. Fuel treatment effectiveness in California yellow pine and mixed conifer forests. *For. Ecol. Manage.* 274, 17–28. <https://doi.org/10.1016/j.foreco.2012.02.013>.
- Schussman, H., and D. Gori. 2004. An ecological assessment of the Bureau of Land Management's current fire management practices. The Nature Conservancy technical report available online http://azconservation.org/downloads/assessment_of_blm_fire_management_practices. TNC Arizona Chapter, Tucson AZ. 86 pp.
- Six, D.L., E. Biber, and E. Long. 2014. Management for Mountain Pine Beetle Outbreak Suppression: Does Relevant Science Support Current Policy? *Forests*. 5(1): 103–133.
- Somodi, I., Z. Molnár, and J. Ewald. 2012. Towards a more transparent use of the potential natural vegetation concept—an answer to Chiarucci et al. *Journal of Vegetation Science*, 23(3), pp.590–595.
- Spies, T.A. J.D. Miller, J.B. Buchanan, J.F. Lehmkuhl, J.F. Franklin, S.P. Healey, P.F. Hessburg, H.D. Safford, W.B. Cohen, R.S.H. Kennedy, E.E. Knapp, J.K. Agee, and M. Moeur. 2010. Underestimating risks to the northern spotted owl in fire-prone forests: Response to Hanson et al. *Conservation Biology* 24: 330–333. <https://doi.org/10.1111/j.1523-1739.2009.01414>.
- Stein, S.M., J. Menakis, M.A. Carr, S.J. Comas, S.I. Stewart, H. Cleveland, L. Bramwell, and V.C. Radeloff. 2013. Wildfire, wildlands, and people: understanding and preparing for wildfire in the wildland-urban interface—a Forests on the Edge report. Gen. Tech. Rep. RMRS-GTR-299. Fort Collins, CO. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 36 p.
- Stevens, J.T., H.D. Safford, M.P. North, J.S. Fried, A.N. Gray, P.M. Brown, C.R. Dolanc, S.Z. Dobrowski, D.A. Falk, C.A. Farris, J.F. Franklin, P.Z. Fulé, R.K. Hagmann, E.E. Knapp, J.D. Miller, D.F. Smith, T.W. Swetnam, and A.H. Taylor. 2016. Average stand age from forest inventory plots does

- not describe historical fire regimes in ponderosa pine and mixed-conifer forests of western North America. *PLoS ONE* 11: 1–20. <https://doi.org/10.1371/journal.pone.0147688>.
- Stevens-Rumann, C.; Shive, K.; Fulé, P.; Sieg, C.H. 2013. Pre-wildfire fuel reduction treatments result in more resilient forest structure a decade after wildfire. *Int. J. Wildl. Fire* 22, 1108–1117. <https://doi.org/http://dx.doi.org/10.1071/WF12216>.
- Swanson, M.E.; J.F. Franklin, R.L. Beschta, C.M. Crisafulli, D.A. DellaSala, R.L. Hutto, D.B. Lindenmayer, and F.J. Swanson. 2011. The forgotten stage of forest succession: early-successional ecosystems on forest sites. *Frontiers in Ecology and the Environment* 9:117-125.
- Swetnam, T.W. 1990. Fire History and Climate in the Southwestern United States. Proceedings of Symposium on Effects of Fire in Management of Southwestern U.S. Natural Resources, November 15-17, 1988, Tucson, Arizona. USDA Forest Service, General Technical Report. RM-191:6-17.
- Talucci, A.C. and M.A. Krawchuk. 2019. Dead forests burning: the influence of beetle outbreaks on fire severity and legacy structure in sub-boreal forests. *Ecosphere* 10(5).
- TNC (The Nature Conservancy). 2006. Southwest Forest Assessment Project: Historical range of variation and state and transition modeling of historical and current landscape conditions for potential natural vegetation types of the southwestern U.S. The Nature Conservancy technical report available online <http://azconservation.org/projects/southwest_forest_assessment>, November 2013. TNC Arizona Chapter, Tucson, AZ.
- Triepke, F.J. 2015. Climate Change Vulnerability Assessment for the Santa Fe National Forest.
- Triepke, F.J., E.H. Muldavin, and M.M. Wahlberg. 2019. Using climate projections to assess ecosystem variability at scales relevant to managers. *Ecosphere* 10(9).
- Tüxen, R. 1963. Die heutige potentielle natürliche Vegetation als Gegenstand der Vegetationskartierung. *Agnew. Pflanzensoziol.*, 13:5-42.
- USDA Forest Service. 1986. Terrestrial ecosystem survey handbook. Technical guide TESH-04/25/86. Southwestern Region, Albuquerque, NM.
- U.S. Department of Agriculture, Forest Service. 1993. Terrestrial ecosystem survey of the Santa Fe National Forest. Technical report. Southwestern Region, Albuquerque, NM.
- U.S. Department of Agriculture, Forest Service. 2016. Santa Fe National Forest Plan Draft Assessment Report, Volume I. Ecological Resources, June 2016.
- Vogelmann, J., Z. Zhu, J. Kost, B. Tolk, and D. Ohlen. 2006. Chapter 13 - Perspectives on LANDFIRE Prototype Project Accuracy Assessment. In: Rollins, Matthew G.; Frame, Christine K., tech. eds. 2006. The LANDFIRE Prototype Project: nationally consistent and locally relevant geospatial data for wildland fire management Gen. Tech. Rep. RMRS-GTR-175. Fort Collins: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. p. 397-411.
- Wahlberg, M.M., F.J. Triepke, W.A. Robbie, S.H. Strenger, D. Vandendriesche, E.H. Muldavin, and J.R. Malusa. 2014 (in Draft). Ecological Response Units of the Southwestern United States. USDA Forest Service Forestry Report FR-R3-XX-XX. Southwestern Region, Regional Office, Albuquerque, NM. 201 pp.

