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Final Environmental Impact Statement for the Land Management Plan

Carson National Forest

Volume 3: Appendices B through K

Rio Arriba, Taos, Mora, and Colfax Counties, New Mexico



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Commonly Used Acronyms

BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CFR	code of federal regulations
DEIS	draft environmental impact statement
DBH	diameter at breast height
EIS	environmental impact statement
FS	Forest Service
FSH	Forest Service handbook
FSM	Forest Service manual
GIS	geographic information system
MMBF	million board feet
MMCF	million cubic feet
NEPA	National Environmental Policy Act
NF	national forest
NFS	National Forest System
NHPA	National Historic Preservation Act
NM	New Mexico
NMDGF	New Mexico Department of Game and Fish
USDA	U.S. Department of Agriculture
USDI	U.S. Department of Interior
USFWS	U.S. Fish and Wildlife Service

Plan Codes

Plan components are represented using their alphanumeric identifiers (plan codes) as brief way to reference the plan. The plan codes are made up of 4 parts:

- The level of direction: FW (forestwide), DA (designated area), or MA (management area);
- The resource (e.g., VEG for All Vegetation or WFP for Wildlife, Fish, and Plants);
- The type of direction (DC = desired condition, O = objective, S = standard, and G = guideline); and
- A unique number (i.e., numerical order starting with 1). Abbreviations used for plan codes

Code	Resource or Term	Code	Resource or Term
AIR	Air Resources	NTRL	National Scenic, Historic, and Recreational Trails
ALP	Alpine and Tundra	O	Objective
ASP	Aspen	PART	Partnerships
BOT	Botanical Areas	PJO	Piñon-Juniper Woodland
BP	Bristlecone Pine	PJS	Piñon-Juniper Sagebrush
CAM	Caves and Abandoned Mines	PPF	Ponderosa Pine Forest
CDNST	Continental Divide National Scenic Trail	REC	Recreation
CR	Cultural Resources	RHC	Rural Historic Communities
CRF	Cliffs and Rocky Features	RMZ	Riparian Management Zones
DA	Designated Areas	RWMA	Recommended Wilderness Management Area
DC	Desired Condition	S	Standard
DEVRES	Developed Winter and Summer Resorts	SAGE	Sagebrush
EWSR	Eligible Wild and Scenic Rivers	SAMA	San Antonio Management Area
FAC	Facilities Infrastructure	SCEN	Scenery
FFP	Forestry and Forest Products	SFF	Spruce-Fir Forest
FIRE	Wildland Fire Management	SL	Soil Resources
FRT	Federally Recognized Tribes	SNS	Springs and Seeps
FSR	Forest and Shrub Riparian	STM	Streams
FW	Forestwide	SU	Special Uses
G	Guideline	TFA	Transportation and Forest Access
GMMA	Grassland Maintenance Management Area	VEG	Vegetation
GRZ	Livestock Grazing	VFSYU	Vallecitos Federal Sustained Yield Unit
IRA	Inventoried Roadless Area	VVMA	Valle Vidal Management Area
JICMA	Jicarilla Natural Gas Management Area	WB	Waterbodies
LAND	Lands	WFP	Wildlife, Fish, and Plants
MA	Management Area	WHT	Wild Horse Territories
MCD	Mixed Conifer, with Frequent Fire	WILD	Existing Wilderness
MCW	Mixed Conifer, with Aspen	WR	Wetland Riparian
MM	Minerals and Mining	WSW	Watersheds and Water
MSG	Montane Subalpine Grassland	WSR	Existing Wild and Scenic Rivers
NIS	Nonnative Invasive Species	ZOO	Zoological Areas
NSBW	National Scenic Byway		

The final environmental impact statement includes responses to comments received on the draft environmental impact statement as Volume 2: **Appendix A – Response to Comments**.

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Appendix B – Description of Alternatives

This appendix describes each alternative and the specific changes to plan content that reflect the theme of that alternative. The draft land management plan (hereinafter referred to as “the draft plan”) is described in alternative 2. Alternatives 3, 4, and 5 are the same as alternative 2, except as noted in this section. Only those plan components and other plan content (e.g., management area descriptions) that differ among alternatives are listed in this appendix. If a component or other content from the draft plan is not shown below, it means it is consistent across all plan alternatives.

Description of Alternatives

Alternative 1 (Current 1986 Plan)

The regulations for implementing the National Environmental Policy Act (NEPA) require the alternatives analysis in an environmental impact statement to “include the alternative of no action” (40 CFR 1502.14(d)). There are two distinct interpretations of “no action” that must be considered, depending on the nature of the proposal being evaluated. In the situation that involves an action such as revising a land management plan, the “no action” is “no change” from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the “no-action” alternative may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, projected impacts of alternative management schemes are compared in the environmental impact statement to those impacts projected for the Carson National Forest’s existing plan. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development.

Alternative 1 is the Carson National Forest’s current plan (1986), which is over 30 years old. It emphasizes producing timber products; managing quality habitat for Mexican spotted owl and northern goshawk and its prey; providing recreation opportunities to meet demand; and range management. The current plan has no articulated desired conditions for wetlands, seeps and springs, and various riparian ecosystems. It does not recognize the traditional communities and uses that occur on the Carson National Forest or reflect changes in economic, social, and ecological conditions, new policies and priorities, and new information based on monitoring and scientific research. Since this alternative reflects no change in current management, no additional wilderness is recommended. This alternative provides a baseline for estimating the effects of the other alternatives.

Alternative 2 (Draft Plan)

Alternative 2 is the draft plan and was developed to respond to key issues identified during the assessment and public comment period. This alternative provides for restoration and diverse ecosystem services.¹ Alternative 2 addresses the need to better recognize and enhance the Carson National Forest’s role in contributing to local economies, including service-based sectors such as recreation and tourism, timber and forest products, livestock grazing, and other multiple-use related activities and products. Alternative 2 also includes plan direction that allows for adaptive management, in order to address resource areas at risk of not providing ecosystem services in the future. These include:

¹ Ecosystem services are benefits people obtain from ecosystems, including: provisioning services (e.g., clean air, fresh water, energy, food, fuel, forage, wood products or fiber, and minerals); regulating services (e.g., long-term storage of carbon, climate regulation, water filtration, purification, and storage; soil stabilization, flood and drought control, and disease regulation); supporting services (e.g., pollination, seed dispersal, soil formation, and nutrient cycling); and cultural services (e.g., educational, aesthetic, spiritual, and cultural heritage values, recreational experiences, and tourism opportunities).

- Forested fire dependent ecosystems are departed and prone to uncharacteristic stand replacing fire.
- Grassland communities and herbaceous understories are less productive than they were historically.
- Surface water is at risk across much of the forest, due to temperature, turbidity, and degraded riparian and aquatic condition and function.
- The ability of the Carson National Forest to remain relevant and responsive to changing recreation user demands is at risk of being unsustainable.
- The ability of the Carson National Forest to continue contributing to the social and economic benefits desired by local communities and the visiting public is at risk of being unsustainable.

Alternative 2 proposes roughly 9,189 acres of recommended wilderness.

Alternative 3

Alternative 3 was developed to respond to requests for more motorized recreation opportunities, enhanced mountain bike trails, and increased opportunity for fuelwood and timber production for local economic development. This alternative also addresses public comments from those who do not want any additional wilderness on the Carson National Forest.

Alternative 3 emphasizes mechanical treatments for restoration. This alternative deemphasizes road decommissioning and looks for opportunities to convert nonsystem routes to off-highway vehicle and/or mountain bike trails. This alternative does not propose any recommended wilderness areas, to maximize the areas suitable for timber production and to respond to requests for no new wilderness. Neither Valle Vidal nor the San Antonio management areas are included in this alternative. Alternative 3 adds the off-highway vehicle management area to provide off-highway vehicle use in a rugged terrain on the Camino Real Ranger District. Developed winter and summer resort management area is enlarged by 921 acres to allow for possible future expansion of the Sipapu Ski Area. Any such expansion would be analyzed under a separate decision, and subject to all relevant laws and other plan direction.

Alternative 4

Alternative 4 was developed to respond to requests to do less restoration through mechanical means and instead use natural processes as a management tool. This alternative also addresses public comments from those who want greater protections for water resources (specifically key wetlands), wildlife movement (specifically big game migration routes), and areas supporting Rio Grande cutthroat trout, and less motorized use. This alternative also addresses public comments from those who want more wilderness on the Carson National Forest.

Alternative 4 emphasizes the use of fire for restoration and decreases the use of mechanical treatments as a restoration tool. This alternative stresses road decommissioning and obliteration of Forest Service system and non-system roads, as well as temporary roads. To respond to requests for more wilderness and primitive non-motorized areas on the forest, alternative 4 proposes roughly 48,897 acres of recommended wilderness. This would reduce areas suitable for timber production and motorized and mechanized use. Overall, alternative 4 would decrease motorized use, both winter over-snow and motor vehicle use. Like alternative 2, Valle Vidal is identified as a management area (VVMA) in this alternative, but with added protections, including no timber harvesting. This alternative would also expand the San Antonio Management Area (SAMA) proposed in alternative 2, to include Cebolla Mesa on the east side of the Rio Grande Gorge. San Antonio Management Area includes objectives for wildlife connectivity, standards for seasonal road closures, and restrictions in the management of vegetation. Alternative 4 adds the Wetland Jewels management area (WJMA), to recognize 10 areas on the forest that are significant wetlands and need added protections. Wetland Jewels management area includes objectives that prioritize work around wetlands and prohibits new roads, military ground operations, new utility infrastructure, or the

establishment of new mineral rights. The Rio Grande Cutthroat Trout Management Area (RGCTMA) is added under this alternative to identify areas on the Carson National Forest where restoration of Rio Grande cutthroat trout habitat should be emphasized.

Alternative 5

Alternative 5 was developed to respond to requests that all of the areas evaluated to have wilderness characteristics on the Carson National Forest need to be recommended for wilderness.

Alternative 5 emphasizes wilderness opportunities of solitude, apparent naturalness, and non-motorized or mechanized recreation in a primitive setting. Since not all of the evaluated areas fit into the other alternative themes, this alternative responds to the request that at least one alternative analyze 100 percent of the areas with wilderness characteristics. Alternative 5 also includes all of the forestwide plan components, designated areas, and management areas identified in alternative 2, but proposes as recommended wilderness all 13 areas (67,996 acres) identified as having wilderness characteristics.

Differences Among the Revised Plan Alternatives

This section lists only those plan components in alternatives 3, 4 and 5 that would differ from alternative 2, the revised plan.

Forestwide Plan Components

Ecological Sustainability and Diversity of Plant and Animal Communities

Mixed Conifer with Frequent Fire (VEG-MCD)

Mixed Conifer with Frequent Fire Objectives (FW-VEG-MCD-O)

Objective 1

Alternative 2: Mechanically treat at least 5,500–10,000 acres, during each 10-year period following plan approval.

Alternative 3: Mechanically treat at least 15,000–30,000 acres, during each 10-year period following plan approval.

Alternative 4: [Objective is removed]

Alternative 5: [Objective is the same as alternative 2]

Objective 2

Alternative 2: During each 10-year period following plan approval, treat at least 20,000–40,000 acres using a combination of prescribed fire and naturally ignited wildfire to make progress toward or to maintain desired conditions.

Alternative 3: [Objective is the same as alternative 2]

Alternative 4: During each 10-year period following plan approval, treat at least 25,000–50,000 acres using a combination of prescribed fire and naturally ignited wildfire to make progress toward or to maintain desired conditions.

Alternative 5: [Objective is the same as alternative 2]

Ponderosa Pine Forest (VEG-PPF)

Ponderosa Pine Forest Objectives (FW-VEG-PPF-O)

Objective 1

Alternative 2: Mechanically treat at least 22,000–50,000 acres, during each 10-year period following plan approval.

Alternative 3: Mechanically treat at least 50,000–100,000 acres, during each 10-year period following plan approval.

Alternative 4: [Objective is removed]

Alternative 5: [Objective is the same as alternative 2]

Objective 2

Alternative 2: During the 10 years following plan approval, treat at least 80,000–125,000 acres using a combination of prescribed fire and naturally ignited wildfire to make progress toward or maintain desired conditions.

Alternative 3: [Objective is the same as alternative 2]

Alternative 4: During the 10 years following plan approval, treat at least 100,000–175,000 acres using a combination of prescribed fire and naturally ignited wildfire to make progress toward or maintain desired conditions.

Alternative 5: [Objective is the same as alternative 2]

Watersheds and Water (WSW)

Watersheds and Water Desired Conditions (FW-WSW-DC)

Desired Condition 4

Alternative 2: Aquatic habitats are connected and free from alterations (e.g., temperature regime changes, lack of adequate streamflow, and constructed barriers to aquatic organism passage) to allow for species migration, connectivity of fragmented populations, and genetic exchange. A constructed barrier to movement exists only to protect native aquatic species from nonnative aquatic species or for agricultural benefit (e.g., headgates).

Alternative 3: [Desired Condition is the same as alternative 2]

Alternative 4: Aquatic habitats are connected and free from alterations (e.g., temperature regime changes, lack of adequate streamflow, and constructed barriers to aquatic organism passage) to allow for species migration, connectivity of fragmented populations, and genetic exchange. A constructed barrier to movement exists only for agricultural benefit where water rights exist (e.g., headgates).

Alternative 5: [Desired Condition is the same as alternative 2]

Riparian Management Zones (WSW-RMZ)

Riparian Management Zone Objectives (FW-WSW-RMZ-O)

Objective 1

Alternative 2: Restore structure and function of at least 200–300 acres of nonfunctioning and functioning-at-risk riparian areas annually. Treatments align with priority watersheds.

Alternative 3: [Objective is the same as alternative 2]

Alternative 4: [Objective is moved to MA-WJMA-O in this alternative]

Alternative 5: [Objective is the same as alternative 2]

Streams (WSW-RMZ-STM)

Streams Desired Conditions (FW-WSW-RMZ-STM-DC)

Desired Condition 3

Alternative 2: Aquatic species are able to move throughout their historic habitat, including opportunities for seasonal and opportunistic movements. Barriers to movement only exist to protect native aquatic species from nonnative aquatic species or for agricultural benefit (e.g., headgates).

Alternative 3: [Desired condition is the same as alternative 2]

Alternative 4: Aquatic species are able to move throughout their historic habitat, including opportunities for seasonal and opportunistic movements.

Alternative 5: [Desired condition is the same as alternative 2]

Springs and Seeps Standards (FW-WSW-RMZ-SNS)

Springs and Seeps Standards (FW-WSW-RMZ-SNS-S)

Standard 2

Alternative 2: [No such standard]

Alternative 3: [No such standard]

Alternative 4: No new spring development shall be allowed.

Alternative 5: [No such standard]

Wildlife, Fish, and Plants (WFP)

Wildlife, Fish, and Plant Objectives (FW-WFP-O)

Objective 3

Alternative 2: Reduce nonnative fish within native fish populations in 4 to 6 stream reaches, during each 10-year period following plan approval.

Alternative 3: [Objective is the same as alternative 2]

Alternative 4: [Moved to MA-RGCTMA-O in this alternative]

Alternative 5: [Objective is the same as alternative 2]

Objective 4

Alternative 2: Improve wildlife or aquatic habitat connectivity by removing unneeded structures (e.g., fences, roads, cattleguards, culverts, and spring developments) or completing improvement projects (e.g., removing barriers and connecting fragmented habitat) in at least 10 to 20 locations, during each 10-year period following plan approval.

Alternative 3: [Objective is the same as alternative 2]

Alternative 4: [Moved to MA-SAMA-O in this alternative]

Alternative 5: [Objective is the same as alternative 2]

Objective 5

Alternative 2: Complete at least five projects to improve habitat connectivity for aquatic and riparian species (e.g., remove barriers, restore dewatered stream segments, connect fragmented habitat, wildlife passage friendly fences, etc.), during the 10 years following plan approval.

Alternative 3: [Objective is the same as alternative 2]

Alternative 4: [Moved to MA-SAMA-O in this alternative]

Alternative 5: [Objective is the same as alternative 2]

Social, Cultural, and Economic Sustainability and Multiple Use

Sustainable Rangelands and Livestock Grazing (GRZ)

Livestock Grazing Standards (FW-GRZ-S)

Standard 4

Alternative 2: Domestic sheep allotments shall be managed (e.g., fencing, increased herding, herding dogs, potential vaccine, or other scientifically supported strategies) to mitigate the potential transfer of disease from domestic sheep to bighorn sheep, wherever bighorn sheep occur.

Alternative 3: [Same as alternative 2]

Alternative 4: Domestic sheep grazing allotments shall not be authorized within bighorn sheep occupied habitat to mitigate the potential transfer of disease from domestic sheep to bighorn sheep.

Alternative 5: [Same as alternative 2]

Sustainable Forestry and Forest Products (FFP)

Timber Suitability – Alternative 2

Table 1. Timber production suitability classification for the Carson National Forest (alternative 2)

Land Classification Category	Area (acres)
A. Total National Forest System lands in the plan area	1,486,353
B. Lands not suitable for timber production due to legal or technical reasons	1,021,003
C. Lands that may be suitable for timber production (A–B)	465,350
D. Total lands suitable for timber production because timber production is compatible with the desired conditions and objectives established by the plan	455,844
E. Lands not suitable for timber production because timber production is not compatible with the desired conditions and objectives established by the plan (C–D)	9,506
F. Total lands not suitable for timber production (B+E)	1,030,509

Timber Suitability – Alternative 3

Table 2. Timber production suitability classification for the Carson National Forest (alternative 3)

Land Classification Category	Area (acres)
A. Total National Forest System lands in the plan area	1,486,353
B. Lands not suitable for timber production due to legal or technical reasons	1,021,003
C. Lands that may be suitable for timber production (A–B)	465,350
D. Total lands suitable for timber production because timber production is compatible with the desired conditions and objectives established by the plan	458,724
E. Lands not suitable for timber production because timber production is not compatible with the desired conditions and objectives established by the plan (C–D)	6,626
F. Total lands not suitable for timber production (B+E)	1,027,629

Timber Suitability – Alternative 4

Table 3. Timber production suitability classification for the Carson National Forest (alternative 4)

Land Classification Category	Area (acres)
A. Total National Forest System lands in the plan area	1,486,353
B. Lands not suitable for timber production due to legal or technical reasons	1,021,003
C. Lands that may be suitable for timber production (A–B)	465,350
D. Total lands suitable for timber production because timber production is compatible with the desired conditions and objectives established by the plan	351,970
E. Lands not suitable for timber production because timber production is not compatible with the desired conditions and objectives established by the plan (C–D)	113,380
F. Total lands not suitable for timber production (B+E)	1,134,383

Timber Suitability – Alternative 5

Table 4. Timber production suitability classification for the Carson National Forest (alternative 5)

Land Classification Category	Area (acres)
A. Total National Forest System lands in the plan area	1,486,353
B. Lands not suitable for timber production due to legal or technical reasons	1,021,003
C. Lands that may be suitable for timber production (A–B)	465,350
D. Total lands suitable for timber production because timber production is compatible with the desired conditions and objectives established by the plan	440,550
E. Lands not suitable for timber production because timber production is not compatible with the desired conditions and objectives established by the plan (C–D)	24,800
F. Total lands not suitable for timber production (B+E)	1,045,803

Projected Harvest Levels – Alternative 2

Table 5. Projected timber and wood product harvest levels on lands suitable and not suitable for timber production in alternative 2

Timber And Wood Product Harvest Category	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands Suitable for Timber Production ¹ A1. Sawtimber (industrial softwoods, 9 inches or more)	12.9	60.3	192,729	13.3	64.6	196,476
Lands Suitable for Timber Production ¹ A2. Other Products (industrial softwood, 5–9 inches roundwood, commonly pulpwood, mostly in the form of fuelwood)	2.4	NA	102,519	2.1	NA	82,378
Lands Not Suitable for Timber Production ¹ B1. Sawtimber (9 inches+)	20.8	98.1	311,883	22.9	113.2	33,8618
Lands Not Suitable for Timber Production ¹ B2. Other Products (5–9 inches)	4.1	NA	13,6559	3.6	NA	11,2010
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	40.1	158.5	743,689	41.9	177.8	729,482
Other Estimated Wood Products ² D1. Non-industrial softwood fuelwood (5 inches+)	5.9	1.6	6.5	1.8	5.9	1.6
Other Estimated Wood Products ² D2. Hardwood fuelwood (5 inches+)	1.1	0.4	1.0	0.4	1.1	0.4
Other Estimated Wood Products ² D3. Aspen (5 inches+)	0.7	0.2	0.6	0.1	0.7	0.2
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	47.8	743,692	50.0	729,484	47.8	743,692

1. Volumes other than salvage or sanitation that meet timber product utilization standards

2. Fuelwood, biomass, and other volumes that do not meet timber product utilization standards.

MMCF = million cubic feet; MMBF = million board feet; NA = not applicable.