- Waltz, A.E.M., M.T. Stoddard, E.L. Kalies, J.D. Springer, D.W. Huffman, and A.S. Meador. 2014. Effectiveness of fuel reduction treatments: Assessing metrics of forest resiliency and wildfire severity after the Wallow Fire, AZ. *For. Ecol. Manage.* 334, 43–52.
<https://doi.org/http://dx.doi.org/10.1016/j.foreco.2014.08.026>
- Weisz, R., F.J. Triepke, and R. Truman. 2009. Evaluating the ecological sustainability of a ponderosa pine ecosystem on the Kaibab Plateau in Northern Arizona. *Fire Ecology* 5: 114-128.
- Weisz, R., F.J. Triepke, D. Vandendriesche, M. Manthei, J. Youtz, J. Simon, and W. Robbie. 2010. Evaluating the ecological sustainability of a pinyon-juniper grassland ecosystem in northern Arizona. Pp. 321-336 in T. B. Jain, R. T. Graham, and J. Sandquist, eds., *Proceedings of the 2009 National Silviculture Workshop, 15-19 June 2009, Boise ID. USDA Forest Service proceedings RMRS-P-61. Rocky Mountain Research Station, Fort Collins CO.*
- Weisz, R., and D. Vandendriesche. 2013. Use of the Forest Vegetation Simulator to quantify disturbance activities in state and transition models. Pp. 143-166 in B.K. Kerns, A.J. Shlisky, and C.J. Daniel, eds. *Proceedings of the First Landscape State-and-Transition Simulation Modeling Conference, 14-16 June 2011, Portland, OR. USDA Forest Service Gen. Tech. Rep. PNW-GTR-869. Pacific Northwest Research Station, Portland, OR.*
- Westerling, A.L., H.G. Hidalgo, D.R. Cayan, and T.W. Swetnam. 2006. Warming and earlier spring increase western US forest wildfire activity. *Science* 313:940-943.
- Wiedinmyer, C. and M.D. Hurteau. 2010. Prescribed fire as a means of reducing forest carbon emissions in the western United States. *Environmental Science and Technology* 44:1926-1932.
- Wimberly, M.C., M.A. Cochrane, A.D. Baer, and K. Pabst. 2009. Assessing fuel treatment effectiveness using satellite imagery and spatial statistics. *Ecol. Appl.* 19, 1377– 1384.
- Winthers, E., D. Fallon, J. Haglund, T. DeMeo, G. Nowacki, D. Tart, M. Ferwerda, G. Robertson, A. Gallegos, A. Rorick, D.T. Cleland, and W. Robbie. 2005. *Terrestrial Ecological Unit Inventory technical guide: Landscape and land unit scales. USDA Forest Service Gen. Tech. Report W0-68. Washington Office, Ecosystem Management Coordination Staff, Washington DC. 245 pp.*
- Yanoff, S., P. McCarthy, J. Bate, L.W. Miller, A. Bradley, and D. Gori. 2008. *New Mexico rangeland ecological assessment. The Nature Conservancy technical report available online <https://www.nmconservation.org/field-notes/2018/12/6/rangeland-ecological-assessment>. TNC Arizona Chapter, Tucson AZ. 75 pp. plus appendices.*

Water, Riparian, and Soil

- Anna, C. 2009. The forest, the fire and the fungi: studying the effects of prescribed burning on mycorrhizal fungi in Crater Lake National Park. *JFSP Briefs*. 61.
- Armour, C.L., D.A. Duff, and W. Elmore. 1991. Position statement on the effects of livestock grazing on riparian and stream ecosystems. *Fisheries*, 16(1), pp.7-11.
- Dove, C.D. and S.C. Hart. 2017. Fire reduces fungal species richness and in situ mycorrhizal colonization: a meta-analysis. *Fire Ecology* 13(2): 37-65.
- Harvey, A.E., M.J. Larsen and M.F. Jurgensen. 1980. Partial cut harvesting and ectomycorrhizae: early effects in Douglas-fir-larch forests of western Montana. *Canadian Journal of Forest Research* 10: 436-440.

- Johnson, C.E., A.H. Johnson, T.G. Huntington, and T.G. Siccama. Whole-tree clear-cutting effects on soil horizons and organic-matter pools. 1991. *Soil Science Society of America Journal* 55: 497-502.
- Lewis, A. C. 2018. Monitoring Effects of Wildfire Mitigation Treatments on Water Budget Components: A Paired Basin Study in the Santa Fe Watershed, New Mexico. Bulletin 163. New Mexico Bureau of Geology and Mineral Resources. 52 pp.
<http://geoinfo.nmt.edu/publications/monographs/bulletins/163>
- Mann, L.K.; D.W. Johnson; D.C. West; [and others]. 1988. Effects of whole-tree and stem-only clearcutting on postharvest hydrologic losses, nutrient capital and regrowth. *Forest Science* 34(2): 412-428.
- O'Donnell, F.C. 2016. Influence of Restoration Treatments on Hydrologic Output in Fire-Adapted Forests of the Southwest. ERI Working Paper No. 37. Ecological Restoration Institute and the Southwest Fire Science Consortium, Northern Arizona University. 14 pp.
- Philpott, T.J., J.S. Barker, C.E. Prescott, and S.J. Grayston. 2018. Limited effects of variable-retention harvesting on fungal communities decomposing fine roots in coastal temperate rainforests. *Applied and Environmental Microbiology* 84(3): 1-17.
- Reynolds, R.T., A.J. Sanchez Meador, J.A. Youtz, T. Nicolet, M.S. Matonis, P.L. Jackson, D.G. DeLorenzo, and A.D. Graves. 2013. Restoring composition and structure in Southwestern frequent-fire forests: a science-based framework for improving ecosystem resiliency. General Technical Report RMRS-GTR-310, USDA Forest Service Rocky Mountain Research Station, Fort Collins, CO. 76 pp.
- U.S. Department of Agriculture (USDA), Forest Service. 2019a. New Mexico Acequia Guidance. Southwestern Region Regional Office. Albuquerque, NM.

Wildlife, Fish, and Plants

- Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. *Western North American Naturalist* 60(2):155-164.
<https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=1152&context=wnan>

Air Quality

- Wiedinmyer, C. and M.D. Hurteau. 2010. Prescribed fire as a means of reducing forest carbon emissions in the western United States. *Environmental Science and Technology* 44:1926-1932.

Northern New Mexico Traditional Communities and Uses

- US GAO (United States General Accounting Office). (2004). Treaty of Guadalupe Hidalgo: Findings and possible options regarding longstanding community land grant claims in New Mexico. (GAO-04-59). Washington, D.C.: U.S. General Accounting Office.

Sustainable Rangelands and Grazing

- Bailey, D.W, H.C. Van Wagoner, R. Weinmeister, and D. Jenssen. 2008. *Journal of Range Ecology and Management*. 31 (1) 26-37.
- Chambers, C., and Horncastle 2017. Quarterly Report July- September 2016. Unpublished.

- Chambers 2019. Apache-Sitgreaves and Santa Fe National Forests Small Mammal Project Annual Report for 2018. Unpublished.
- Lucas, R.W., T.T. Baker, M.K. Wood, C.D. Allison, and D.M. Vanleeuwen. 2004. Riparian vegetation response to different intensities and seasons of grazing. *Journal of Range Management* 57 (5), 466-474
- Malan, J.C.; N. Flint, E.L. Jackson, A.D. Irving, and D.L. Swain. 2018. Offstream watering points for cattle: Protecting riparian ecosystems and improving water quality? *Agriculture, Ecosystems & Environment*, 256, 144-152, <https://doi.org/10.1016/j.agee.2018.01.013>.
- McInnis, M.L. and J.D. McIver. 2009. Timing of cattle grazing alters impacts on stream banks in an Oregon mountain watershed. *Journal of Soil and Water Conservation*. 64(6) 394-399.
- McSweeney, A.M. and C. Raish. 2012. Social, cultural, and economic aspects of livestock ranching on the Santa Fe and Carson National Forests. Gen. Tech. Rep. RMRS-GTR-276. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 199 pp. <https://doi.org/10.2737/RMRS-GTR-276>.
- Parsons, C.T., P.A. Momont, T. DelCurto, M. McInnis, and M.L. Porath. 2003. Cattle distribution patterns and vegetation use in mountain riparian areas. *Journal of Range Management* 56 (4), 334-341.
- Perry, C. 2005. Riparian Grazing Ideas and Alternatives – when cattle graze in riparian areas, creek fencing should be the last choice. *Rangeland*, Society for Range Management, August 2005. p. 37-39.
- Raish, C. and A.M. McSweeney. 2008. Land grants and the U.S. Forest Service. *Nat. Resources J.* 48:1039.
- Saunders, W.C., and K.D. Fausch. 2012. Grazing management influences the subsidy of terrestrial prey to trout in central Rocky Mountain streams (USA). 2012. *Freshwater Biology*. 57: 1512-1529.
- Van Horn, D.J., C.S. White, E.A. Martinez, C. Hernandez, J.P. Merrill, R.R. Parmenter, and C.M. Dahm. 2012. *Rangeland Ecology and Management*. 65 (5) 475-485.
- U.S. Department of Agriculture (USDA) Forest Service. 1905. The Use of the National Forest Reserves. Department of Agriculture, Washington DC. 80 pp.
- USDA Forest Service. 2013. Range Management. Albuquerque, NM.
- USDA Forest Service. 2014. INFRA Database
- USDA Forest Service. 2016a. Santa Fe National Forest Plan Final Assessment Report, Volume I. Ecological Resources, June 2016.
- USDA Forest Service. 2016b. Santa Fe National Forest Plan Final Assessment Report, Volume II. Socioeconomic Resources, June 2016.
- USDA Forest Service. 2019b. Santa Fe National Forest Draft Land Management Plan Draft Environmental Impact Statement. Volume I. Chapters 1, 2, and part of 3, June 2019.
- U.S. Department of Agriculture (USDA), NRCS.

US GAO (United States General Accounting Office). (2004). Treaty of Guadalupe Hidalgo: Findings and possible options regarding longstanding community land grant claims in New Mexico. (GAO-04-59). Washington, D.C.: U.S. General Accounting Office.

Recommended Wilderness

Brown, T.C. and P. Froemke. 2009. Estimated mean annual contribution to water supply from designated wilderness in the coterminous United States. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 5 pp.
https://www.fs.fed.us/rm/value/docs/water_supply_from_wilderness.pdf

Appendix P. Sensitive Species Issues and Threats

Amphibians

Effects to sensitive amphibian species are listed in Table P-1. The forest plan (alternative 2) is not expected to decrease population viability or cause a trend toward Federal listing.

Table P-1. Sensitive species: Effects to amphibians

Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Northern leopard frog (<i>Rana pipiens</i>)	Associated with water. Impacted by departed conditions of riparian areas and other water resources. Their habitats are also at-risk from large uncharacteristic fires. Direct mortality and decreased vigor caused by invasive predation and competition from bull frogs (<i>Lithobates catesbeianus</i>) as well as from chytrid fungus (<i>Batrachochytrium dendrobatidis</i>). May also become trapped in human-made water features. (Potential available habitat in the Santa Fe NF: 57,608 acres. Current amount of habitat in reference condition: 28,804 acres)	The no-action alternative allows for improvements to riparian vegetative conditions which would provide the greatest benefit for improving habitat for the northern leopard frog. The risk of predation from bull frogs and the potential for the spread of Chytrid fungus would continue to impact the frog. (Annual amount of habitat improvement: <50 acres)	Increased objectives for riparian areas and water resources would improve habitat conditions. Plan components designed to address entrapment in water features, invasive predation, and disease spread (Chytrid fungus) would minimize mortality. Alt 4 may increase risk of disease spread due to increased human activity. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the northern leopard frog. The proposed action and alternatives address the primary threats to this species, which are changes in wetlands, especially the alteration of marshy ponds to reservoirs; existence of nonnative predatory fish; natural local extinctions as ponds dry up during years of low precipitation; disease spread and predation and competition by introduced bullfrogs (Biota Information System of New Mexico). .

Birds

Effects to sensitive bird species are listed in Table P-2. The forest plan (alternative 2) is not expected to decrease population viability or cause a trend to Federal listing.