Projected Harvest Levels – Alternative 3

Table 6. Projected timber and wood product harvest levels on lands suitable and not suitable for timber production in alternative 3

Timber And Wood Product Harvest Category	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands Suitable for Timber Production ¹ A1. Sawtimber (industrial softwoods, 9 inches or more)	36.4	170.7	544,950	24.2	115.6	358,854
Lands Suitable for Timber Production ¹ A2. Other Products (industrial softwood, 5–9 inches roundwood, commonly pulpwood, mostly in the form of fuelwood)	6.3	NA	162,194	3.8	NA	108,995
Lands Not Suitable for Timber Production ¹ B1. Sawtimber (9 inches+)	51.4	247.0	769,052	28.3	139.0	417,979
Lands Not Suitable for Timber Production ¹ B2. Other Products (5–9 inches)	9.2	NA	210,073	5.0	NA	132,262
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	103.4	417.7	1,686,271	61.2	254.7	1,018,092
Other Estimated Wood Products ² D1. Non-industrial softwood fuelwood (5 inches+)	7.7	NA	2.1	7.0	NA	1.9
Other Estimated Wood Products ² D2. Hardwood fuelwood (5 inches+)	3.4	NA	1.3	1.6	NA	0.6
Other Estimated Wood Products ² D3. Aspen (5 inches+)	3.0	NA	0.7	2.1	NA	0.5
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	117.6	NA	1,686,275	72.0	NA	1,018,095

1. Volumes other than salvage or sanitation that meet timber product utilization standards

2. Fuelwood, biomass, and other volumes that do not meet timber product utilization standards.

MMCF = million cubic feet; MMBF = million board feet; NA = not applicable.

Projected Harvest Levels – Alternative 4

Table 7. Projected timber and wood product harvest levels on lands suitable and not suitable for timber production in alternative 4

Timber And Wood Product Harvest Category	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands Suitable for Timber Production ¹ A1. Sawtimber (industrial softwoods, 9 inches or more)	1.6	7.2	24,545	1.8	8.4	26,412
Lands Suitable for Timber Production ¹ A2. Other Products (industrial softwood, 5–9 inches roundwood, commonly pulpwood, mostly in the form of fuelwood)	0.4	NA	57,155	0.3	NA	44,116
Lands Not Suitable for Timber Production ¹ B1. Sawtimber (9 inches+)	2.4	10.8	36,388	2.2	10.2	33,229
Lands Not Suitable for Timber Production ¹ B2. Other Products (5–9 inches)	0.8	NA	106,493	0.7	NA	83,230
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	5.2	18.0	224,582	5.0	18.5	186,988
Other Estimated Wood Products ² D1. Non-industrial softwood fuelwood (5 inches+)	1.8	NA	0.5	2.3	NA	0.6
Other Estimated Wood Products ² D2. Hardwood fuelwood (5 inches+)	0.3	NA	0.1	0.2	NA	0.1
Other Estimated Wood Products ² D3. Aspen (5 inches+)	0.4	NA	0.1	0.2	NA	0.1
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	7.6	NA	224,583	7.8	NA	186,989

1. Volumes other than salvage or sanitation that meet timber product utilization standards.

2. Fuelwood, biomass, and other volumes that do not meet timber product utilization standards.

MMCF = million cubic feet; MMBF = million board feet; NA = not applicable.

Projected Harvest Levels – Alternative 5

Table 8. Projected timber and wood product harvest levels on lands suitable and not suitable for timber production in alternative 5

Timber And Wood Product Harvest Category	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands Suitable for Timber Production ¹ A1. Sawtimber (industrial softwoods, 9 inches or more)	12.6	59.0	188,639	13.0	63.3	192,583
Lands Suitable for Timber Production ¹ A2. Other Products (industrial softwood, 5–9 inches roundwood, commonly pulpwood, mostly in the form of fuelwood)	2.3	NA	101,333	2.0	NA	81,401
Lands Not Suitable for Timber Production ¹ B1. Sawtimber (9 inches+)	21.1	99.4	315,972	23.2	114.5	342,510
Lands Not Suitable for Timber Production ¹ B2. Other Products (5–9 inches)	4.1	NA	137,744	3.7	NA	112,986
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	40.1	158.5	743,689	41.9	177.8	729,482
Other Estimated Wood Products ² D1. Non-industrial softwood fuelwood (5 inches+)	5.9	NA	1.6	6.5	NA	1.8
Other Estimated Wood Products ² D2. Hardwood fuelwood (5 inches+)	1.1	NA	0.4	1.0	NA	0.4
Other Estimated Wood Products ² D3. Aspen (5 inches+)	0.7	NA	0.2	0.6	NA	0.1
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	47.8	NA	743,692	50.0	NA	729,484

1. Volumes other than salvage or sanitation that meet timber product utilization standards.

2. Fuelwood, biomass, and other volumes that do not meet timber product utilization standards.

MMCF = million cubic feet; MMBF = million board feet; NA = not applicable.

Recreation (REC)

Recreation Objectives (FW-REC-O)

Objective 7

Alternative 2: [No such objective]

Alternative 3: Convert 25 percent of existing campsites in 5 developed campgrounds from single use sites (i.e., one family) to multiple use sites (e.g., group, RV, and horse riders) during the 10 years following plan approval.

Alternative 4: [No such objective]

Alternative 5: [No such objective]

Objective 8

Alternative 2: [No such objective]

Alternative 3: Redesign existing trails or construct new trails to create 1 trail system for mountain bikes, during the 5 years following plan approval.

Alternative 4: [No such objective]

Alternative 5: [No such objective]

Transportation and Forest Access (TFA)

Transportation and Forest Access Objectives (FW-TFA-O)

Objective 1

Alternative 2: Obliterate or naturalize at least 20 miles of unneeded roads within the 10-year period following plan approval.

Alternative 3: [Objective is removed]

Alternative 4: Obliterate or naturalize at least 40 miles of unneeded roads within the 10-year period following plan approval.

Alternative 5: [Same as alternative 2]

Objective 2

Alternative 2: Grade surfaces and clean culverts and ditches on at least 500 miles of open National Forest System roads annually.

Alternative 3: Grade surfaces and clean culverts and ditches on at least 650 miles of open National Forest System roads annually.

Alternative 4: [Same as alternative 2]

Alternative 5: [Same as alternative 2]

Objective 3

Alternative 2: Maintain at least 100–300 miles of trails (including motorized) annually.

Alternative 3: Maintain at least 200–400 miles of trails (including motorized) annually.

Alternative 4: [Same as alternative 2]

Alternative 5: [Same as alternative 2]

Transportation and Forest Access Management Standards (FW-TFA-S)

Standard 3

Alternative 2: 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.

Alternative 3: [Guideline modified and moved to FW-TFA-G in this alternative]

Alternative 4: Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects shall be obliterated or naturalized upon project completion, to protect watershed condition, minimize wildlife disturbance, and prevent illegal motorized use.

Alternative 5: [Same as alternative 2]

Standard 4

Alternative 2: [Standard moved to FW-TFA-G in this alternative]

Alternative 3: [Standard moved to FW-TFA-G in this alternative]

Alternative 4: Construction of new system roads shall be accompanied by a mitigating action (e.g., decommissioning) of other unneeded roads and trails to offset any resource damage resulting from construction.

Alternative 5: [Standard moved to FW-TFA-G in this alternative]

Transportation and Forest Access Management Guidelines (FW-TFA-G)

Guideline 2

Alternative 2: Construction of new system roads should be accompanied by a mitigating action (e.g., decommissioning) of other unneeded roads and trails to offset any resource damage resulting from their construction.

Alternative 3: [Removed from this alternative]

Alternative 4: [Guideline moved to FW-TFA-S in this alternative]

Alternative 5: [Same as alternative 2]

Guideline 11

Alternative 2: [Guideline modified and moved to FW-TFA-S in this alternative]

Alternative 3: Temporary roads that support ecosystem restoration activities, fuels management, or other short-term projects should be considered for conversion to system roads or motorized trails.

Alternative 4: [Guideline modified and moved to FW-TFA-S in this alternative]

Alternative 5: [Guideline modified and moved to FW-TFA-S in this alternative]

Scenery (SCEN)

Scenery Desired Conditions (FW-SCEN-DC)

Desired Condition 5

Alternative 2: The forest appears predominantly natural and human activities do not dominate the landscape.

Alternative 3: Areas of the forest appear natural where human activities do not dominate the landscape.

Alternative 4: [Same as alternative 2]

Alternative 5: [Same as alternative 2]

Wildland Fire Management (FIRE)

Wildland Fire Management Guidelines (FW-FIRE-G)

Guideline 1

Alternative 2: To restore fire on the landscape, naturally ignited fires (including those occurring in designated areas) should be managed to meet multiple resource objectives when fire weather conditions facilitate progress toward desired conditions (per Desired Conditions of various resources throughout the plan).

Alternative 3: To restore fire on the landscape, naturally ignited fires (including those occurring in designated areas) should be managed to meet multiple resource objectives when fire weather conditions facilitate progress toward desired conditions (per Desired Conditions of various resources throughout the plan), but should be suppressed in suitable timber or when they would impact trail access.

Alternative 4: [Same as alternative 2]

Alternative 5: [Same as alternative 2]

Plan Components for Designated Areas and Management Areas

Designated areas are mostly designated by statute, but some categories may be established administratively through the Federal executive branch. Plan components for a designated area may differ from forest-wide guidance and must provide for appropriate management of the designated area, based on the applicable authorities and the specific purposes for which the area was designated or recommended for designation.

Management areas are used to describe how plan components apply to specific parcels of National Forest System land. A management area represents a management emphasis for an area or several similar areas on the landscape.

Forest-wide plan components are applied, unless there is management direction for a designated area or management area. Where designated areas, management areas, and forest-wide plan components overlap, designated area plan direction supersedes management area direction, which supersedes forest-wide direction. Where overlapping direction is not incompatible all direction applies. For example, where designated wilderness overlaps a management area the wilderness area direction must be followed even if

it contradicts the management area direction. Where a developed resort management area overlaps forest-wide vegetation community direction the developed resort direction applies even if it contradicts the forest-wide direction. Where management areas overlap, plan direction for both must be followed.

Plan components for designated and management areas may differ from forest-wide guidance by:

1. Constraining an activity where forest-wide direction does not;
2. Constraining an activity to a greater degree than forest-wide direction; or
3. Providing for an exception to forestwide direction, when forest-wide direction is in conflict with the management emphasis of the management area. For example, a forest-wide desired condition in Spruce-Fir Forest describes openings to be maintained by natural processes, while a desired condition for the Developed Winter and Summer Resort Management Area describes resort activities playing a dominant role in maintaining created grassy openings intermixed with forested areas.

Management Areas

Recommended Wilderness Management Area (RWMA)

Alternative 2: 9,189 acres of recommended wilderness.

Alternative 3: [Does not include any Recommended Wilderness Management Areas and so does not have any components for recommended wilderness]

Alternative 4: 45,473 acres of recommended wilderness

Alternative 5: 67,996 acres of recommended wilderness

Developed Winter and Summer Resort Management Area (DEVRES)

Alternative 2: 2,588 acres

Alternative 3: 3,509 acres

Alternative 4: [Same as alternative 2]

Alternative 5: [Same as alternative 2]

Developed Winter and Summer Resort Management Area Standards (FW-DEVRES-S)

Standard 1

Alternative 2: [No such standard]

Alternative 3: 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.

Alternative 4: [No such standard]

Alternative 5: [No such standard]

Standard 2

Alternative 2: [No such standard]

Alternative 3: 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.

Alternative 4: [No such standard]

Alternative 5: [No such standard]

Developed Winter and Summer Resort Management Area Guidelines (FW-DEVRES-G)

Guideline 4

Alternative 2: [No such guideline]

Alternative 3: Inventoried roadless areas should be managed for Primitive, Semi-primitive Non-motorized, and Semi-primitive Motorized recreation settings, to preserve their roadless area characteristics.

Alternative 4: [No such guideline]

Alternative 5: [No such guideline]

Guideline 5

Alternative 2: [No such guideline]

Alternative 3: In inventoried roadless areas management activities should be consistent with the scenic integrity objective of High, to preserve their roadless area characteristics.

Alternative 4: [No such guideline]

Alternative 5: [No such guideline]

Grassland Maintenance Management Area (GMMA)

Alternative 2: 61,824 acres

Alternative 3: [Same as alternative 2]

Alternative 4: [Does not include any Grassland Maintenance Management Area]

Alternative 5: [Same as alternative 2]

Valle Vidal Management Area (VVMA)

Alternative 2: 100,000 acres

Alternative 3: [Does not include the Valle Vidal Management Area]

Alternative 4: [Same as alternative 2]

Alternative 5: [Same as alternative 2]

Valle Vidal Management Area Standards (MA-VVMA-S)

Standard 21

Alternative 2: [No such standard]

Alternative 3: [Valle Vidal Management Area not included in this alternative]

Alternative 4: Timber harvest for the purpose of timber production is prohibited.

Alternative 5: [No such standard]

Standard 22

Alternative 2: [No such standard]

Alternative 3: [Valle Vidal Management Area not included in this alternative]

Alternative 4: Military ground operations are prohibited.

Alternative 5: [No such standard]

Standard 23

Alternative 2: [No such standard]

Alternative 3: [Valle Vidal Management Area not included in this alternative]

Alternative 4: Construction of motorized trails is prohibited.

Alternative 5: [No such standard]

San Antonio Management Area (SAMA)

Alternative 2: 117,035 acres

Alternative 3: [Does not include the San Antonio Management Area]

Alternative 4: 148,000 acres

Alternative 5: [Same as alternative 2]

San Antonio Management Area Objectives (MA-SAMA-O)

Objective 1

Alternative 2: [No such objective]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Improve wildlife or aquatic habitat connectivity by removing unneeded structures (e.g., fences, roads, cattleguards, and culverts) or completing improvement projects (e.g., removing barriers and connecting fragmented habitat) in at least 10 to 20 locations, during each 10-year period following plan approval.

Alternative 5: [No such objective]

Objective 2

Alternative 2: [No such objective]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Complete at least five projects to improve habitat connectivity for aquatic and riparian species (e.g., remove barriers, restore dewatered stream segments, connect fragmented habitat, wildlife passage friendly fences, etc.), during the 10 years following plan approval.

Alternative 5: [No such objective]

San Antonio Management Area Standards (MA-SAMA-S)

Standard 8

Alternative 2: [No such standard]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Except for travel on open public roads, all public entry (including hiking) is prohibited on the Tres Piedras Ranger District portion of this management area from January 1 to March 30 and May 1 to June 30, to provide security for elk winter range and calving.

Alternative 5: [No such standard]

Standard 9

Alternative 2: [No such standard]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Except for travel on open public roads and Cebolla Mesa Trail, all public entry (including hiking) is prohibited on the Questa Ranger District portion of this management area from January 1 to March 30, to provide security for elk winter range.

Alternative 5: [No such standard]

Standard 10

Alternative 2: [No such standard]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Timber harvest for the purpose of timber production is prohibited.

Alternative 5: [No such standard]

Standard 11

Alternative 2: [No such standard]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Military ground operations are prohibited.

Alternative 5: [No such standard]

Standard 12

Alternative 2: [No such standard]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Motorized trails are prohibited.

Alternative 5: [No such standard]

San Antonio Management Area Guidelines (MA-SAMA-G)

Guideline 2

Alternative 2: [No such guideline]

Alternative 3: [San Antonio Management Area not included in this alternative]

Alternative 4: Vegetation management activities should not impact more than 3 percent of the management area in any one year period.

Alternative 5: [No such standard]

Off-Highway Vehicle Management Area (OHVMA)

This area has the unique and specific characteristics required for trials motorcycle riding including rugged terrain, rocks and obstacles, as opposed to trails or roads. Intensive off-highway vehicle use in an undeveloped setting provides a range of challenges and opportunities not found on other parts of the Carson National Forest. This area provides a unique and valuable recreational resource to the trials motorcycle community, and allows for frequent, casual use for practice and skills development without having to rely on infrequent, permitted events.

Alternative 2: [Does not include the Off-Highway Vehicle Management Area]

Alternative 3: 2,978 acres

Alternative 4: [Does not include the Off-Highway Vehicle Management Area]

Alternative 5: [Does not include the Off-Highway Vehicle Management Area]

Off-Highway Vehicle Management Area Desired Conditions (MA-OHVMA-DC)

Desired Condition 1

Alternative 2: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 3: Challenging terrain provides opportunities for trials motorcycles and off-highway vehicle rock crawling.

Alternative 4: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 5: [Off-Highway Vehicle Management Area not included in this alternative]

Desired Condition 2

Alternative 2: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 3: Trail and road system development is limited to preserve rugged terrain and obstacles.

Alternative 4: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 5: [Off-Highway Vehicle Management Area not included in this alternative]

Off-Highway Vehicle Management Area Standards (MA-OHVMA-S)

Standard 1

Alternative 2: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 3: No new structural improvements are allowed except for management area boundary markers, a parking area, an information kiosk, and a restroom.

Alternative 4: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 5: [Off-Highway Vehicle Management Area not included in this alternative]

Standard 2

Alternative 2: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 3: Any trail construction must be for motorized use. Multi-purpose trails shall not be constructed.

Alternative 4: [Off-Highway Vehicle Management Area not included in this alternative]

Alternative 5: [Off-Highway Vehicle Management Area not included in this alternative]

Wetland Jewels Management Area (WJMA)

The Wetland Jewels Management Area is made up of 10 areas containing a single wetland or complex of wetlands that provide important ecological functions to the terrestrial and aquatic landscape. These wetlands and wetland complexes provide habitat for wildlife, contribute clean water to downstream communities, mitigate downstream flooding, help maintain downstream flows, and sequester carbon. The protection of ecological function is focused in these wetland areas on the forest, by making them a priority for protection and restoration. Emphasis on management activities in Wetland Jewels Management Area to maintain and restore riparian function would compensate for degraded wetland conditions in the broader landscape. Actions that degrade the structure, function, and composition of Wetland Jewels are constrained or prohibited.