Table P-2. Sensitive species: Effects to birds

Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
American peregrine falcon (<i>Falco peregrines anatum</i>)	Habitat includes high cliffs with horizontal breaks for nest ledges. Susceptible to nest disturbance from recreational climbers. May also be impacted by large energy developments or utilities (ex. wind turbines, cell towers). Historically were impacted by pesticides. (Potential available habitat in the Santa Fe NF: 236,132 acres. Current amount of habitat in reference condition: 61,392 acres)	Most of the direction is to minimize human disturbance to high-profile game species. There is also little to no direction for addressing human-made features that impact birds. The viability of the falcon is unlikely to increase under this alternative. (Annual amount of habitat improvement: 11,361 acres)	Specific forestwide management direction for minimizing human disturbance to at-risk species is addressed in the proposed action, with cliff disturbance being specifically addressed. There are also plan components that attempt to reduce collision by birds by providing guidance on infrastructure design. With its emphasis to encourage human uses, Alt 4 may not be as beneficial to the falcon. (Annual amount of habitat improvement: Alt 2: 42,750 acres, Alt 3: 106,700 acres, Alt 4: 32,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the American peregrine falcon. The proposed action and alternatives maintain or improve the habitat and address the two primary threats to peregrine falcons, cliff disturbance and collisions with human-made structures.
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Habitat includes riparian areas along major river corridors, but winter habitat is not always associated with riparian areas. May be impacted by large energy developments or utilities (ex. wind turbines, cell towers). Historically were impacted by pesticides. Since bald eagles are dependent upon large bodies of water, they are not typically found on the Santa Fe NF but may occasionally be seen along the Rio Grande. (Potential available habitat in the Santa Fe NF: 57,608 acres. Current amount of habitat in reference condition: 28,804)	There is little to no direction for addressing human-made features that impact birds. Also, there is specific direction to follow integrated pest procedures. This calls for project-level decisions to be made regarding the use of pesticides. (Annual amount of habitat improvement: <50 acres)	There are plan components that attempt to reduce collision by birds by providing guidance on infrastructure design. Specific forestwide plan components address chemical applications in the proposed action. With its emphasis to encourage human uses, Alt 4 may not be as beneficial to the persistence of the eagle. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the bald eagle. The proposed action and alternatives maintain or improve the habitat and address the two primary threats to bald eagles, collisions with human-made structures and pesticides.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Boreal owl (<i>Aegolius funereus</i>)	Habitat includes high-elevation mature spruce-fir forests. Greatest risk to boreal owl may be loss of habitat due to large scale uncharacteristic fire which may occur in SFF. (Potential available habitat in the Santa Fe NF: 195,166 acres. Current amount of habitat in reference condition: 89,777 acres)	The no-action alternative allows for restoration in the forested ERUs, however, SFF are not highly departed. (Annual amount of habitat improvement: 1,680 acres)	The action alternatives provide numerous restoration objectives however, since SFF are not highly departed it is unlikely management actions will be directed in these ERUs. (Annual amount of habitat improvement: Alt 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the boreal owl. The proposed action and alternatives maintain or improve the habitat and address the primary threat to boreal owls, uncharacteristic fire.
Burrowing owl (Western) (<i>Aegolius funereus</i>)	Prairie dog towns are found in various PJ and grassland ERUs. Some grassland habitats may be highly departed which could impact the prairie dogs, a species which is critical for the owls for suitable den sites. Recreational shooting may also be a concern since prairie dogs are often targeted. Owls have been recorded being shot and it is believed they were accidentally mistaken for prairie dogs. (Potential available habitat in the Santa Fe NF: 69,820 acres. Current amount of habitat in reference condition: 32,815 acres)	The no-action alternative does allow for improvements to seral state condition but provides little to no direction in grassland systems. This would benefit the owl since they are dependent upon the prairie dogs for burrows. It also does not address recreational shooting. (Annual amount of habitat improvement: 866 acres)	The action alternatives contain specific restoration objectives for non-forested ERUs in which prairie dogs are found, thus improving habitat which will secondarily benefit the owl. There is also specific direction for closures should recreational shooting become an issue for the owl. With its emphasis to encourage human uses, Alt 3 may not be as beneficial to the owl since it may increase the likelihood of shooting. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the burrowing owl. The proposed action and alternatives maintain or improve the habitat and address the primary threats to burrowing owls, including recreational shooting and maintaining prairie dog populations for use of their burrows.
Gray vireo (<i>Vireo vicinior</i>)	Habitat includes juniper grasslands with shrub component. May be impacted by departed habitat conditions. Recent breeding bird surveys show an increasing trend in Gray Vireo populations and surveys suggest they do not appear to be at risk in the forest. (Potential available habitat in the Santa Fe NF: 199,386 acres. Current amount of habitat in reference condition: 117,638 acres)	The no-action alternative allows for improvements to seral state condition which would provide the greatest benefit for improving habitat for the vireo. (Annual amount of habitat improvement: 2,076 acres)	The action alternatives contain specific restoration objectives for non-forested ERUs in which Gray Vireos are found. Although the vireos are not at-risk in the forest, the habitat which they rely on should not trend away from desired conditions. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the gray vireo. The proposed action and alternatives maintain or improve the juniper grasslands that as necessary for the vireo's persistence.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Northern goshawk (<i>Accipiter gentilis</i>)	Habitat includes most mature forested habitats except piñon-juniper. Goshawks are mostly impacted by departed habitat conditions and are highly dependent upon specific structural features required for nesting sites. Large uncharacteristic fires may also impact the birds. (Potential available habitat in the Santa Fe NF: 26,858 acres. Current amount of habitat in reference condition: 3,760 acres)	The no-action alternative provides direction through an amendment for the protection and development of structural components required for goshawks nesting territories. (Annual amount of habitat improvement: 11,361 acres)	The action alternatives not only carry forward the structural guidance for nesting territories but also provide specific restoration objectives for forested ERUs utilized by the goshawk for foraging. There is also guidance to reduce the likelihood of uncharacteristic fires. (Annual amount of habitat improvement: Alt 2: 42,750 acres, Alt 3: 106,700 acres, Alt 4: 32,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the northern goshawk. The proposed action and alternatives maintain or improve structural components required by goshawks for nesting and improve habitat conditions for foraging this will increase the viability of goshawks in the forest.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	Occurrences associated with large blocks of mature riparian cottonwood-willow woodlands and dense mesquite associations. Cuckoos are usually impacted by highly departed riparian conditions, especially if cottonwood stands are lacking. Due to the dependency of large blocks of cottonwood stands along riparian areas, cuckoos are not known to reside on the Santa Fe NF. (Potential available habitat in the Santa Fe NF: 2,248 acres. Current amount of habitat in reference condition: 877 acres)	The no-action alternative allows for improvements to riparian vegetative conditions which would provide the greatest benefit for improving habitat for the cuckoo. (Annual amount of habitat improvement: <50 acres)	The action alternatives provide specific restoration objectives within riparian areas. There is also guidance to follow the most recent Recovery plan for T&E species. Although the cuckoo is not known to use the Santa Fe NF, restored vegetative conditions may result in the bird expanding its range and using areas where desired conditions are obtained. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a loss of viability for the western yellow-billed cuckoo. The proposed action and alternatives maintain or improve the riparian habitat that is required by the cuckoo.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
White-tailed ptarmigan (<i>Lagopus leucurus</i>)	Habitat includes alpine areas and other high-elevation sites. Ptarmigan may be impacted by loss of herbaceous cover in alpine areas and are susceptible to disturbance from human activities. (Potential available habitat in the Santa Fe NF: 137,274 acres. Current amount of habitat in reference condition: 137,274 acres)	The no-action alternative allows for maintained or improved conditions within alpine-tundra habitats. Also, most of the direction within this alternative is to minimize human disturbance to high-profile game species. (Annual amount of habitat improvement: 0 acres)	The action alternatives contain specific desired conditions for the alpine and tundra habitats in which ptarmigan are found, however, alpine habitat is not departed, therefore, no restoration work is anticipated. Specific forestwide management direction for minimizing human disturbance to at-risk species is also addressed in the proposed action. (Annual amount of habitat improvement: Alt 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the white-tailed ptarmigan. The proposed action and alternatives maintain or improve the alpine habitats and address the two primary threats to ptarmigan, loss of herbaceous cover and human disturbance.

Mammals

Effects to sensitive mammal species are listed in Table P-3. The forest plan (alternative 2) is not expected to decrease population viability or cause a trend to Federal listing.