Alternative 2: [Does not include the Wetland Jewels Management Area]

Alternative 3: [Does not include the Wetland Jewels Management Area]

Alternative 4: 79,630 acres

Alternative 5: [Does not include the Wetland Jewels Management Area]

Wetland Jewels Management Area Desired Conditions (MA-WJMA-DC)

Desired Condition 1

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Wetlands provide aquatic invertebrate habitat, fish habitat, waterfowl and water bird habitat, groundwater recharge capacity, streamflow maintenance capacity, surface water detention capacity, and carbon sequestration capacity, consistent with the wetland's potential.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Desired Condition 2

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: In cases where a Wetland Jewels Management Area is smaller than a watershed, the Wetland Jewels Management Area portion of the watershed is functioning properly² in that it exhibits high geomorphic, hydrologic, and biotic integrity relative to its potential condition.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Wetland Jewels Management Area Objectives (MA-WJMA-O)

Objective 1

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Restore structure and function of at least 200–300 acres of nonfunctioning and functioning-at-risk riparian areas annually. Over ten years, distribute these restoration activities among at least six of the Wetland Jewels Management Areas.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Objective 2

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Annually install 35 to 100 erosion control treatments, to stabilize headcuts, road drainage impacts, and other erosional features.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

² According to the Watershed Condition Framework or similar current protocol.

Objective 3

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Within the 5-year period following plan approval, develop a wetland action plan for all 10 Wetland Jewels Management Areas, to address wetland stressors (e.g., recreation, wildlife and livestock grazing, road drainage) by identifying, prioritizing, and scheduling implementation of mitigation and restoration actions.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Objective 4

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Obliterate or naturalize up to 40 miles of non-system roads (e.g., unauthorized, decommissioned), within the 10-year period following plan approval.³

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Wetland Jewels Management Area Standards (MA-WJMA-S)

Standard 1

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: No new permanent roads or motorized trails shall be constructed.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Standard 2

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: No new communication or electronic equipment, pipelines, powerlines, fiber optic lines, or associated infrastructure shall be constructed.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

³ If all needed obliteration and naturalization has been accomplished in the Wetland Jewels Management Area, this objective may be met through work in other areas of the forest.

Standard 3

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Outstanding (existing) mineral rights shall be recognized as authorized by the United States mining laws (30 U.S.C. 21-54). Any entry to access existing mineral rights will be conducted in an environmentally sound way through appropriate administration of mineral laws and regulations so as to minimize adverse environmental effects on National Forest System resources. Site-specific analysis shall occur to evaluate potential effects and develop appropriate mitigation measures. Operating plans and bonds shall be used if needed, to ensure protection and restoration of surface resources.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Standard 4

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Military ground operations are prohibited.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Wetland Jewels Management Area Guidelines (MA-WJMA-G)

Guideline 1

Alternative 2: [Wetland Jewels Management Area not included in this alternative]

Alternative 3: [Wetland Jewels Management Area not included in this alternative]

Alternative 4: Consistent with wetland potential, wetland function should be maintained or improved to provide continued aquatic invertebrate habitat, fish habitat, waterfowl and water bird habitat, groundwater recharge capacity, streamflow maintenance capacity, surface water detention capacity, and carbon sequestration capacity.

Alternative 5: [Wetland Jewels Management Area not included in this alternative]

Rio Grande Cutthroat Trout Management Area (RGCTMA)

The Rio Grande Cutthroat Trout Management Area is made up of three high value areas for the Rio Grande cutthroat trout: (1) north of Cruces Basin; (2) in the Comanche Creek Basin; and (3) the Rio Grande del Rancho and nearby streams. Management for the recovery of this species is a high priority in the Rio Grande Cutthroat Trout Management Area.

Alternative 2: [Does not include the Rio Grande Cutthroat Trout Management Area]

Alternative 3: [Does not include the Rio Grande Cutthroat Trout Management Area]

Alternative 4: 145,316 acres

Alternative 5: [Does not include the Rio Grande Cutthroat Management Area]

Rio Grande Cutthroat Trout Management Area Desired Conditions (MA-RGCTMA-DC)

Desired Condition 1

Alternative 2: [Rio Grande Cutthroat Trout Management Area not included in this alternative]

Alternative 3: [Rio Grande Cutthroat Trout Management Area not included in this alternative]

Alternative 4: Ecological conditions are capable of supporting self-sustaining native aquatic species populations.

Alternative 5: [Rio Grande Cutthroat Trout Management Area not included in this alternative]

Rio Grande Cutthroat Trout Management Area Objectives (MA-RGCTMA-O)

Objective 1

Alternative 2: [Rio Grande Cutthroat Trout Management Area not included in this alternative]

Alternative 3: [Rio Grande Cutthroat Trout Management Area not included in this alternative]

Alternative 4: Reduce nonnative fish within native fish populations in 4 to 6 stream reaches, during each 10-year period following plan approval.

Alternative 5: [Rio Grande Cutthroat Trout Management Area not included in this alternative]

Forest Plan Maps (Plan Appendix A)

There are recommended wilderness management areas in alternatives 2, 4, and 5, as shown on the following maps. Alternatives 1 and 3 do not include any recommended wilderness and are not shown.

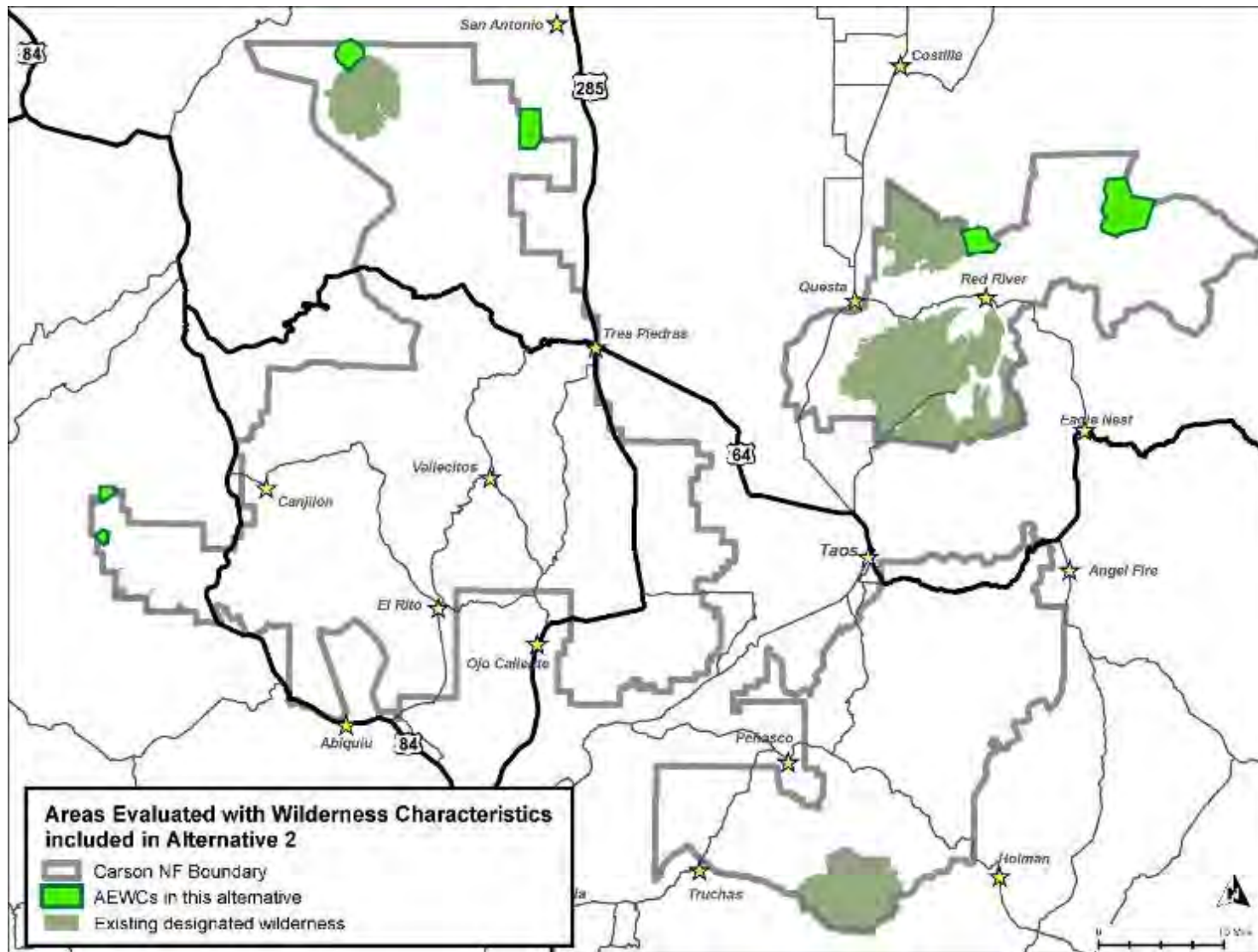
Plan components for a designated area may differ from forest-wide guidance and must provide for appropriate management of the designated area, based on the applicable authorities and the specific purposes for which the area was designated or recommended for designation.

Management areas are used to describe how plan components apply to specific parcels of National Forest System land. A management area represents a management emphasis for an area or several similar areas on the landscape.

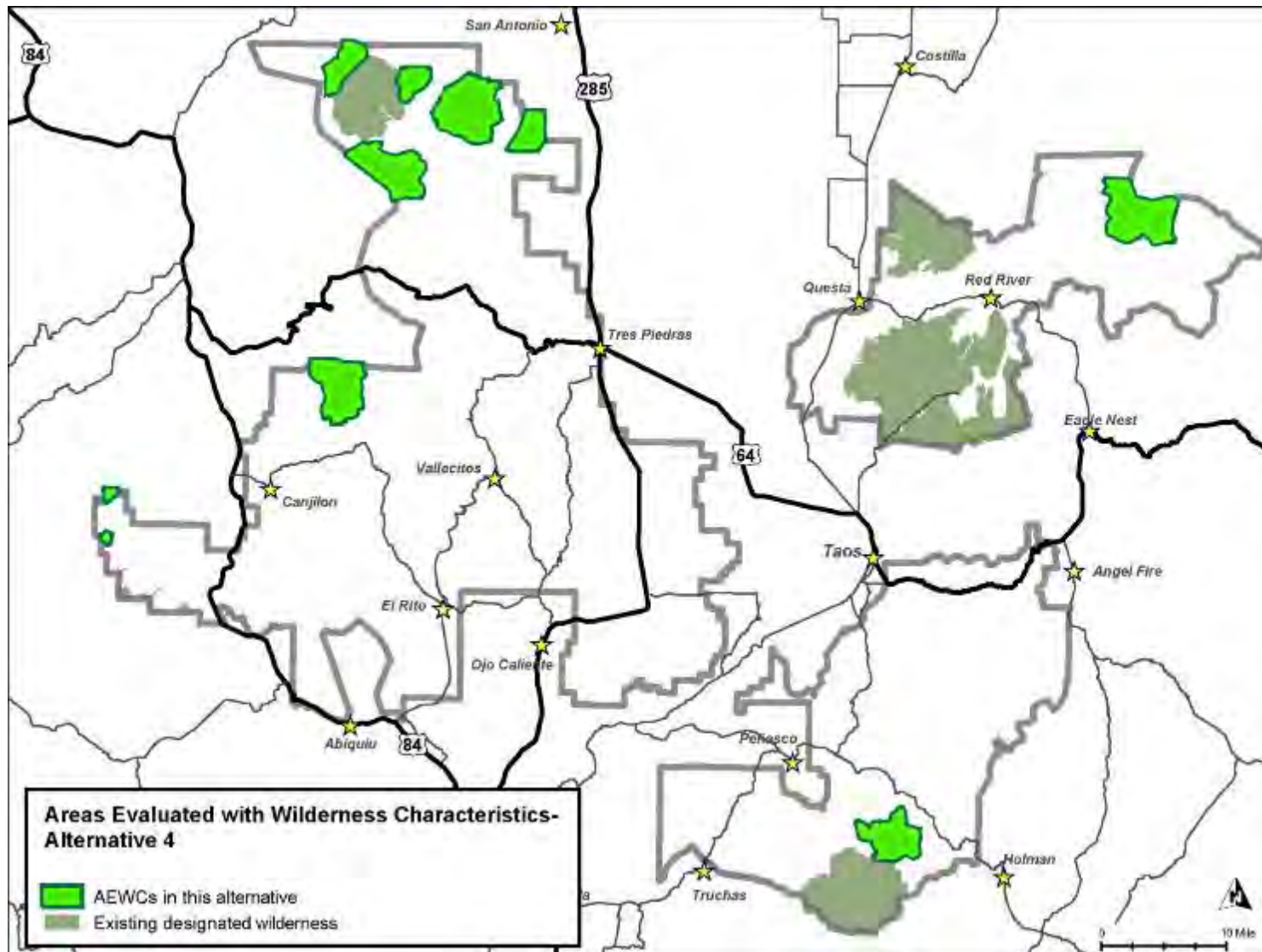
Forest-wide plan components are applied, unless there is management direction for a designated area or management area. Plan components for designated and management areas may differ from forest-wide guidance by:

1. Constraining an activity where forest-wide direction does not;
2. Constraining an activity to a greater degree than forest-wide direction; or
3. Providing for an exception to forest-wide direction, when forest-wide direction is in conflict with the management emphasis of the management area. For example, a forest-wide desired condition in Spruce-Fir Forest describes openings to be maintained by natural processes, while a desired condition for the Developed Winter and Summer Resort Management Area describes resort activities playing a dominant role in maintaining created grassy openings intermixed with forested areas.

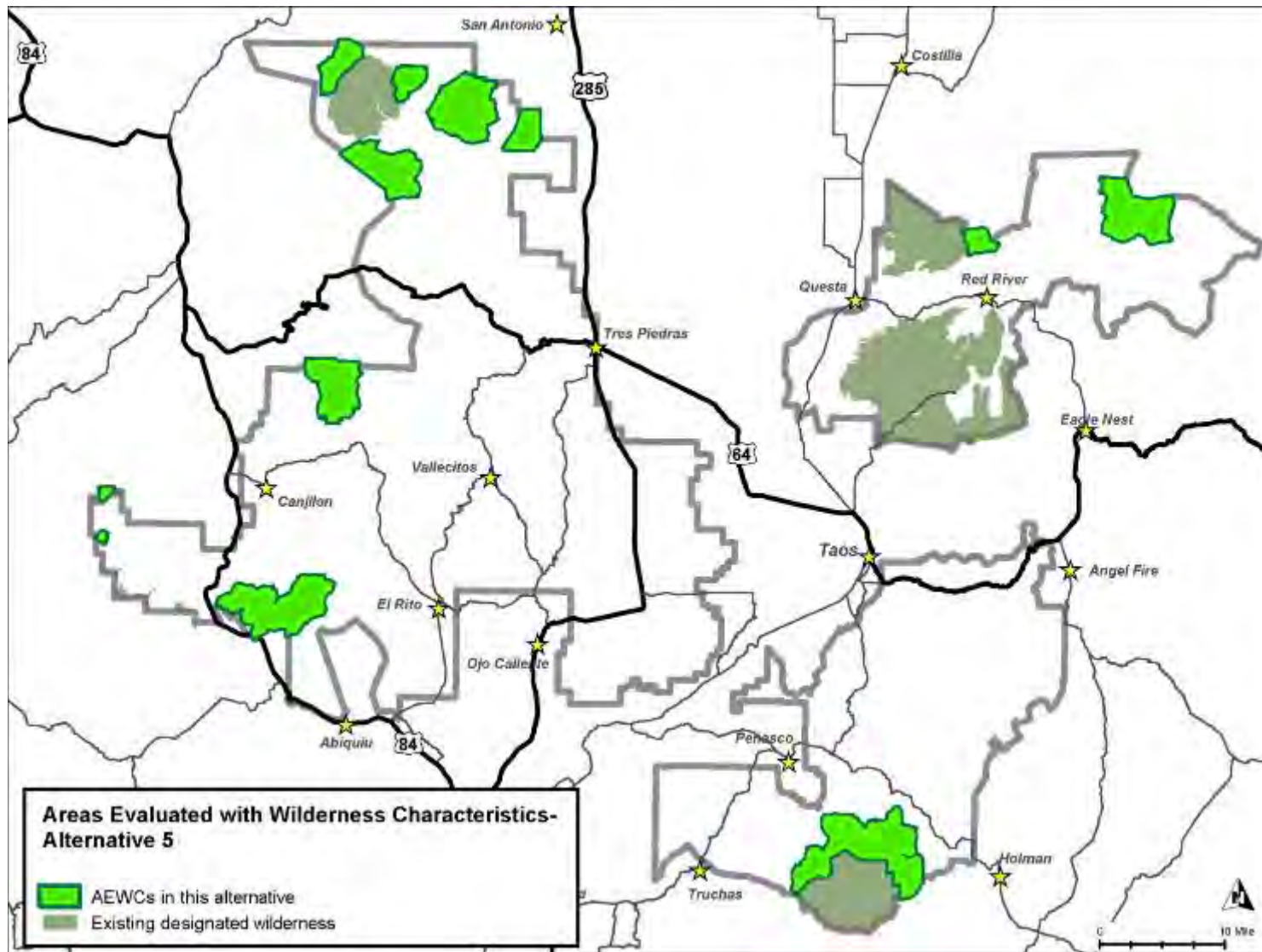
Recommended Wilderness Management Areas (RWMA) – Alternative 2



Recommended Wilderness Management Areas (RWMA) – Alternative 4



Recommended Wilderness Management Areas (RWMA) – Alternative 5



Additional Management Areas

See the plan appendix A for management areas in alternative 2. Alternative 5 management areas are the same as alternative 2 except for recommended wilderness (see above). The maps which follow are management areas specific to alternatives 3 and 4.