Table P-3. Sensitive species: Effects to mammals

Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Cinereus (masked) shrew (<i>Sorex cinereus cinereus</i>)	Habitat includes riparian areas in sub-alpine coniferous forest in Sangre de Cristo, Jemez, and San Juan Mountains unusually above 9,500 feet. Masked shrews are impacted by highly departed riparian habitats since they are dependent upon native herbaceous cover and clean free-flowing water. May also be at-risk from large uncharacteristic fire, invasive species encroachment (plants), and human activities along riparian areas. (Potential available habitat in the Santa Fe NF: 268,533 acres. Current amount of habitat in reference condition: 104,728 acres)	The no-action alternative allows for improvements within riparian habitats. Although there is limited means to conduct restoration work with prescribed fire, fire suppression is emphasized under this alternative. Little guidance is provided regarding human disturbance except as it applies to game species. (Annual amount of habitat improvement: 1,730 acres, mostly SFF)	The action alternatives contain specific restoration objectives for riparian areas (riparian management zones) as well as for water, and recreation (human disturbance). With its emphasis to encourage human uses, Alt 3 may not be as beneficial since it may increase human disturbance in riparian areas. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the masked shrew. The proposed action and alternatives maintain or improve the riparian habitats and will also reduce the potential for uncharacteristic fire.
Preble's shrew (<i>Sorex preblei</i>)	Found near permanent or intermittent streams in arid to semi-arid shrub or grassland or lesser into conifer forest. May be impacted by departed conditions but not much is known regarding the status of this shrew in the forest (only two documented observations). (Potential available habitat in the Santa Fe NF: 76,940 acres. Current amount of habitat in reference condition: 30,007 acres)	The no-action alternative allows for improved conditions within riparian areas within grasslands or semi-arid shrubland. (Annual amount of habitat improvement: <50 acres)	The action alternatives contain specific restoration objectives in riparian areas as well as for other habitats in which they may be found. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Preble's shrew. Although there is not much information available about the current status of the shrew in the forest, the proposed action and alternatives maintain or improve the riparian habitats for the shrew.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
American water shrew (<i>Sorex palustris navigator</i>)	Habitat includes permanent streams, seldom below 8,000 feet. Water shrews are impacted by highly departed riparian habitats since they are dependent upon native herbaceous cover and clean free-flowing water. May also be at-risk from large uncharacteristic fire, invasive species encroachment (plants), and human activities along riparian areas. (Potential available habitat in the Santa Fe NF: 76,940 acres. Current amount of habitat in reference condition: 30,007 acres)	The no-action alternative allows for improvements within riparian habitats. Although there is limited means to conduct restoration work with prescribed fire, fire suppression is emphasized under this alternative. Little guidance is provided regarding human disturbance except as it applies to game species. (Annual amount of habitat improvement: <50 acres)	The action alternatives contain specific restoration objectives for riparian areas (riparian management zones) as well as for water, and recreation (human disturbance). With its emphasis to encourage human uses, Alt 4 may not be as beneficial since it may increase human disturbance in riparian areas. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the American water shrew. The proposed action and alternatives maintain or improve the riparian habitats and will also reduce unnecessary stressors caused by external influences (human disturbance). The increased restoration through the proposed actions will also improve upland characteristics and reduce the potential for uncharacteristic fire.
Spotted bat (<i>Euderma maculata</i>)	Habitat includes rock cliffs and vertical canyons. Human activities around roost sites may impact spotted bats. A large stand-replacing fire in its SFF and MCW feeding grounds could also impact the bats. (Potential available habitat in the Santa Fe NF: 73,448 acres. Current amount of habitat in reference condition: 35,255 acres)	Most of the direction within the no-action alternative is to minimize human disturbance to high-profile game species. There is also little to no direction for addressing other ecological or human-made features that may impact the bat or specific desired conditions for SFF and MCW. (Annual amount of habitat improvement: 1,680 acres)	Specific forestwide management direction for minimizing human disturbance to at-risk species is addressed in the proposed action, with cliff disturbance being specifically addressed. There are also plan specific desired conditions for the habitats in which the bats are found. (Annual amount of habitat improvement: Alt 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the spotted bat. The proposed action and alternatives maintain or improve the habitats and address the cliff disturbance to spotted bats.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Pale Townsend's big-eared bat (<i>Corynorhinus townsendii pallescens</i>)	Habitat includes caves, mines or abandoned buildings. No recorded observations in the forest but bat may be impacted by activities around known roost sites. Dependent upon the availability of inactive or abandoned mines. (Potential available habitat in the Santa Fe NF: 302,622 acres. Current amount of habitat in reference condition: 145,259 acres)	Most of the direction within the no-action alternative is to minimize human disturbance to high-profile game species. There is also little to no direction for addressing other ecological or human-made features that may impact the bat (ex. abandoned mines). (Annual amount of habitat improvement: 1,680 acres)	Specific forestwide management direction for minimizing human disturbance to at-risk species is addressed in the proposed action, with cliff disturbance being specifically addressed. There are also plan components that attempt to consider human-made features that impact at-risk species. (Annual amount of habitat improvement: Alt 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Pale Townsend's big-eared bat. The proposed action and alternatives maintain or improve the habitats and address the cave disturbance to the bats.
American marten (<i>Martes americana origenes</i>)	Habitat includes high-elevation spruce-fir forests. Dependent upon availability of coarse woody debris which serves as an important area for foraging and denning. May be impacted by stand-replacing fire in the SFF habitats. (Potential available habitat in the Santa Fe NF: 269,093 acres. Current amount of habitat in reference condition: 113,019 acres)	The no-action alternative allows for restoration in the forested ERUs, however, SFF are not highly departed. (Annual amount of habitat improvement: 1,730 acres, mostly SFF)	The action alternatives provide numerous restoration objectives however, since SFF are not highly departed it is unlikely management actions will be directed in these ERUs. (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the American marten. The proposed action and alternatives maintain or improve the habitats and address the threats of coarse woody debris build-up and uncharacteristic fire.
Gunnison's prairie dog (<i>Cynomys gunnisoni</i>)	Habitat includes mountain meadows, valley floors, and plains. One of the primary issues impacting prairie dogs is their susceptibility to Sylvatic plague. When populations become disjunct or isolated due to poor habitat conditions, the disease could be devastating to those isolated populations. (Potential available habitat in the Santa Fe NF: 143,072 acres. Current amount of habitat in reference condition: 67,244 acres)	The no-action alternative allows for improved conditions within prairie dog habitats. However, there is no mention of ways to address recreational shooting and Sylvatic plague. (Annual amount of habitat improvement: 866 acres)	The action alternatives contain specific desired conditions for each ERU in which prairie dogs are found. There is also specific direction for addressing recreational shooting and disease issues which may impact at-risk species. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for Gunnison's prairie dog. The proposed action and alternatives maintain or improve the habitats and address issues associated with recreational shooting and Sylvatic plague.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
New Mexico meadow jumping mouse (<i>Zapus hudsonius luteus</i>)	Occurs in dense mid-elevation riparian long grass habitats. NM Meadow Jumping mice require healthy high-altitude riparian systems. May be impacted by encroaching invasive vegetation and degraded water conditions including disconnected floodplains. Can also be impacted by increased activities around waterways and the impacts from large-scale fires. (Potential available habitat in the Santa Fe NF: 28,884 acres. Current amount of habitat in reference condition: 11,265 acres)	The no-action alternative allows for improvements within riparian habitats. Although there is limited means to conduct restoration work with prescribed fire, fire suppression is emphasized under this alternative. Little guidance is provided regarding human disturbance except as it applies to game species. (Annual amount of habitat improvement: <50 acres)	The action alternatives contain specific desired conditions for riparian areas (riparian management zones) as well as for water, and recreation (human disturbance). There is also guidance to follow the most recent Recovery plan for T&E species. With its emphasis to encourage human uses, Alt 4 may not be as beneficial since it may increase human disturbance in riparian areas. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a loss of viability for the New Mexico meadow jumping mouse. The proposed action and alternatives maintain or improve the riparian habitats and will also reduce unnecessary stressors caused by external influences (human disturbance). The increased restoration through the proposed actions will also improve upland characteristics and reduce the potential for uncharacteristic fire.
American pika (<i>Ochotona princeps saxatilis</i>)	Habitat includes talus slopes in Pecos Wilderness in Santa Fe NF and locations within and outside Pecos Wilderness on the Carson NF. Pikas do not tolerate warm temperatures and may be impacted by issues such as woody or invasive encroachment which alters their natural foraging habitat. (Potential available habitat in the Santa Fe NF: 86,432 acres. Current amount of habitat in reference condition: 86,432 acres)	The no-action alternative allows for maintained or improved conditions within alpine-tundra habitats. Also, most of the direction within this alternative is to minimize human disturbance to high-profile game species. (Annual amount of habitat improvement: 0 acres)	The action alternatives provide desired conditions for the alpine and tundra ERU and objectives that ensure invasive vegetation is eradicated or suppressed. Alternative 4 has the highest objectives for invasive plant control but alpine and tundra may not be the primary focus for control. (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the American pika. The proposed action and alternatives maintain or improve the alpine habitats and address the primary threat of invasive encroachment.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Goat Peak pika (<i>Ochotona princeps nigrescens</i>)	Habitat includes talus slopes in the Jemez Mountains around the Valles Caldera National Preserve and west side of Los Alamos County. Pikas do not tolerate warm temperatures and may be impacted by issues such as woody or invasive encroachment which alters their natural foraging habitat. (Potential available habitat in the Santa Fe NF: 7,396 acres. Current amount of habitat in reference condition: 7,396 acres)	The no-action alternative allows for maintained or improved conditions within alpine-tundra habitats. Also, most of the direction within this alternative is to minimize human disturbance to high-profile game species. (Annual amount of habitat improvement: 0 acres)	The action alternatives provide desired conditions for the alpine and tundra ERU and objectives that ensure invasive vegetation is eradicated or suppressed. Alt 4 has the highest objectives for invasive plant control but alpine and tundra may not be the primary focus for control. (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Goat Peak pika. The proposed action and alternatives maintain or improve the pika's habitats and address the primary threat of invasive encroachment.