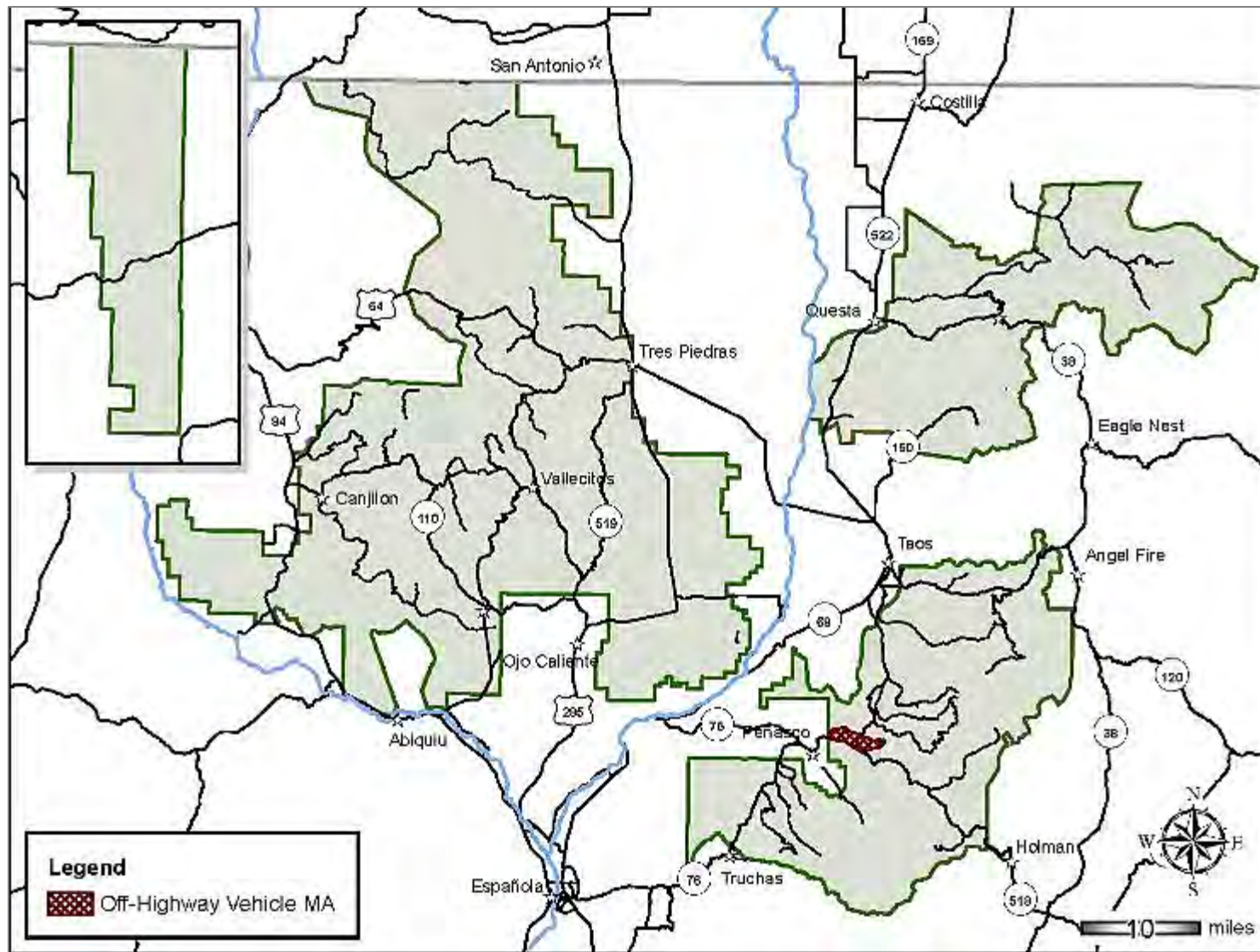
Plan components for a designated area may differ from forest-wide guidance and must provide for appropriate management of the designated area, based on the applicable authorities and the specific purposes for which the area was designated or recommended for designation.

Management areas are used to describe how plan components apply to specific parcels of National Forest System land. A management area represents a management emphasis for an area or several similar areas on the landscape.

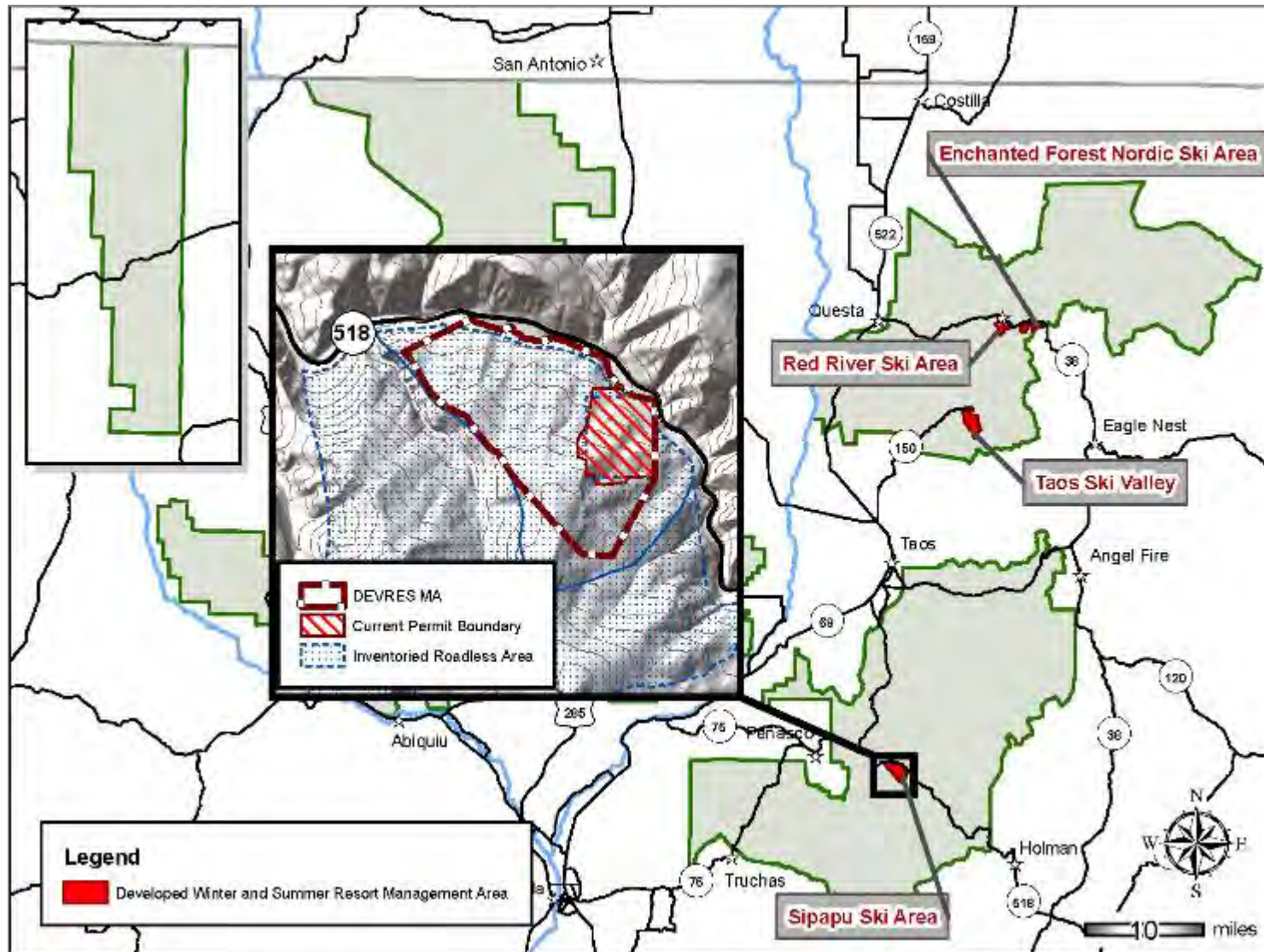
Forest-wide plan components are applied, unless there is management direction for a designated area or management area. Plan components for designated and management areas may differ from forest-wide guidance by:

1. Constraining an activity where forest-wide direction does not;
2. Constraining an activity to a greater degree than forest-wide direction; or
3. Providing for an exception to forest-wide direction, when forest-wide direction is in conflict with the management emphasis of the management area. For example, a forest-wide desired condition in Spruce-Fir Forest describes openings to be maintained by natural processes, while a desired condition for the Developed Winter and Summer Resort Management Area describes resort activities playing a dominant role in maintaining created grassy openings intermixed with forested areas.

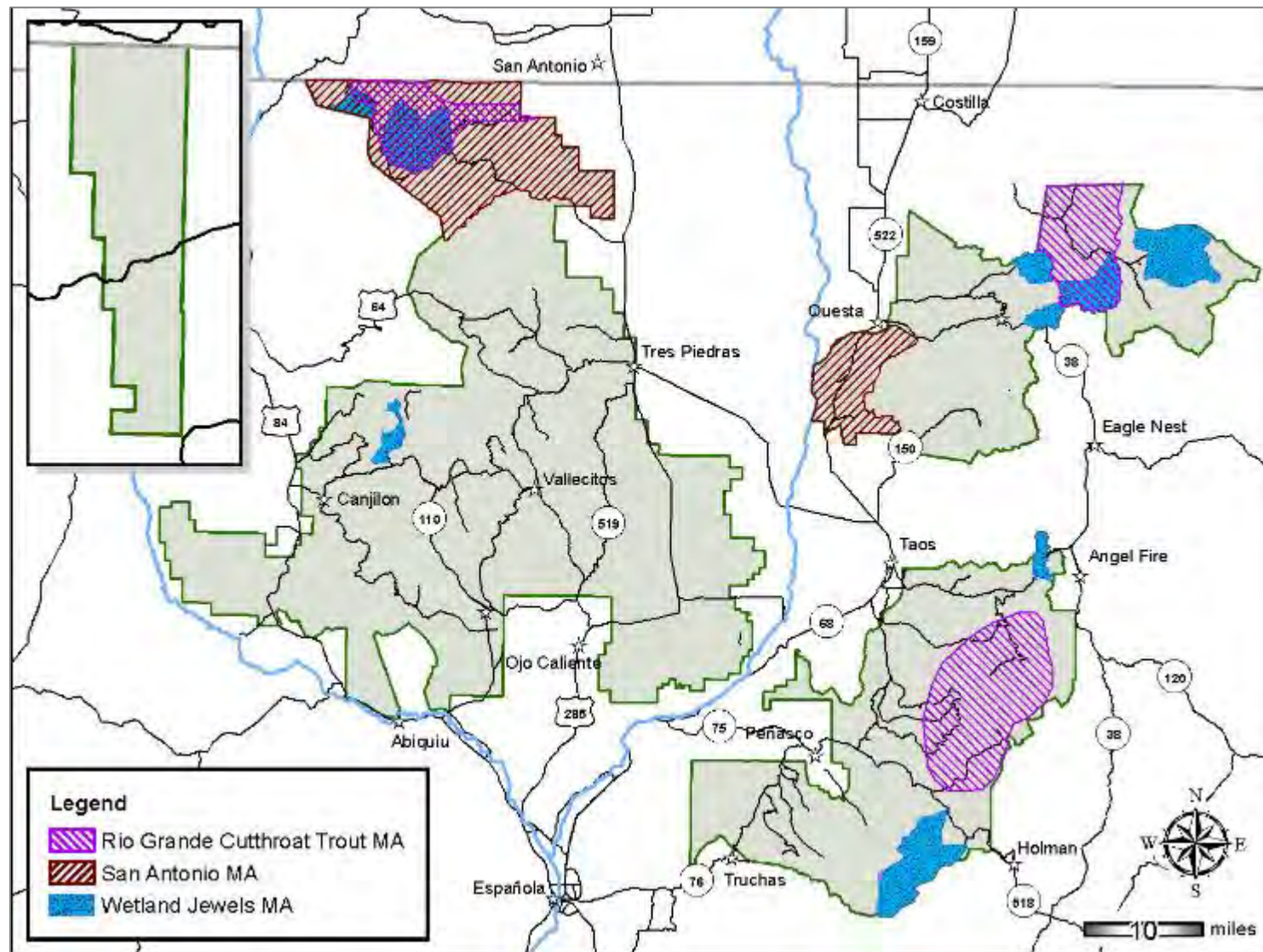
Off-Highway Vehicle Management Area – Alternative 3



Developed Winter and Summer Resort Management Area – Alternative 3



Rio Grande Cutthroat Trout, San Antonio, and Wetland Jewels Management Areas – Alternative 4



Appendix C – Description of the Modeling Process

Vegetation State and Transition Models

Projecting changes in vegetation structure and composition over time is an important part of landscape-level analyses. Vegetation can change for a variety of reasons such as human activity, fire, insects, pathogens, mammals, weather, or growth and competition. The interaction of these factors can be complex, and it can be difficult to project the combined effects over long periods of time (ESSA Technologies Ltd. 2006).

In response to the USDA Forest Services Southwestern Region's need for landscape scale planning tools, broad-scale state and transition models for several ecological response units on the Carson National Forest have been developed based on a comprehensive literature review. Ecological response units have been defined for most vegetation communities on the Carson National Forest. Published scientific information was used to define vegetation model states, identify parameter values for these models, and run quantitative scenario analysis using Vegetation Dynamics Development Tool software (ESSA Technologies Ltd. 2006) in order to determine relative proportions of model states on the landscape. Models were originally developed by LANDFIRE, The Nature Conservancy, and the Integrated Landscape Assessment Project and have been further refined by the Forest Service Southwestern Region, with input from forest specialists. Most state and transition destinations and probabilities for the base models are derived from Forest Vegetation Simulator modeling (Dixon 2002). Burn severity information was compiled from monitoring trends in burn severity records (Wildland Fire Leadership Council 2014). Other inputs came directly from forest records of management actions, insect and disease surveys, and wildfire data from the past 15 to 30 years (USDA Forest Service 2014d). The alpine and tundra, bristlecone pine, and riparian ecological response units have either too little acreage on the Carson National Forest or stand structure has not been adequately mapped; therefore, they are not appropriate for Vegetation Dynamics Development Tool modeling.

Vegetation Dynamics Development Tool software is a non-spatial model that allows the user to model vegetation change over time as a series of vegetation states that differ in size class, canopy cover, dominance type, and storiedness, and movement of vegetation among states (transitions) (ESSA Technologies Ltd. 2006). Various disturbance agents affecting the transitions are incorporated (e.g., surface fire, stand replacing fire, grazing, insect outbreaks). By varying the types and rates of disturbance in the model, the effects on vegetation of different disturbance regimes, such as current and historic fire regimes, or different management treatments, such as fire suppression, prescribed burning, and mechanical fuels treatments, can be tested. These models summarize and synthesize the current state of scientific knowledge for vegetation dynamics. Additionally, they provide forest planners and managers with powerful tools for understanding, investigating, and demonstrating the effects of alternative scenarios for the management of vegetation on the Carson National Forest.

State and transition models for each vegetation community were calibrated to reflect the anticipated management under each alternative. Initial seral state proportions were assigned according to actual measurements of current conditions on the Carson National Forest based on midscale vegetation mapping (Mellin et al. 2008). Existing vegetation was assigned to an ecological response unit and then to the appropriate state class within that ecological response unit according to state class descriptions that were developed by the Forest Service Southwestern Region (USDA Forest Service 2011, 2014, see figure 9).

Table 9. State class definitions – size class

Size Class	Code	Value
Seedling and sapling	SS	0-5 inches
Small	S	5-10 inches
Medium	M	10-20 inches
Large	L	20-30 inches
Very Large	V	30 inches

Table 10. State class definitions – canopy cover

Canopy Cover	Code	Value
Non-tree	GFB/SHR	Less than 10% tree canopy cover
Aspen	ASPEN	Aspen dominated
Open	O	10-29.9% tree canopy cover
Closed	C	Greater than 30% tree canopy cover

Table 11. State class definitions – storiedness

Storiedness	Code	Value
Single storied	S	1 level
Multi-storied	M	2 or more levels

Three management factors affected model parameters under different alternatives. First, the inclusion of grassland maintenance management areas in some alternatives affected the initial seral state proportions and the total acres that were managed toward desired conditions in the piñon-juniper woodland, piñon-juniper sagebrush, and ponderosa pine forest ecological response units. The amount of fire and mechanical treatment each varied by alternative based on the objectives for the mixed conifer with frequent fire and ponderosa pine forest ecological response units and therefore affected the amount of disturbance in those two models under different alternatives. The models are included in the project record.

Seral State Modeling Results by Ecological Response Unit

Spruce-Fir Forest

Assumptions

Management related to prescribed fire and mechanical treatment does not vary among alternatives. Future wildfire and insect and disease frequency and severity are likely to differ from levels in the recent past, though in unpredictable ways. Therefore, they were modeled using recent averages under all alternatives.

Run Settings

General Initial Conditions Options Output

Total Area Represented: 289929

Proportion of Cells:

Class	Propr
A Early A A.GFB	0.023
B Aspen B.Aspen	0.1524
C SFM-T C.sc	0.0807
D SFM-T D.mcs	0.4124
E SFM-T E.vcs	0.0148
F SFM-T F.vcm	0.0033
G SFM-I G.so	0
H SFM-I H.mos	0
I SFM-M I.vos	0.0028
J SFM-M J.vom	0.0005

Total: 0.9998

☐ Randomize initial TSD to a maximum of: 0

Buttons: Reset, Normalize, End Values, Load..., Save As..., TSD, Ages, Sort...

Buttons: New Age, Delete Age

Buttons: OK, Cancel, Run

Figure 1. Spruce-fir forest model initial conditions states A through J

Run Settings

General Initial Conditions Options Output

Total Area Represented: 289929

Proportion of Cells:

Class	Propr
K Early K K.GFB	0.0345
L SFM-In L.sc	0.0424
M SFM-To M.mcs	0.2151
N SFM-To N.vcs	0.0128
O SFM-To O.vcm	0.0016
P SFM-In P.so	0
Q SFM-In Q.mos	0
R SFM-Mi R.vos	0.003
S SFM-Mi S.vom	0.0005
T Aspen T.Relic	0

Total: 0.9998

☐ Randomize initial TSD to a maximum of: 0

Buttons: Reset, Normalize, End Values, Load..., Save As..., TSD, Ages, Sort...

Buttons: New Age, Delete Age

Buttons: OK, Cancel, Run

Figure 2. Spruce-fir forest model initial conditions states K through T

In figure 3 the upper half of the transition pathway diagram includes portions of the spruce-fir forest ecological response unit that have the potential to support aspen. The lower half includes cold, high elevations that are outside the environmental range for aspen. Initial acres on the Carson were divided among the sub-models based on terrestrial ecological unit definitions.

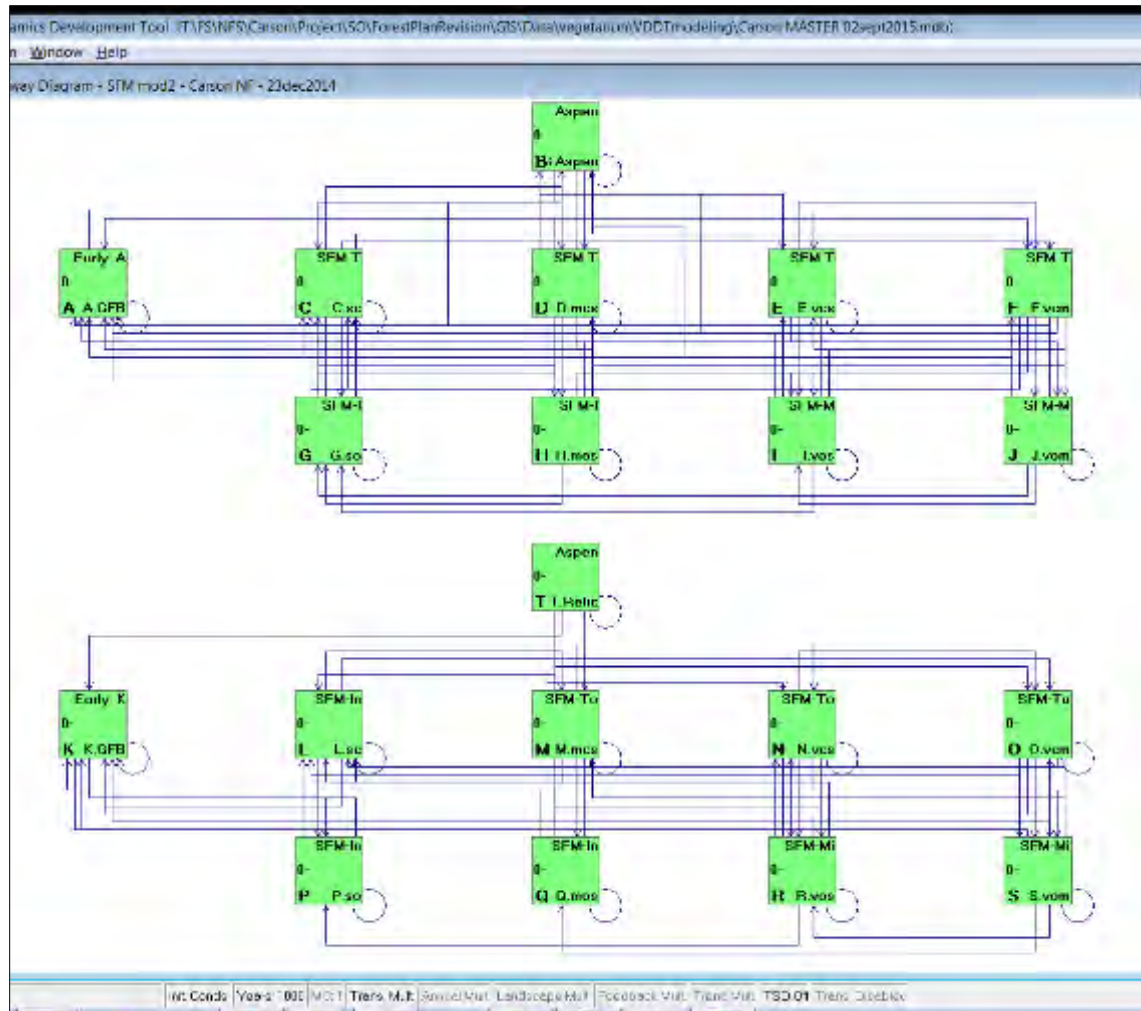


Figure 3. Spruce-fir forest model (transition pathway diagram)

Model Results

Departure in spruce-fir forest declines under all alternatives as previously logged areas mature and the over-represented medium closed D state transitions to the very large, closed, multi-storied F state (figure 4).

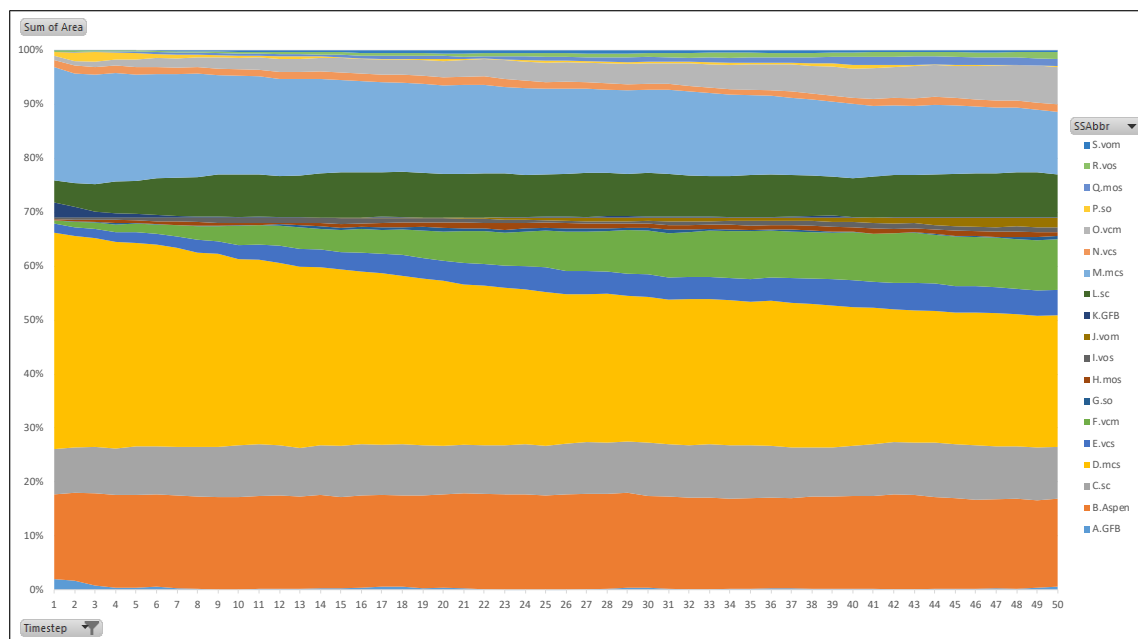


Figure 4. Spruce-fir forest modeled seral state distribution results – all alternatives

Mixed Conifer with Aspen

Assumptions

Management related to prescribed fire and mechanical treatment does not vary among alternatives. Future wildfire and insect and disease frequency and severity are likely to differ from levels in the recent past, though in unpredictable ways. Therefore, they were modeled using recent averages under all alternatives.

Class	Propn
A Early A A.GFB	0.0207
B Aspen B.Aspen	0.1685
C MC-T C.sc	0.1028
D MC-T D.mcs	0.4743
E MC-T E.vcs	0.2179
F MC-T F.vcm	0.0134
G MC-I G.so	0.0011
H MC-I H.mos	0
I MC-M I.vos	0.0006
J MC-M J.vom	0.0006

Total: 0.9999

Figure 5. Mixed conifer with aspen model initial conditions states A through J

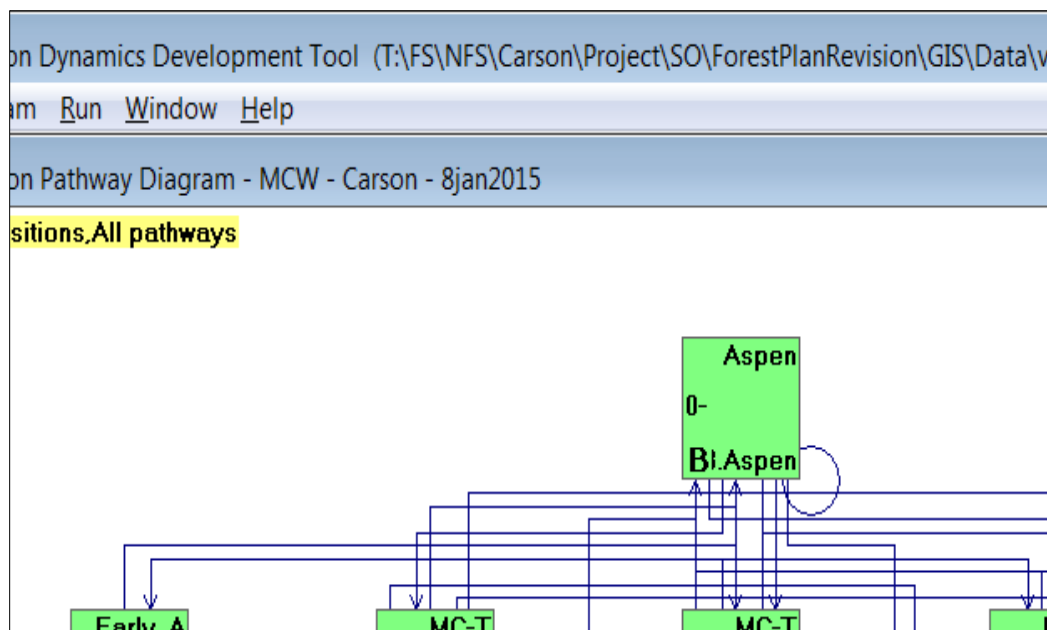


Figure 6. Mixed conifer with aspen model (transition pathway diagram)

Model Results

Departure in mixed conifer with aspen declines under all alternatives as previously logged areas mature and the over-represented medium closed D state transitions to the very large, closed, multi-storied F state (see figure 7).

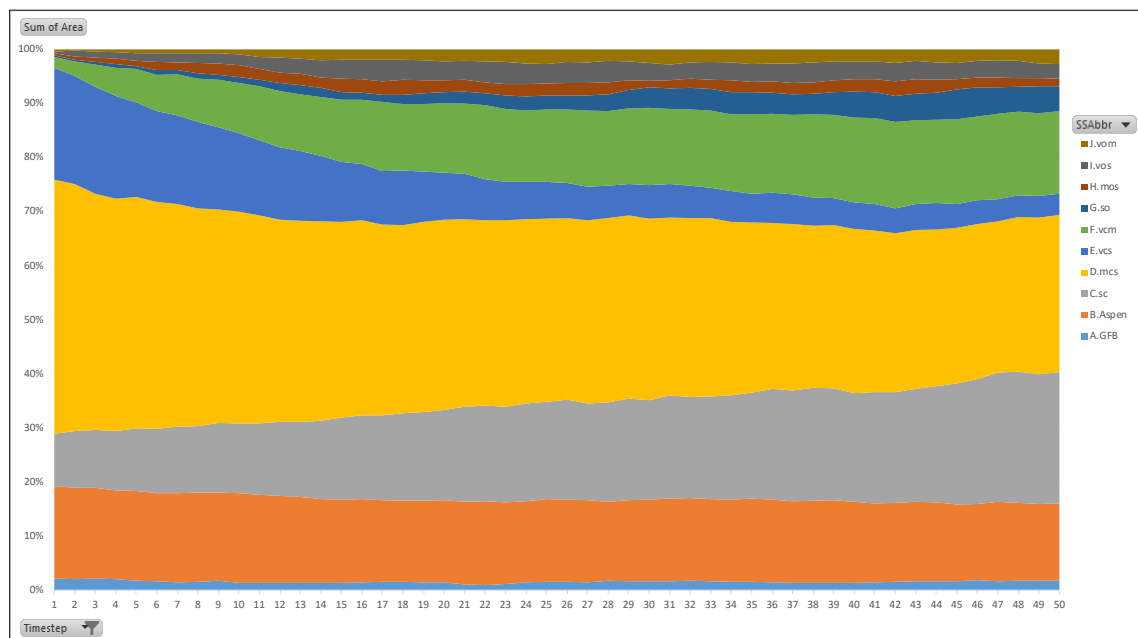


Figure 7. Mixed conifer with aspen modeled seral state distribution results – all alternatives

Mixed Conifer with Frequent Fire

Assumptions

Management related to prescribed fire and mechanical treatment varies among alternatives based on objectives. All fire treatment acres (prescribed fire and natural fire with resource objectives) were distributed among existing prescribed fire transitions following existing proportions in low, moderate, and high severity effects (see table 12).

Table 12. Average annual acres of prescribed fire (including natural fire with resource objectives) in each severity class by alternative

Annual Prescribed Fire Transitions	Alternative 1 (acres)	Alternative 2 (acres)	Alternative 3 (acres)	Alternative 4 (acres)	Alternative 5 (acres)
Low (Treatment Type J)	55 (47.5%)	1,434	1,434	1,792	1,434
Moderate (Treatment Type K)	55 (47.5%)	1,434	1,434	1,792	1,434
High (Treatment Type L)	6 (5%)	156	156	195	156

Mechanical treatments varied among alternatives in terms of total amount and type (see table 13). Mechanical treatments in alternative 1 are based on the recent averages of actual accomplished work. For action alternatives, initially mechanically treated acres were distributed among treatment types in the same proportions as in alternative 1. In alternatives 2, 3, and 5, all diameter cap treatments (type D and M) were removed and 2 percent, 8 percent, and 2 percent of the total mechanical treatment acres (respectively) were changed to even aged treatment to allow for insect and disease treatment (moved to type F – shelterwood seed cut to target basal area). Type F –shelterwood provides more total volume per acre, and was therefore judged to be more compatible with the theme of alternative 3. In alternatives 2, 3, and 5, all remaining harvest thinning (thin less than 16 inches diameter cap to target basal area and thin less than 9 inches diameter cap) was changed to type C – thin from below to target basal area; and all remaining fuels treatment acres (type M – thin to 9 inches diameter cap) were changed to type E – group selection with matrix thin to target basal area.

Table 13. Mechanical treatment acres by alternative and type

Type Code	Treatment Type	Alt 1 (acres)	Alt 2 (acres)	Alt 3 (acres)	Alt 4 (acres)	Alt 5 (acres)
B	Free thin, all sizes to target basal area	0	0	0	0	0
C	Thin-from-below to target basal area	56	124	339	274	124
D	Thin under a 16 inches diameter cap to target basal area	5	0	0	25	0
E	Group selection with matrix thin to target basal area	12	635	1,729	0	635
F	Shelterwood seed cut to target basal area	0	16	180	0	16
G	Clearcut with non-regeneration objective legacy trees	0	0	0	0	0
H	Clearcut/ coppice for hardwood regeneration	0	0	0	0	0
I	Planting	33	33	33	33	33
M	Thin under a 9 inches diameter cap	360	0	0	49	0

Alternative 4 treats the same number of fuels treatment acres as alternative 1 (the recent average), but instead of adding them all to type M those acres were distributed among harvest thin treatments in the

proportion of current average acres for the three harvest thin treatments (type M – thin to 9 inches, type D – thin to 16 inches, and type C – thin from below to target basal area).

Figure 8 and figure 9 display the initial conditions used in the model for the mixed conifer with frequent fire vegetation community.

The screenshot shows the 'Run Settings' dialog box with the 'Initial Conditions' tab selected. The 'Total Area Represented' is 182847. The 'Proportion of Cells' table lists states A through J. The 'Total' is 1.0. The 'Randomize initial TSD to a maximum of' is 15.

Class	Propr
A MCD A.GFB	0.003
B MCD B.sso	0.0169
C MCD C.smo	0.0493
D MCD D.mos	0.0108
E MCD E.vos	0.0039
F MCD F.ssc	0.0001
G MCD G.smc	0.0566
H MCD H.mcs	0.689
I MCD I.vcs	0.0105
J MCD J.mom	0.0093

Total: 1.

☒ Randomize initial TSD to a maximum of: 15

Figure 8. Mixed conifer with frequent fire model initial conditions states A through J

The screenshot shows the 'Run Settings' dialog box with the 'Initial Conditions' tab selected. The 'Total Area Represented' is 182847. The 'Proportion of Cells' table lists states F through N. The 'Total' is 1.0. The 'Randomize initial TSD to a maximum of' is 15.

Class	Propr
F MCD F.ssc	0.0001
G MCD G.smc	0.0566
H MCD H.mcs	0.689
I MCD I.vcs	0.0105
J MCD J.mom	0.0093
K MCD K.vom	0.0213
L MCD L.mcm	0.1293
M MCD M.vcm	0
N MCD N.unc	0

Total: 1.

☒ Randomize initial TSD to a maximum of: 15

Figure 9. Mixed conifer with frequent fire model initial conditions states F through N

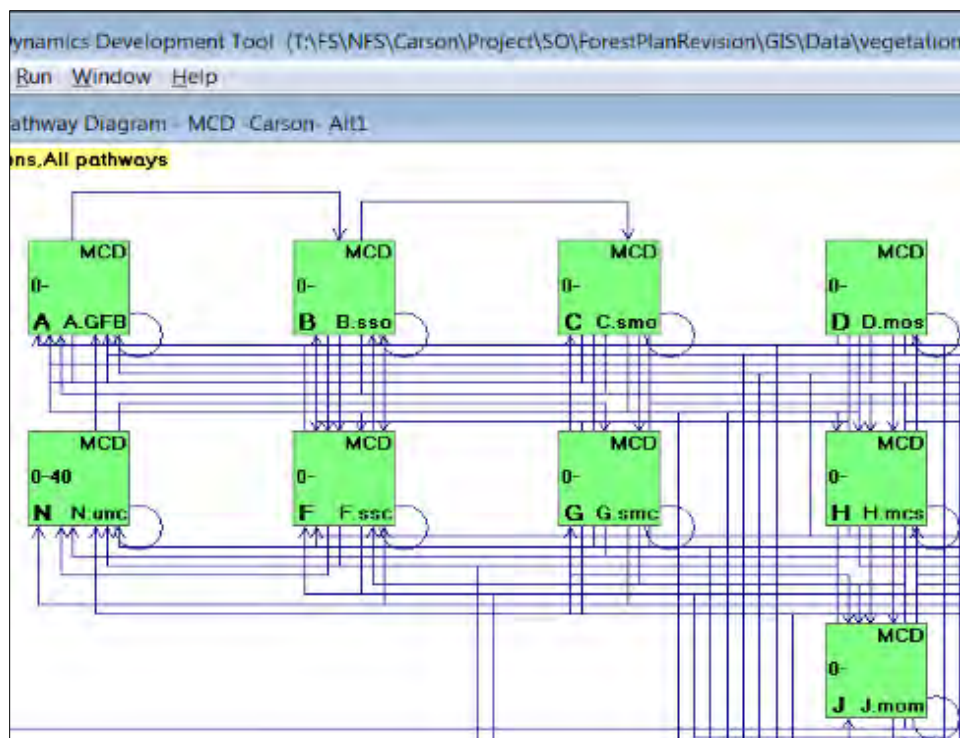


Figure 10. Mixed conifer with frequent fire model (transition pathway diagram)

Model Results

Under alternative 1, mixed conifer with frequent fire is 54 percent departed by year 15 as seedling/sapling under-represented states increase and medium to large closed canopy over-represented states decrease slightly (figure 11).

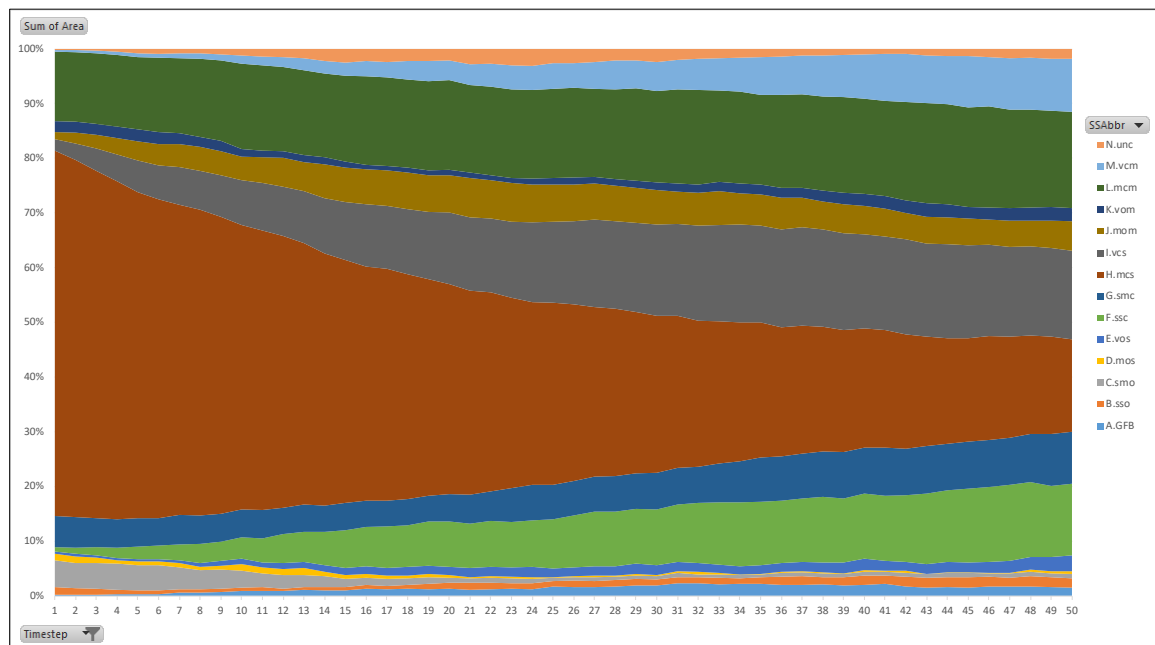


Figure 11. Mixed conifer with frequent fire modeled seral state distribution results – alternative 1

Under alternative 2, mixed conifer with frequent fire is 43 percent departed by year 15 as seedling/sapling under-represented states increase and medium to large closed canopy over-represented states decrease more rapidly (figure 12).