Invertebrates

Effects to sensitive invertebrate species are listed in Table P-4. The forest plan (alternative 2) is not expected to decrease population viability or cause a trend to Federal listing.

Table P-4. Sensitive species: Effects to invertebrates

Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Reason for Determination
Ruidoso snaggletooth (<i>Gastrocopta ruidosensis</i>)	Found on bare soil, under stones, and in thin accumulations of grass thatch and juniper litter on mid-elevation carbonate cliffs and xeric limestone grasslands along the eastern slopes of the Sangre de Cristo and Sacramento mountains in eastern New Mexico, where the only extant occurrences are. May be impacted by ground-disturbing activities within areas that contain these specific soil qualities. (Potential available habitat in the Santa Fe NF: 2,255 acres. Current amount of habitat in reference condition: 1,240 acres)	The no-action alternative allows for improvements to the snaggletooth's habitat but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species. (Annual amount of habitat improvement: 866 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. There is also direction for identifying and avoiding small at-risk populations. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Ruidoso snaggletooth. The proposed action and alternatives maintain or improve the habitats and provide guidance for not only avoiding areas where the snaggletooth is found but also minimizing ground-disturbing activities which could have negative impacts on the invertebrates.
Lilljeborg peaclam (<i>Pisidium sanguinichristi</i>)	Found in only one high elevation lake in the Pecos Wilderness and is found in no other place in New Mexico. May be susceptible to a uncharacteristic fire as well as the chemical retardants if they get into the waterway. (Available habitat in the Santa Fe NF: <50 acres)	The no-action alternative allows for improvements to the peaclam's habitat and provides some guidance on the impact of chemical applications to the habitat of at-risk species (fire-section). (Annual amount of habitat improvement: 0 acres)	The action alternatives provide guidelines and objectives that not only ensure chemical applications are applied appropriately to minimize wildlife mortality but also actively seek to restore areas where excessive amounts were applied due to other resource needs (fire). (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Lilljeborg peaclam. The proposed action and alternatives maintain or improve the habitat and provides guidance for reducing the likelihood of contaminating the only waterbody in which they are found. The increased restoration efforts will also reduce the potential for uncharacteristic fire.

Fish

Effects to the sensitive fish species are listed in Table P-5. The forest plan (alternative 2) is not expected to decrease population viability or cause a trend to Federal listing.

Table P-5. Sensitive species: Effects to fish

Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Rio Grande sucker (<i>Catostomus plebius</i>)	Populations are found on the Santa Fe NF in mid to high elevation cold-water streams. Impacted by degraded water conditions that are usually caused by out-of-reference riparian (vegetative) conditions. Disconnected floodplains and increased human activities may also impact the fish. There may also be effects from predation by introduced nonnative aquatic species. (Potential available habitat in the Santa Fe NF: 329 stream miles. Current amount of habitat in reference condition: 230 acres)	The no-action alternative lacks objectives to restore riparian areas that have already been altered but it allows for improvements within riparian habitats. Nonnative fish introduction is actually encouraged for fishing opportunities. (Annual amount of habitat improvement: 0 stream miles)	The action alternatives contain specific desired conditions for riparian areas (riparian management zones) as well as for water, and recreation (human disturbance). With its emphasis to encourage human uses, Alt 4 may not be as beneficial since it may increase human disturbance in riparian areas and result in the spread of nonnative aquatics. (Annual amount of habitat improvement: Alt 2: 4.5 stream miles, Alt 3: 9 stream miles, Alt 4: 0 stream miles)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Rio Grande sucker. The proposed action and alternatives maintain or improve the riparian vegetation and water characteristics that is required by the sucker. They also reduce impacts caused by external influences (nonnative aquatics). The increased restoration through the proposed action will also improve upland characteristics and reduce the potential for uncharacteristic fire, which could impact fish habitats downstream.
Rio Grande chub (<i>Gila pandora</i>)	Populations are found on the Santa Fe NF in mid to high elevation cold-water streams. Impacted by degraded water conditions that are usually caused by out-of-reference riparian (vegetative) conditions. Disconnected floodplains and increased human activities may also impact the fish. There may also be effects from predation by introduced nonnative aquatic species. (Potential available habitat in the Santa Fe NF: 329 stream miles. Current amount of habitat in reference condition: 230 acres)	The no-action alternative lacks objectives to restore riparian areas that have already been altered but it allows for improvements within riparian habitats. Nonnative fish introduction is actually encouraged for fishing opportunities. (Annual amount of habitat improvement: 0 stream miles)	The action alternatives contain specific desired conditions for riparian areas (riparian management zones) as well as for water, and recreation (human disturbance). With its emphasis to encourage human uses, Alt 4 may not be as beneficial since it may increase human disturbance in riparian areas and result in the spread of nonnative aquatics. (Annual amount of habitat improvement: Alt 2: 4.5 stream miles, Alt 3: 9 stream miles, Alt 4: 0 stream miles)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Rio Grande chub. The proposed action and alternatives maintain or improve the riparian vegetation and water characteristics that is required by the chub. They also reduce impacts caused by external influences (nonnative aquatics). The increased restoration through the proposed action will also improve upland characteristics and reduce the potential for uncharacteristic fire, which could impact fish habitats downstream.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Rio Grande cutthroat trout (<i>Oncorhynchus clarkii virginalis</i>)	Populations are found on the Santa Fe NF in high-elevation cold-water streams. Impacted by degraded water conditions that are usually caused by out-of-reference riparian (vegetative) conditions. Disconnected floodplains and increased human activities may also impact the fish. There may also be effects from predation by introduced nonnative aquatic species. (Potential available habitat in the Santa Fe NF: 329 stream miles. Current amount of habitat in reference condition: 230 acres)	The no-action alternative lacks objectives to restore riparian areas that have already been altered but it allows for improvements within riparian habitats. Nonnative fish introduction is actually encouraged for fishing opportunities. (Annual amount of habitat improvement: 0 stream miles)	The action alternatives contain specific desired conditions for riparian areas (riparian management zones) as well as for water, and recreation (human disturbance). With its emphasis to encourage human uses, Alt 4 may not be as beneficial since it may increase human disturbance in riparian areas and result in the spread of nonnative invasive aquatic species. (Annual amount of habitat improvement: Alt 2: 4.5 stream miles, Alt 3: 9 stream miles, Alt 4: 0 stream miles)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Rio Grande cutthroat trout. The proposed action and alternatives maintain or improve the riparian vegetation and water characteristics that is required by the cutthroat trout. They also reduce impacts caused by external influences (nonnative aquatics). The increased restoration through the proposed action will also improve upland characteristics and reduce the potential for uncharacteristic fire which could impact fish habitats downstream.