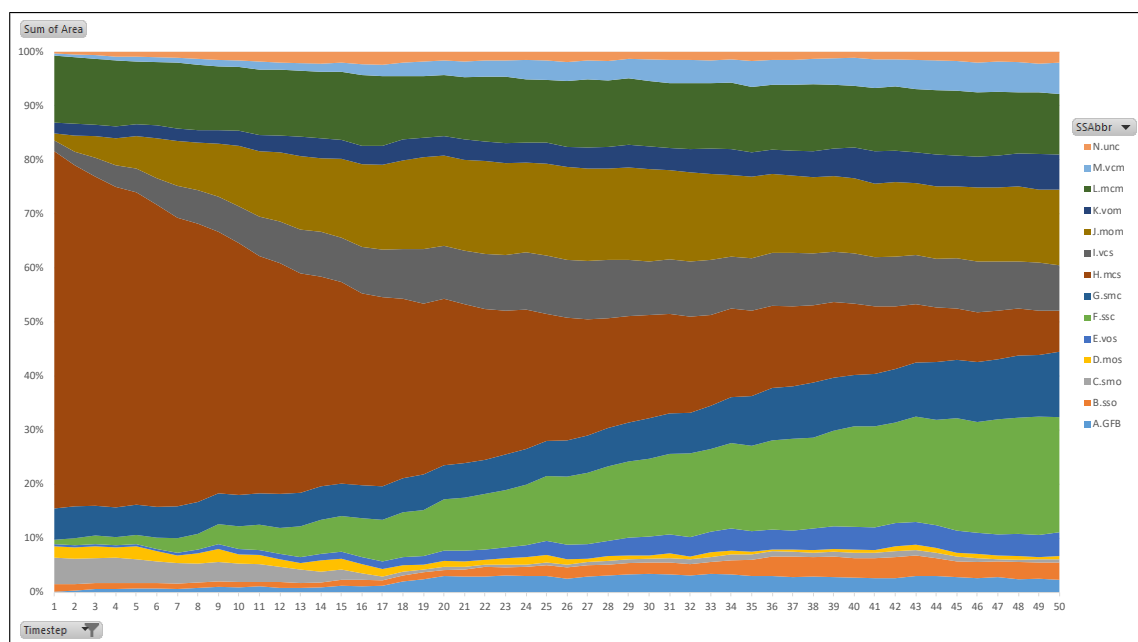


Figure 12. Mixed conifer with frequent fire modeled seral state distribution results – alternative 2

Under alternative 3, mixed conifer with frequent fire is 33 percent departed by year 15 as seedling/sapling under-represented states increase and medium to large closed canopy over-represented states decrease more rapidly than any other alternative (figure 13).

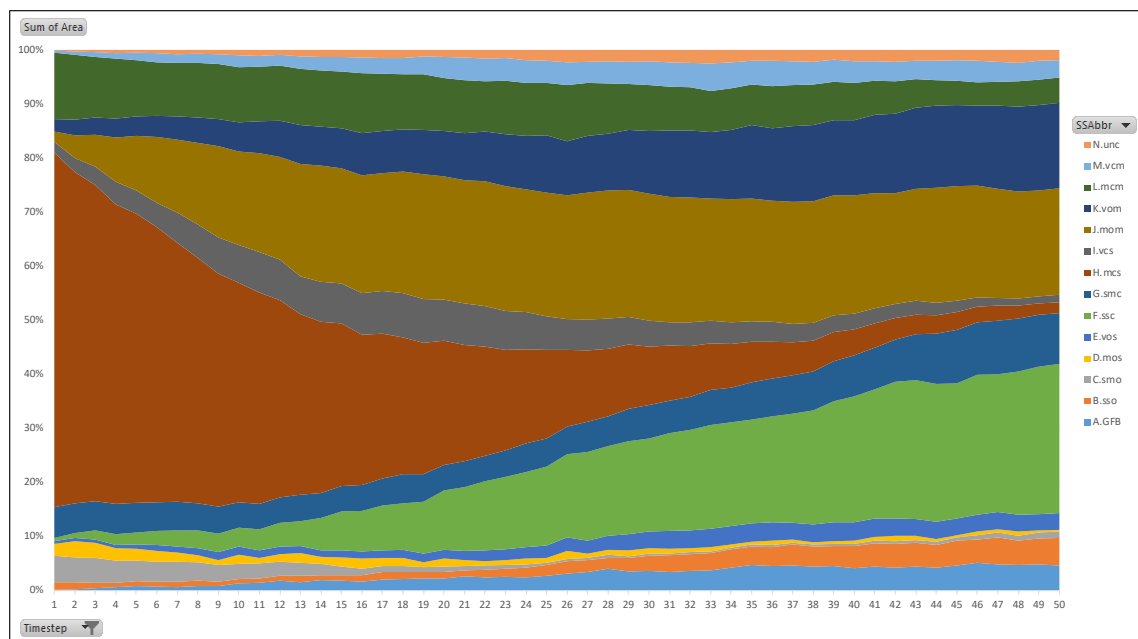


Figure 13. Mixed conifer with frequent fire modeled seral state distribution results – alternative 3

Under alternative 4, mixed conifer with frequent fire is 44 percent departed by year 15 as seedling/sapling under-represented states increase and medium to large closed canopy over-represented states decrease more rapidly (figure 14).

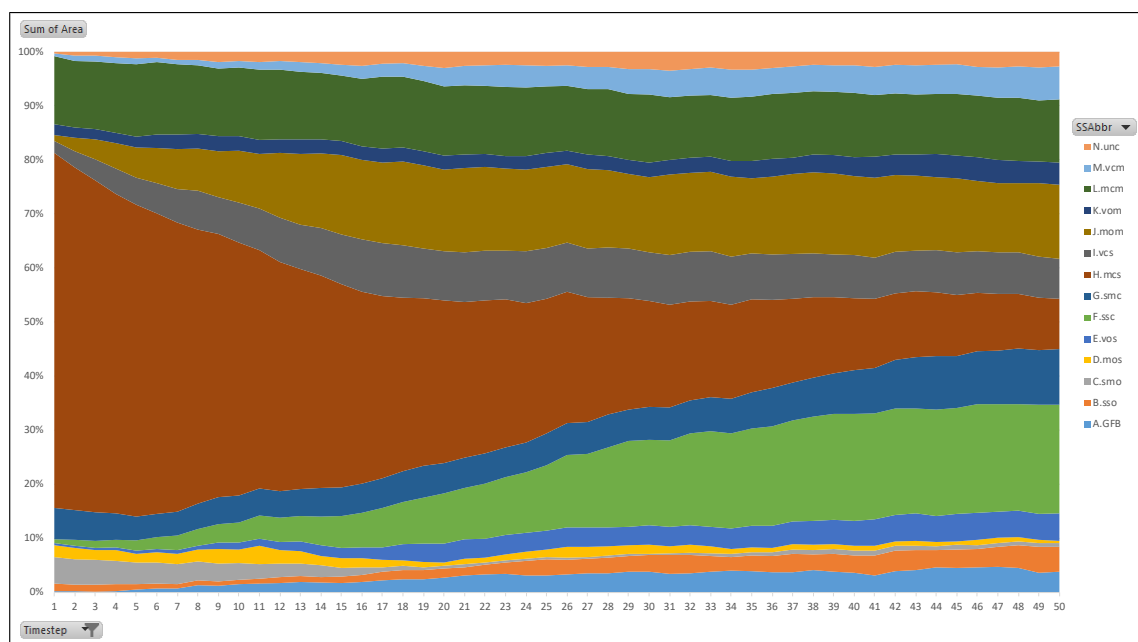


Figure 14. Mixed conifer with frequent fire modeled seral state distribution results – alternative 4

Under alternative 5, mixed conifer with frequent fire is 43 percent departed by year 15 as seedling/sapling under-represented states increase and medium to large closed canopy over-represented states decrease more rapidly (figure 15).

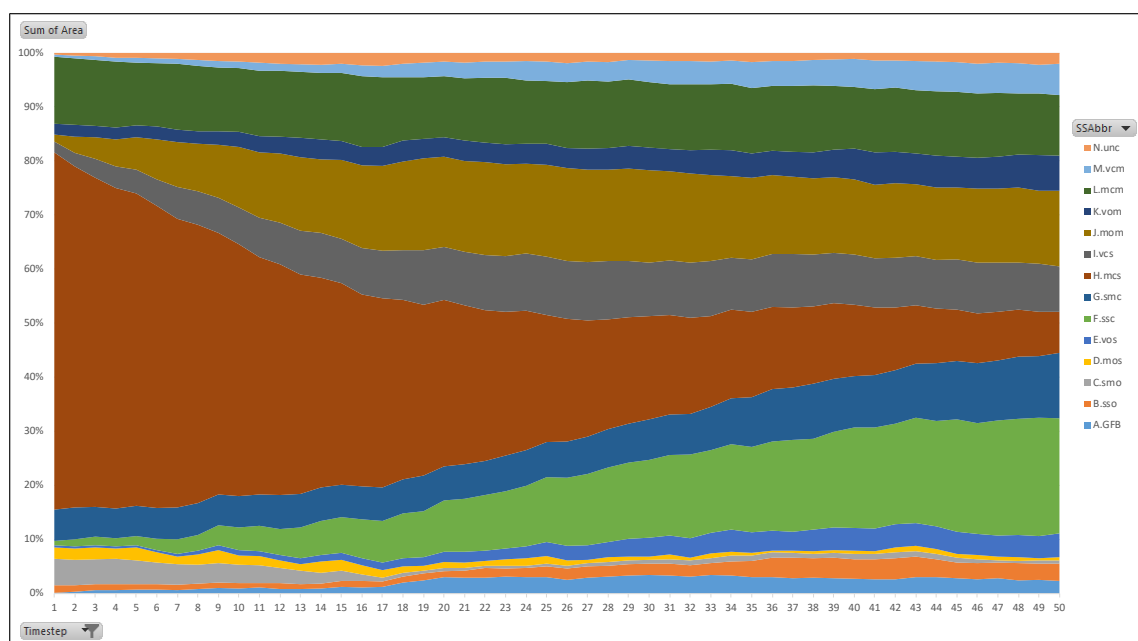


Figure 15. Mixed conifer with frequent fire modeled seral state distribution results – alternative 5

Ponderosa Pine Forest

Assumptions

Management related to prescribed fire and mechanical treatment varies among alternatives based on objectives. All fire treatment acres (prescribed fire and natural fire with resource objectives) were distributed among existing prescribed fire transitions following existing proportions in low, moderate, and high severity effects (table 14).

Table 14. Average annual acres of prescribed fire (including natural fire with resource objectives) in each severity class for each alternative

Annual prescribed fire transitions (acres)	Low (Treatment Type J)	Moderate (Treatment Type K)	High (Treatment Type L)
Alternative 1	527 (42.7%)	527 (42.7%)	180 (14.6%)
Alternative 2	4,376	4,376	1,495
Alternative 3	4,376	4,376	1,495
Alternative 4	5,870	5,870	2,005
Alternative 5	4,376	4,376	1,495

The same assumptions were used as in mixed conifer with frequent fire to distribute acres among mechanical treatment type under each alternatives (see table 15).

Mechanical treatments in alternative 1 are based on the recent averages of actual accomplished work. For action alternatives, initially mechanically treated acres were distributed among treatment types in the same proportions as in alternative 1. In alternatives 2, 3, and 5 all diameter cap treatments (type D and M) were removed and 2 percent, 8 percent, and 2 percent of the total mechanical treatment acres (respectively) were changed to even aged treatment to allow for insect and disease treatment (moved to type F – shelterwood seed cut to target basal area). Type F – shelterwood provides more total volume per acre and was therefore judged to be more compatible with the theme of alternative 3. In alternatives 2, 3, and 5 all remaining harvest thinning (thin less than 16 inches diameter cap to target basal area and thin less than 9 inches diameter cap) was changed to type C – thin from below to target basal area; and all remaining fuels treatment acres (type M – thin to 9 inch diameter cap) were changed to type E – group selection with matrix thin to target basal area.

Alternative 4 treats the same number of fuels treatment acres as alternative 1 (the recent average), but instead of adding them all to type M those acres were distributed among harvest thin treatments in the proportion of current average acres for the three harvest thin treatments (type M – thin to 9 inches, type D – thin to 16 inches, and type C – thin from below to target basal area).

Table 15. Mechanical treatment by alternative and type

Type Code	Treatment Type	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
B	Free thin, all sizes to target basal area	0	0	0	0	0
C	Thin-from-below to target basal area	87	442	864	432	442
D	Thin under a 16 inches diameter cap to target basal area	10	0	0	50	0
E	Group selection with matrix thin to target basal area	244	3,118	6,098	0	3,118
F	Shelterwood seed cut to target basal area	0	72	600	0	72
G	Clearcut with non-regeneration objective legacy trees	0	0	0	0	0
H	Clearcut/coppice for hardwood regeneration	0	0	0	0	0
I	Planting	259	259	259	259	259
M	Thin under a 9 inches diameter cap	602	0	0	99	0

Run Settings

General Initial Conditions Options Output

Total Area Represented: 312901

Proportion of Cells:

Class	Propr
A PP A.GFB	0.0532
B PP B.sso	0.0066
C PP C.smo	0.0821
D PP D.mos	0.1082
E PP E.vos	0.0105
F PP F.ssc	0.0236
G PP G.smc	0.0934
H PP H.mcs	0.4409
I PP I.vcs	0.0143
J PP J.mom	0.0335

Total: 1

☒ Randomize initial TSD to a maximum of: 15

OK Cancel Run

Figure 16. Ponderosa pine forest model initial conditions states A through J

Run Settings

General Initial Conditions Options Output

Total Area Represented: 312901

Proportion of Cells:

Class	Propr
F PP F.ssc	0.0236
G PP G.smc	0.0934
H PP H.mcs	0.4409
I PP I.vcs	0.0143
J PP J.mom	0.0335
K PP K.vom	0.002
L PP L.mcm	0.1284
M PP M.vcm	0.0033
N PP N.unc	0

Total: 1

☒ Randomize initial TSD to a maximum of: 15

OK Cancel Run

Figure 17. Ponderosa pine forest model initial conditions states F through N

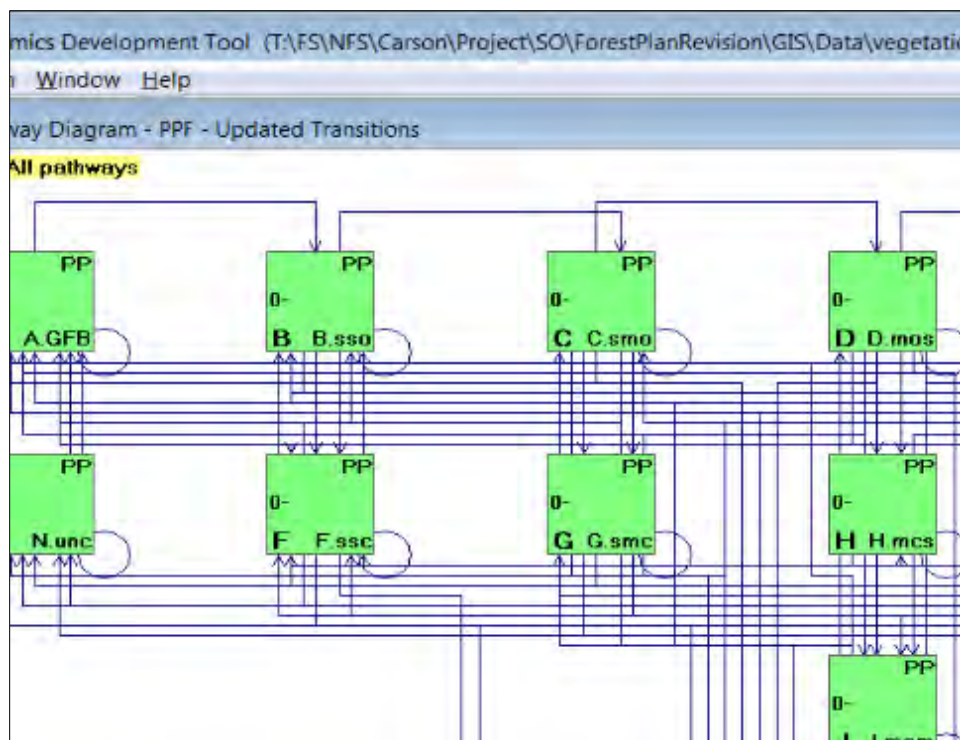


Figure 18. Ponderosa pine forest model (transition pathway diagram)

Model Results

Under alternative 1, ponderosa pine forest is 82 percent departed by year 15 because of increasing over-representation in uncharacteristic closed states and only slightly more representation in the under-represented multi-story open states (figure 19).

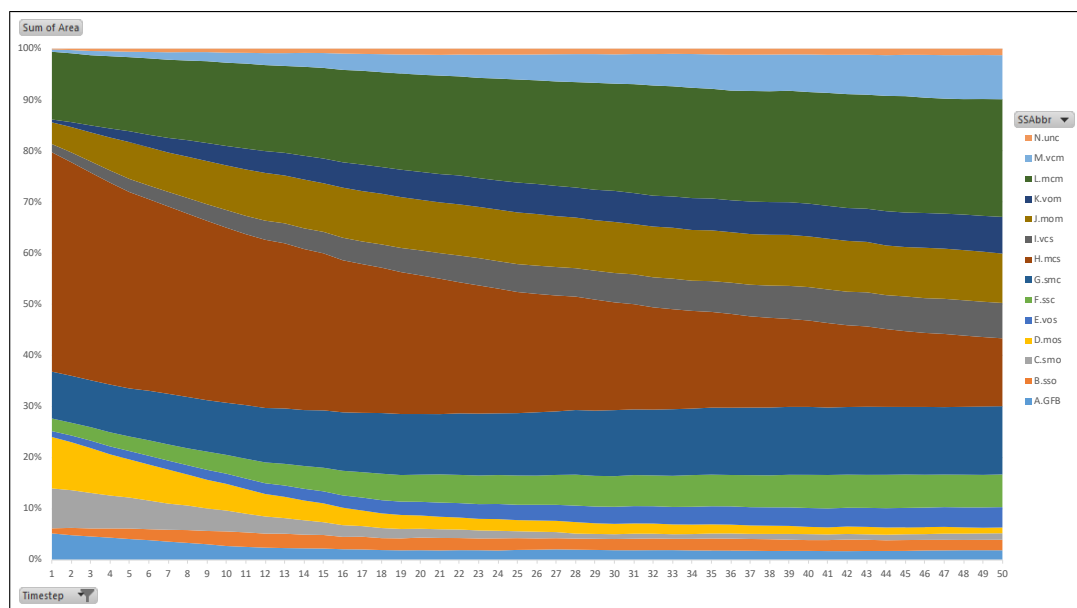


Figure 19. Ponderosa pine forest modeled seral state distribution results – alternative 1

Under alternative 2, ponderosa pine forest is 59 percent departed by year 15 because of a reduction in the over-representation in uncharacteristic closed states and significantly more representation in the under-represented multi-story open states (figure 20).

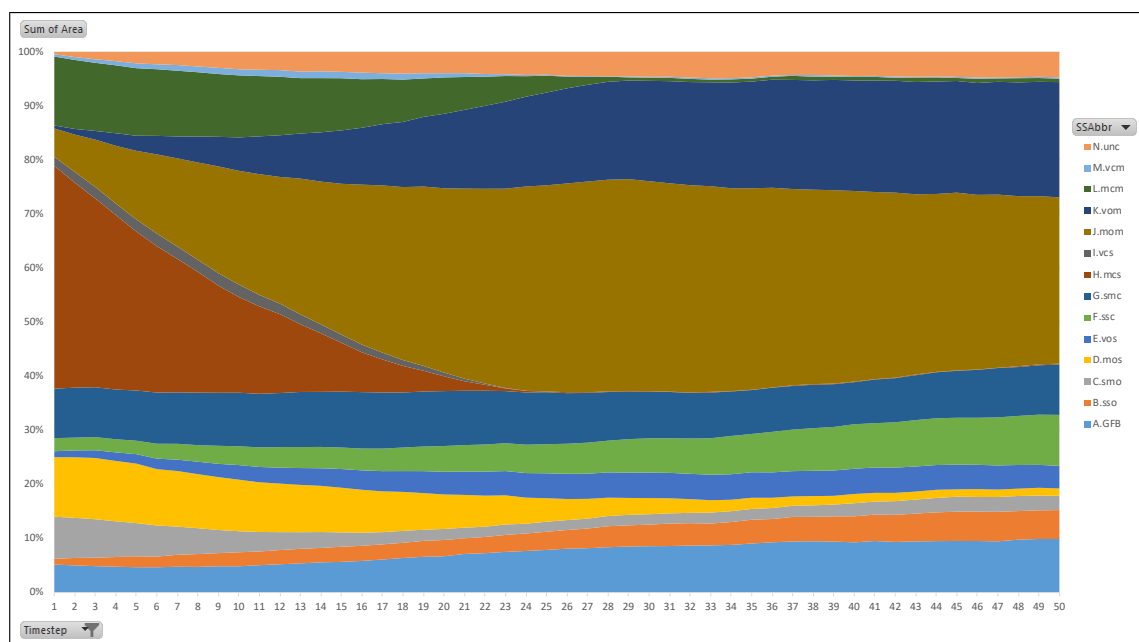


Figure 20. Ponderosa pine forest modeled seral state distribution results – alternative 2

Under alternative 3, ponderosa pine forest is 41 percent departed by year 15 because of a rapid and significant reduction in over-represented uncharacteristic closed states and significantly more representation in the under-represented multi-story open states (figure 21).

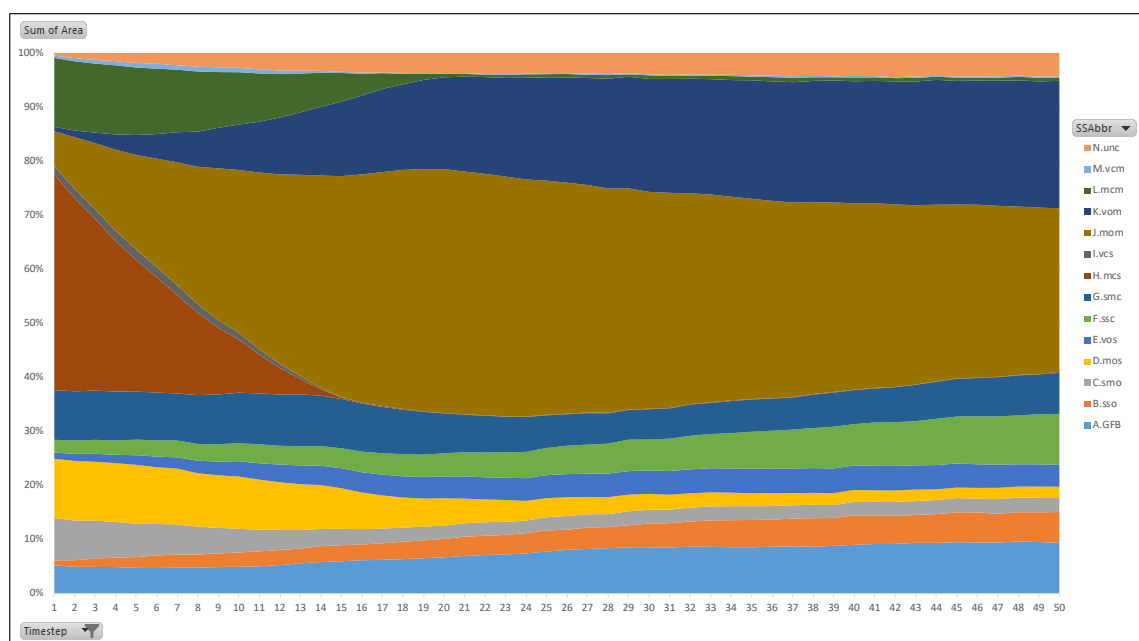


Figure 21. Ponderosa pine forest modeled seral state distribution results – alternative 3

Under alternative 4, ponderosa pine forest is 71 percent departed by year 15 because while there is a reduction in over-represented uncharacteristic closed states and there is only a slight increase in the under-represented multi-story open states (figure 22).

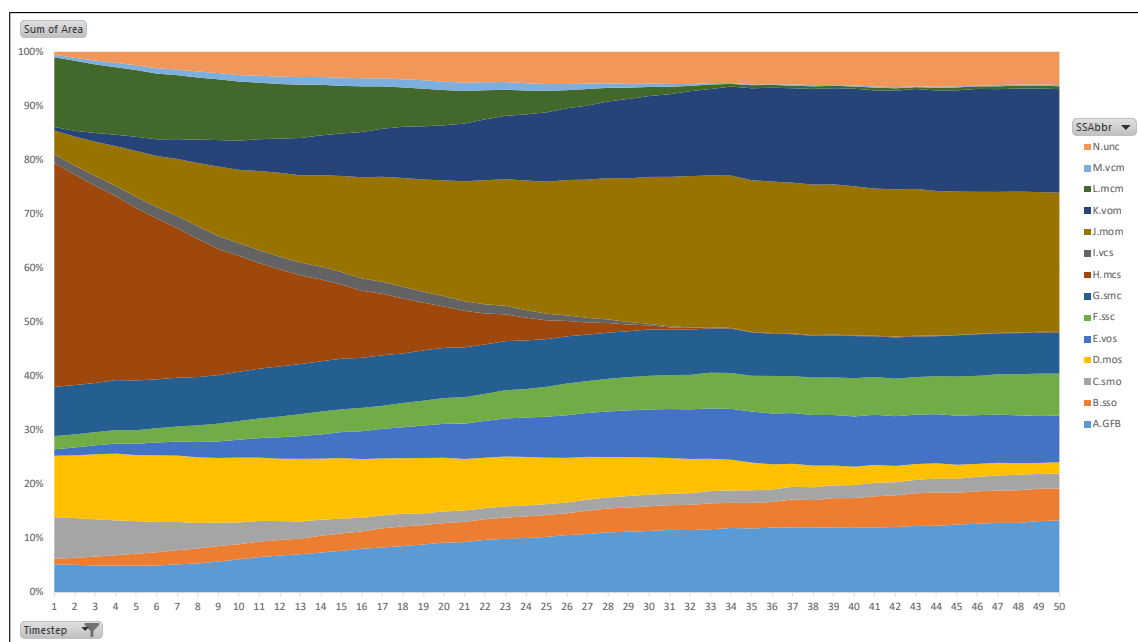


Figure 22. Ponderosa pine forest modeled seral state distribution results – alternative 4

Under alternative 5, ponderosa pine forest is 59 percent departed by year 15 because of a reduction in the over-representation in uncharacteristic closed states and significantly more representation in the under-represented multi-story open states (figure 23).

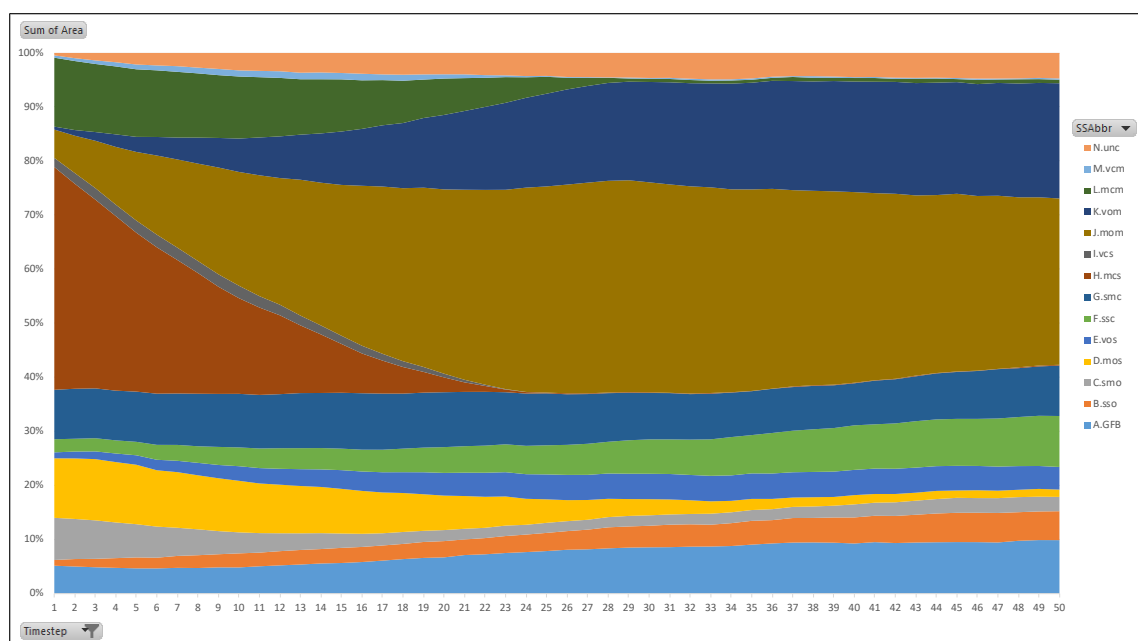


Figure 23. Ponderosa pine forest modeled seral state distribution results – alternative 5

Piñon-Juniper Woodland

Assumptions

Management related to prescribed fire and mechanical treatment does not vary among alternatives. Future wildfire and insect and disease frequency and severity are likely to differ from levels in the recent past, though in unpredictable ways. Therefore, they were modeled using recent averages under all alternatives. The number of acres managed using piñon-juniper woodland plan components varies under alternative 4 where grassland maintenance management areas are managed toward piñon-juniper woodland desired conditions, not grass as in other alternatives. Those acres are added to the initial condition in alternative 4 and have been excluded under all other alternatives.

Run Settings

General | Initial Conditions | Options | Output

Total Area Represented: 159341

Proportion of Cells:

Class	Propr
A PJO GFB	0.1555
B PJO B.sso	0.0779
C PJO C.smo	0.1217
D PJO D.mvo	0.1306
E PJO E.ssc	0.0241
F PJO F.smc	0.0953
G PJO G.mvc	0.395

Total: 1.0001

☐ Randomize initial TSD to a maximum of: 0

Buttons: Reset, Normalize, End Values, Load..., Save As..., TSD, Ages, Sort...

Buttons: New Age, Delete Age

Buttons: OK, Cancel, Run

Figure 24. Piñon-juniper woodland model initial conditions – alternative 1, 2, 3, and 5

Run Settings

General | Initial Conditions | Options | Output

Total Area Represented: 178196

Proportion of Cells:

Class	Propr
A PJO GFB	0.1983
B PJO B.sso	0.0705
C PJO C.smo	0.1047
D PJO D.mvo	0.1236
E PJO E.ssc	0.0223
F PJO F.smc	0.0882
G PJO G.mvc	0.3672

Total: 1

☐ Randomize initial TSD to a maximum of: 0

Buttons: Reset, Normalize, End Values, Load..., Save As..., TSD, Ages, Sort...

Buttons: New Age, Delete Age

Buttons: OK, Cancel, Run

Figure 25. Piñon-juniper woodland model initial conditions- alternative 4

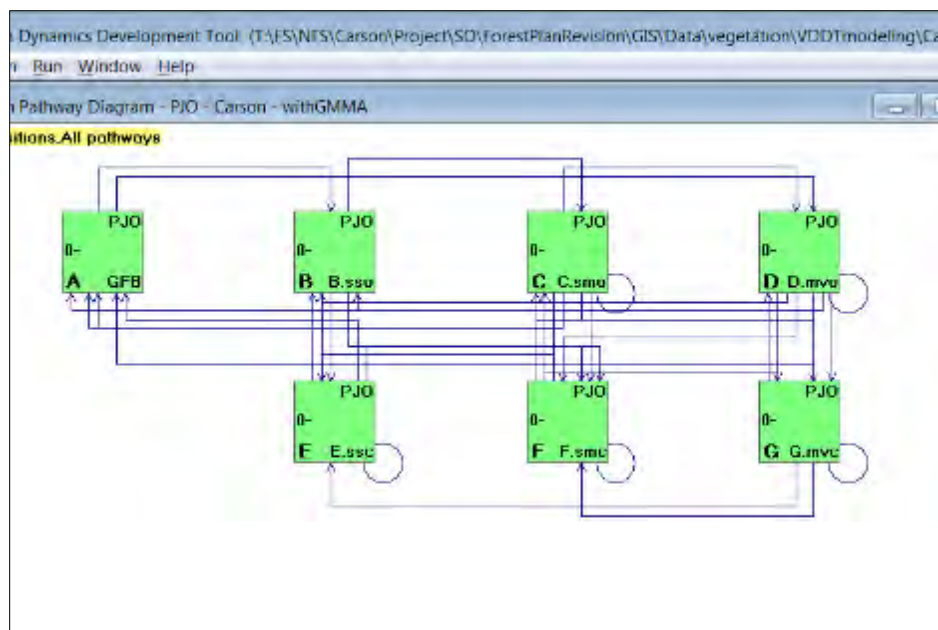


Figure 26. Piñon-juniper woodland model (transition pathway diagram)

Model Results

Under all alternatives piñon-juniper woodland departure would decline as trees fill in open canopies and create more late-seral, closed states. Alternative 4 begins with a greater percentage in the grass-forb A-state because there is no Grassland Maintenance Management Area in that alternative and those cleared areas are included in the model (figure 27 and figure 28)

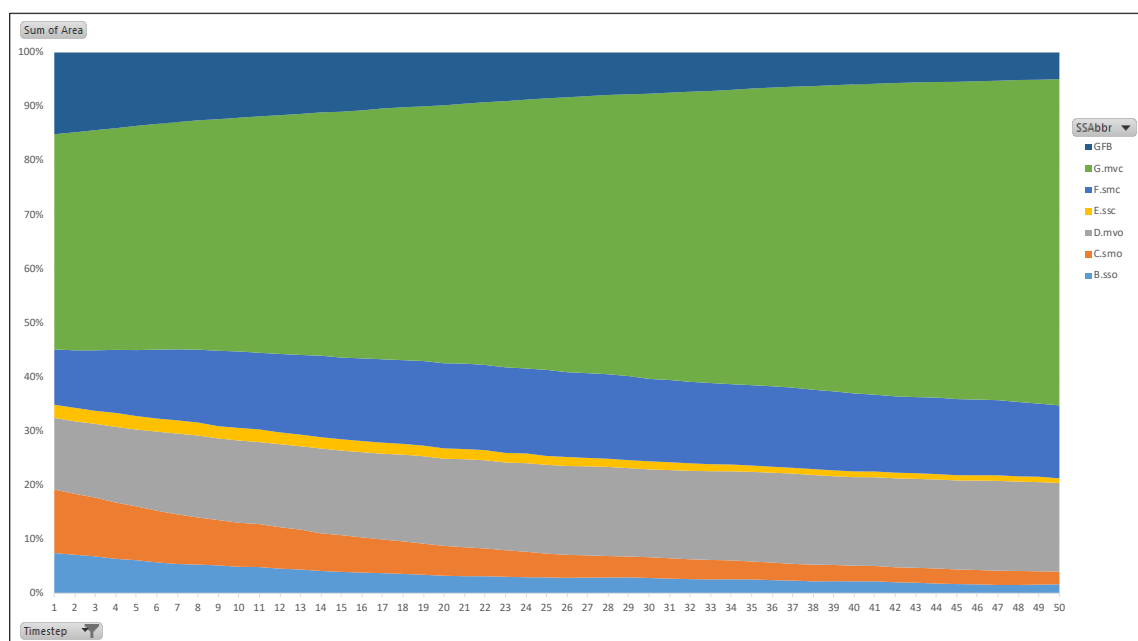


Figure 27. Piñon-juniper woodland modeled seral state distribution results – alternatives 1, 2, 3, and 5

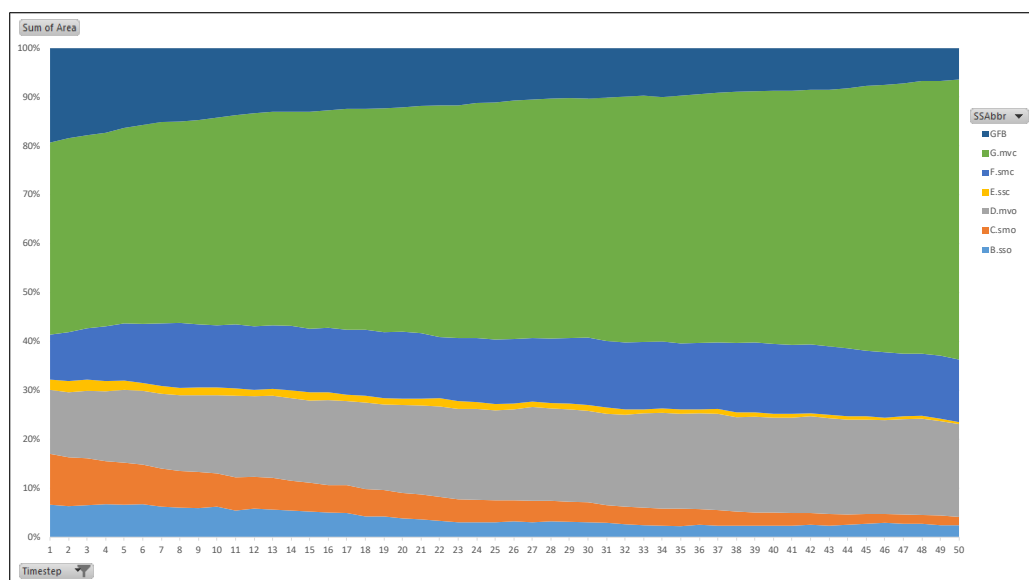


Figure 28. Piñon-juniper woodland modeled seral state distribution results – alternative 4

Piñon-Juniper Sagebrush

Assumptions

Management related to prescribed fire and mechanical treatment does not vary among alternatives. Future wildfire and insect and disease frequency and severity are likely to differ from levels in the recent past, though in unpredictable ways. Therefore, they were modeled using recent averages under all alternatives. The number of acres managed using piñon-juniper sagebrush plan components varies under alternative 4 where grassland maintenance management areas are managed toward piñon-juniper sagebrush desired conditions, not grass as in other alternatives. Those acres are added to the initial condition in alternative 4 and have been excluded under all other alternatives.