Plants

Effects to the sensitive plant species are listed in Table P-6. The forest plan (alternative 2) is not expected to decrease population viability or cause a trend to Federal listing.

Table P-6. Sensitive species: Effects to plants

Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Tufted sand verbena (<i>Abronia bigelovii</i>)	Generally scattered along outcroppings of gypsum or strongly gypseous soils. Only documented in a few locations in the forest. May be impacted by ground-disturbing activities within areas that contain these specific soil qualities. May also be impacted by large-scale fire which can wipe-out isolated pockets of these plants. (Potential available habitat in the Santa Fe NF: 9,566 acres. Current amount of habitat in reference condition: 5,452 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species. Although there is limited means to conduct restoration work with prescribed fire, fire suppression is emphasized under this alternative. (Annual amount of habitat improvement: 866 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. There is also direction for identifying and avoiding small at-risk populations and reducing the risk of uncharacteristic fire. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the tufted sand verbena. The proposed action and alternatives maintain or improve the habitats for the verbena and provides guidance for avoiding areas where the verbena is found and minimizes ground-disturbing activities which could have negative impacts on the plants.
Greene's milkweed (<i>Asclepasis uncialis</i>)	Occurs in low numbers where it is found. It has been reported from only one location in the southeast local zone. Affected by out-of-reference conditions including encroachment from invasive vegetation. Also impacted by ground-disturbing activities. (Potential available habitat in the Santa Fe NF: 32,381 acres. Current amount of habitat in reference condition: 20,076 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species and little guidance for avoiding or minimizing impact to isolated populations. There is also little to no direction for controlling nonnative invasive vegetation. (Annual amount of habitat improvement: 2,076 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. They also have numerous objectives for preventing or reducing invasive plant encroachment. Alt 4 has the highest objectives for invasive plant control. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Greene's milkweed. The proposed action and alternatives maintain or improve the habitats for the milkweed and provides guidance for reducing ground and soil disturbance. It also allows for invasive vegetation control which would benefit the milkweed in areas in which it is found.

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Chaco milkvetch (<i>Astragalus micromerius</i>)	Found in outcroppings of sandstone that are blended with Todilto gypsum or limestone. Range is actually quite limited because of its spotty distribution across the landscape. May be impacted by ground-disturbing activities within areas that contain these specific soil qualities. (Potential available habitat in the Santa Fe NF: 107,691 acres. Current amount of habitat in reference condition: 63,538 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species. There is also minimal direction to protect or improve soil conditions required by the milkvetch. (Annual amount of habitat improvement: 2,076 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. There is also direction for identifying and avoiding small at-risk populations. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Chaco milkvetch. The proposed action and alternatives maintain or improve the habitats for the milkvetch and provides guidance for minimizing ground-disturbing activities, which could have negative impacts on the plants.
Pecos mariposa lily (<i>Calochortus gunnisonii</i>)	Occupies meadows and aspen glades in upper montane coniferous forest (MSG); 2,900 to 3,400 meters (9,500 to 11,200 feet). May be impacted by ground-disturbing activities within areas that contain these specific soil qualities. May also be impacted by large-scale fire which can wipe-out isolated pockets of these plants. (Potential available habitat in the Santa Fe NF: 51,987 acres. Current amount of habitat in reference condition: 20,795 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species. Although there is limited means to conduct restoration work with prescribed fire, fire suppression is emphasized under this alternative. (Annual amount of habitat improvement: 866 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. There is also direction for identifying and avoiding small at-risk populations and reducing the risk of uncharacteristic fire. (Annual amount of habitat improvement: Alt 2: 7,200 acres, Alt 3: 12,765 acres, Alt 4: 9,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Pecos mariposa lily. The proposed action and alternatives maintain or improve the habitats for the lily and provides guidance for minimizing ground-disturbing activities which could have negative impacts on the plants. They will also improve upland characteristics and reduce the potential for uncharacteristic fire.

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Yellow lady's slipper (<i>Cypripedium parviflorum</i>)	Only known from eight locations on the Santa Fe NF within the Spruce Fir Forest. Affected by out-of-reference conditions including encroachment from invasive vegetation. Impacted by ground-disturbing activities and susceptible to picking by people for its large showy yellow flower. (Potential available habitat in the Santa Fe NF: 73,448 acres. Current amount of habitat in reference condition: 32,255 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species and little guidance for avoiding or minimizing impact to isolated populations. There is also little to no direction for controlling nonnative invasive vegetation and addressing threats from human disturbance. (Annual amount of habitat improvement: 1,680 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. They also have numerous objectives for preventing or reducing invasive plant encroachment. Alt 4 has the highest objectives for invasive plant control but may also increase the threat from human disturbance. (Annual amount of habitat improvement: Alt 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the yellow lady's-slipper. The proposed action and alternatives maintain or improve the habitats for the lady's-slipper and provides guidance for minimizing ground-disturbing activities. It also allows for invasive vegetation control which would benefit the lady's slipper in areas in which it is found. The threat of people picking the flower should also be minimized.
Robust larkspur (<i>Delphinium robustum</i>)	Found in canyon bottoms and aspen groves in lower and upper montane coniferous forest; 2,200-3,400 m (7,200-11,200 ft). No known populations in the forest. Some species of Delphinium are poisonous to cattle, so the genus as a whole is sometimes targeted for poisonous weed control. (Potential available habitat in the Santa Fe NF: 103,163 acres. Current amount of habitat in reference condition: 51,582 acres)	The no-action alternative allows restoration efforts but there is minimal to no guidance on the impact of chemical applications to at-risk species. (Annual amount of habitat improvement: 1,680 acres)	The action alternatives provide guidelines and objectives that ensure chemical applications are applied appropriately so as to minimize exposure by wildlife. (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the robust larkspur. The proposed action and alternatives maintain or improve the habitats for the larkspur and reduces the threat of chemical applications.

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Species	Habitat and Primary Threats and Issues	Alternative 1 1987 Forest Plan	Alternatives 2, 3, and 4 (Action Alternatives)	Effects Determination
Heil's alpine whitlowgrass (<i>Draba heilii</i>)	Found in high alpine meadows above timberline, only one known location in the forest. May be impacted by ground disturbance and other intrusive human activities. (Potential available habitat in the Santa Fe NF: 20,795 acres. Current amount of habitat in reference condition: 20,795 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species and little guidance for avoiding or minimizing impact to isolated populations. There is also little to no direction for addressing threats from human disturbance. (Annual amount of habitat improvement: 0 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. Alternative 4 may also increase the threat from human disturbance. (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Heil's alpine whitlowgrass. The proposed action and alternatives maintain or improve the habitats for the whitlowgrass and provides guidance for reducing ground and soil disturbance. It also minimizes the amount of human disturbance.
Pecos fleabane (<i>Erigeron subglaber</i>)	Known to be very narrowly endemic and subject to high risk of climate change in spruce fir habitats. Departed habitat conditions including invasive encroachment as well as ground-disturbing activities may impact this species. (Potential available habitat in the Santa Fe NF: 5,493 acres. Current amount of habitat in reference condition: 2,527 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species and little guidance for avoiding or minimizing impact to isolated populations. There is also minimal for controlling nonnative invasive vegetation. (Annual amount of habitat improvement: 1,680 acres)	The action alternatives provide standards and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. They also have numerous objectives for preventing or reducing invasive plant encroachment. Alternative 4 has the highest objectives for invasive plant control. (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Pecos fleabane. The proposed action and alternatives maintain or improve the habitats for the fleabane and provides guidance for reducing ground and soil disturbance. It also allows for invasive vegetation control, which would benefit the fleabane in areas in which it is found.

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Wood lily (<i>Lilium philadelphicum</i>)	Associated with the ponderosa pine but has never been found in abundance. Departed habitat conditions and large-scale fire could impact the lily. (Potential available habitat in the Santa Fe NF: 62,594 acres. Current amount of habitat in reference condition: 2,527 acres)	The no-action alternative allows restoration efforts but there is little guidance for desired conditions within PPF. Although there is limited means to conduct restoration work with prescribed fire, fire suppression is emphasized under this alternative. (Annual amount of habitat improvement: 7,065 acres)	The action alternatives contain specific desired conditions for PPF and has multiple objectives for restoration work. These objectives seek to improve vegetative conditions and may reduce the risk of uncharacteristic fire. (Annual amount of habitat improvement: Alt 2: 25,750 acres, Alt 3: 59,700 acres, Alt 4: 17,800 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the wood lily. The proposed action and alternatives maintain or improve the habitats for the lily and addresses the two primary threats to the Wood Lily, departed seral state conditions and uncharacteristic fire.
Chama Blazing Star (<i>Mentzelia conspicua</i>)	Found on the key ecosystem characteristic of gray to red shales of Mancos and Chinle soil formations in the piñon-juniper woodland. May be impacted by ground-disturbing activities within areas that contain these specific soil qualities. May also be impacted by invasive encroachment. (Potential available habitat in the Santa Fe NF: 3,195 acres. Current amount of habitat in reference condition: 2,268 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species and little guidance for avoiding or minimizing impact to isolated populations. There is also minimal direction for controlling nonnative invasive vegetation. (Annual amount of habitat improvement: 1,210 acres)	The action alternatives provide desired conditions, standards, and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. They also have numerous objectives for preventing or reducing invasive plant encroachment. Alternative 4 has the highest objectives for invasive plant control. (Annual amount of habitat improvement: Alt 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Chama blazing star. The proposed action and alternatives maintain or improve the habitats for the blazing star and provides guidance for reducing ground and soil disturbance. It also allows for invasive vegetation control which would benefit the blazing star in areas in which it is found.

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Springer's blazing star (<i>Mentzelia springeri</i>)	Occurs only in the Jemez Mountains on pumice deposits. May be impacted by departed habitat conditions and ground-disturbing activities within areas that contain these specific soil qualities. May also be impacted by invasive encroachment. (Potential available habitat in the Santa Fe NF: 15,927 acres. Current amount of habitat in reference condition: 11,308 acres)	The no-action alternative allows restoration efforts but there is little guidance for addressing the impacts of ground and soil disturbance on at-risk species and little guidance for avoiding or minimizing impact to isolated populations. There is also minimal direction for controlling nonnative invasive vegetation. (Annual amount of habitat improvement: 1,210 acres)	The action alternatives provide desired conditions, standards, and guidelines in multiple resource areas that reduces the footprint of ground-disturbing activities. They also have numerous objectives for preventing or reducing invasive plant encroachment. Alternative 4 has the highest objectives for invasive plant control. (Annual amount of habitat improvement: Alts. 2, 3, and 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Springer's blazing star. The proposed action and alternatives maintain or improve the habitats for the blazing star and provides guidance for reducing ground and soil disturbance. It also allows for invasive vegetation control, which would benefit the blazing star in areas in which it is found.
Arizona willow (<i>Salix arizonica</i>)	Found only in very high elevation areas in wet open meadows and stream banks in the San Pedro Parks and Pecos Wilderness. May be impacted by departed habitat conditions, encroaching invasive vegetation, and degraded water conditions including disconnected floodplains. Can also be impacted by large-scale fires. (Potential available habitat in the Santa Fe NF: 14,119 acres. Current amount of habitat in reference condition: 5,930 acres)	The no-action alternative allows restoration efforts, but it lacks direction to prevent floodplains from being disconnected and does not have any objectives to restore areas that have already been altered. (Annual amount of habitat improvement: 1,730 acres, mostly SFF)	The action alternatives contain specific desired conditions for riparian areas (riparian management zones) as well as for water. With its emphasis to encourage human uses, Alternative 4 may not be as beneficial since it may increase human disturbance in riparian areas. (Annual amount of habitat improvement: Alt 2: 109 acres, Alt 3: 218 acres, Alt 4: 0 acres)	The proposed action and alternatives may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the Arizona willow. The proposed action and alternatives maintain or improve the habitats for the willow and provides guidance on restoring the riparian vegetation and water characteristics. The increased restoration through the proposed action will also improve upland characteristics and reduce the potential for uncharacteristic fire which could impact riparian areas downgrade.