Class	Propn
A PJS A.GFB	0.243
B PJS B.sso	0.051
C PJS C.smo	0.1888
D PJS D.mvo	0.0707
E PJS E.ssc	0.0432
F PJS F.smc	0.0919
G PJS G.mvc	0.3114

Figure 29. Piñon-juniper sagebrush model initial conditions – alternatives 1, 2, 3, and 5

Run Settings

General Initial Conditions Options Output

Total Area Represented: 217326

Proportion of Cells:

Class	Propr
A PJS A.GFB	0.3016
B PJS B.sso	0.044
C PJS C.smo	0.1953
D PJS D.mvo	0.0597
E PJS E.ssc	0.0358
F PJS F.smc	0.0868
G PJS G.mvc	0.2768

Reset Normalize End Values Load... Save As...

☐ TSD ☐ Ages Sort...

New Age Delete Age Total: 1.

☐ Randomize initial TSD to a maximum of: 0

OK Cancel Run

Figure 30. Piñon-juniper sagebrush model initial conditions – alternative 4

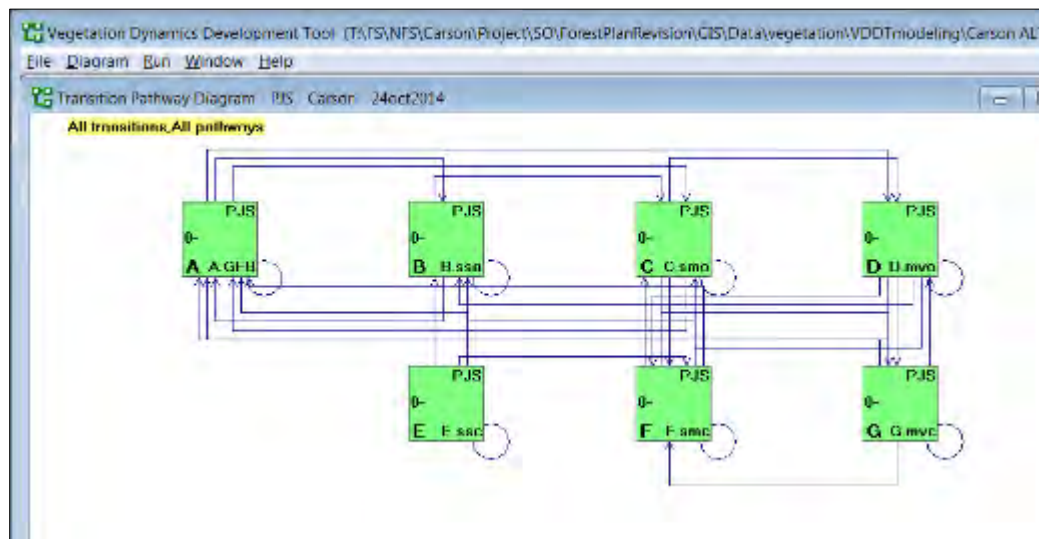


Figure 31. Piñon-juniper sagebrush model (transition pathway diagram)

Model Results

Under all alternatives piñon-juniper sagebrush departure would decline over the first 15 years as trees fill in open canopies and create more late-seral, closed states. Alternative 4 begins with a greater percentage in the grass-forb A-state because there is no Grassland Maintenance Management Area in that alternative and those cleared areas are included in the model (figure 32 and figure 33).

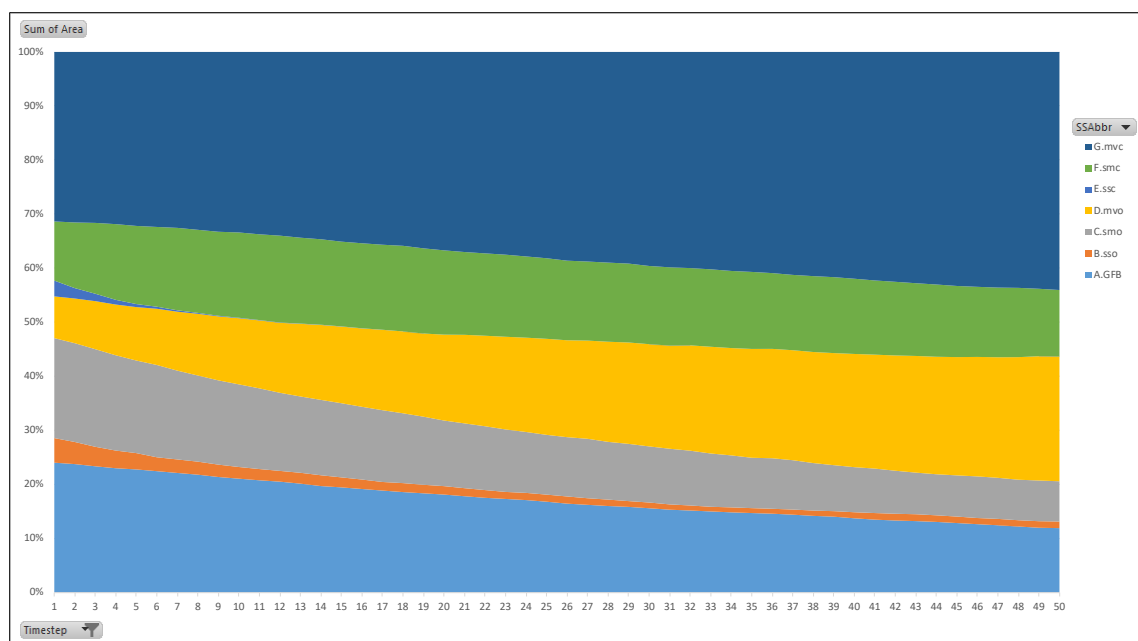


Figure 32. Piñon-juniper sagebrush modeled seral state distribution results – alternatives 1, 2, 3, and 5

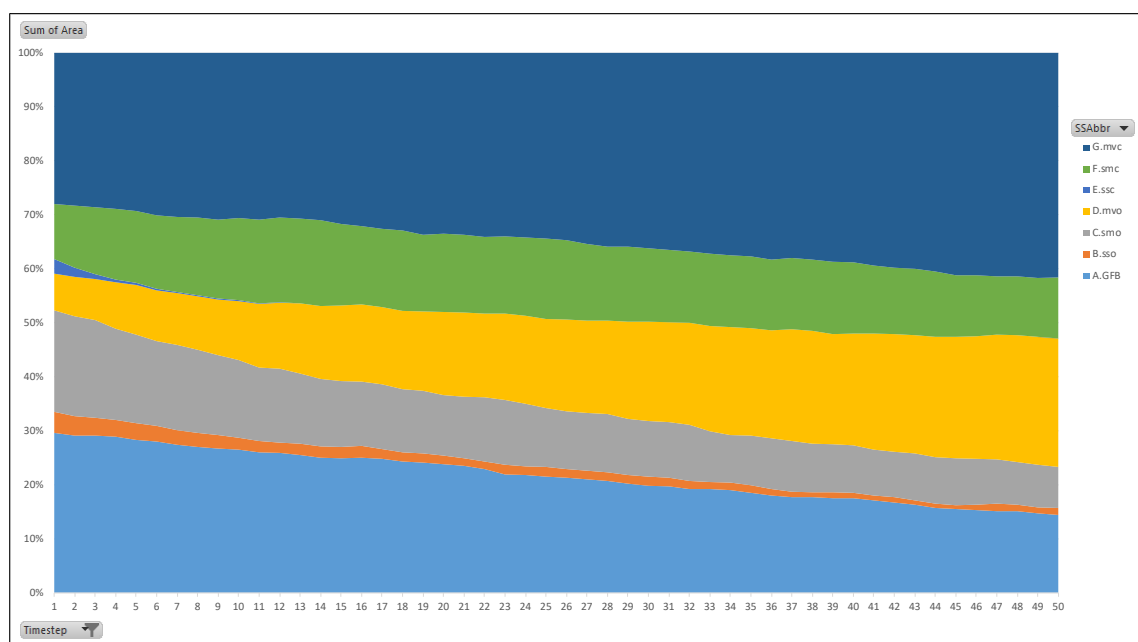


Figure 33. Piñon-juniper sagebrush modeled seral state distribution results – alternative 4

Sagebrush

Assumptions

Management related to prescribed fire and mechanical treatment does not vary among alternatives. Future wildfire and insect and disease frequency and severity are likely to differ from levels in the recent past, though in unpredictable ways. Therefore, they were modeled using recent averages under all alternatives.

Run Settings

General Initial Conditions Options Output

Total Area Represented: 59144

Proportion of Cells:

Class	Propr
A Early1 A.Early	0.08
B Late1 B.LateCl	0.33
C Mid1 C.Mid	0
D Late1 D.LateOp	0.36
E JUN E.JUN	0.23

Buttons: Reset, Normalize, End Values, Load..., Save As..., Sort...

Checkboxes: ☐ TSD, ☐ Ages

Buttons: New Age, Delete Age

Total: 1.

☐ Randomize initial TSD to a maximum of: 0

Figure 34. Sagebrush model initial conditions

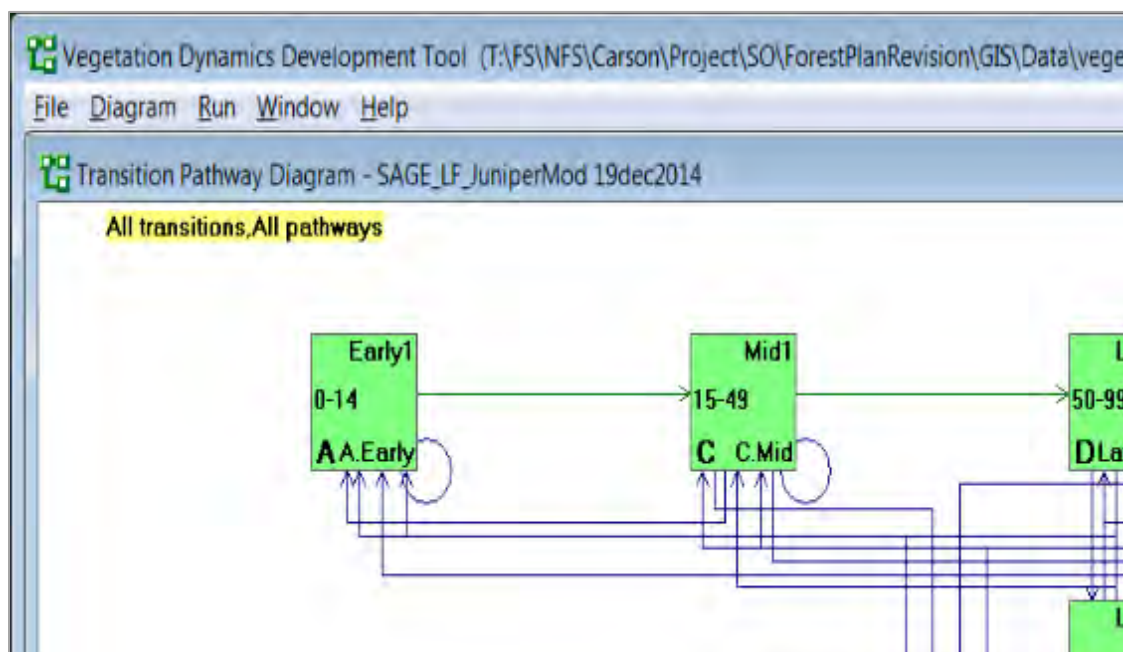


Figure 35. Sagebrush model

Model Results

Seral state departure in sagebrush increases as the uncharacteristic E-treed state increases (figure 36).

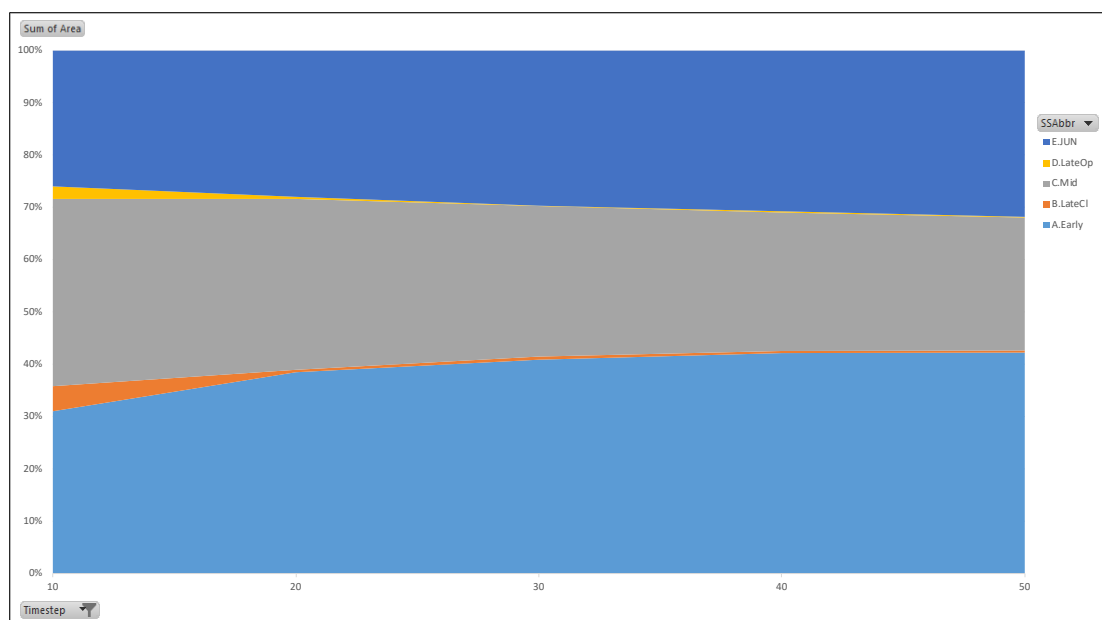


Figure 36. Sagebrush modeled seral state distribution results – all alternatives

Montane Subalpine Grassland

Assumptions

Management related to prescribed fire and mechanical treatment in montane subalpine grassland does not vary among alternatives. Future wildfire and insect and disease frequency and severity are likely to differ from levels in the recent past, though in unpredictable ways. Therefore, they were modeled using recent averages under all alternatives.

Class	Propr
A P A.GrOpn	0.0008
B P B.GrMid	0.2668
C P C.GrCIs	0
D NP D.Shrub	0.3794
E R E.Ruderal	0.353

Figure 37. Montane subalpine grassland model initial conditions

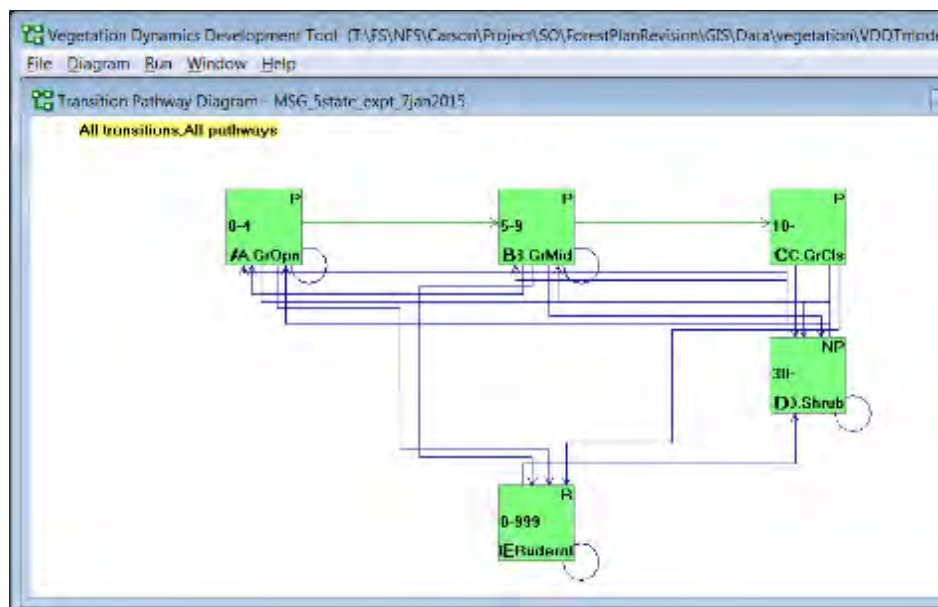


Figure 38. Montane subalpine grassland model (transition pathway diagram)

Model Results

Seral state departure in montane subalpine grassland declines as uncharacteristic D-shrub states increase. Modeling also predicts a rapid infill of mid-seral grass creating closed grass states (figure 39).

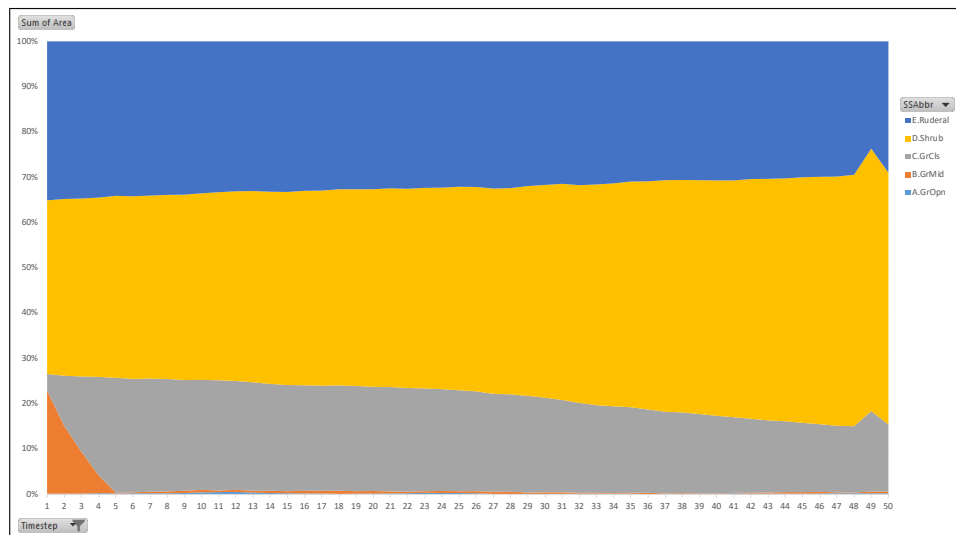


Figure 39. Montane subalpine grassland modeled seral state distribution results – all alternatives

Coarse Woody Debris Calculations

Coarse woody debris tons per acre were calculated by multiplying acres in each seral state by coefficients that represent average values compiled from regional Forest Inventory and Analysis Program data (table 16). The calculated values based on current seral state proportions do not match actual measured values on the Carson National Forest. Therefore, direct comparison of the current measured amount to a modeled future amount is not appropriate. Instead modeled current values (see table 17) are compared to modeled future values (see table 18) to determine the magnitude and direction of trend in amount (see table 19).

Table 16. Coefficients for each ecological response unit by seral state for tons of coarse woody debris

Seral State	Spruce-Fir Forest	Mixed Conifer, with Aspen	Mixed Conifer, with Frequent Fire	Ponderosa Pine Forest	Piñon-Juniper Woodland	Piñon-Juniper Sagebrush
A	7.2	8.8	5.1	1.8	2.6	0
B	31.8	30.5	13.7	3.9	2.1	0.4
C	35.1	32.7	18.0	5.1	2.3	1.6
D	37.3	31.7	5.7	3.3	4.8	5.1
E	58.2	35.6	8.8	13.7	1.0	1.8
F	38.5	39.0	13.4	3.9	6.1	4.3
G	50.0	12.3	18.0	5.9	8.2	7.6
H	23.4	54.7	28.4	8.8	N/A	N/A
I	32.8	57.0	36.8	15.0	N/A	N/A
J	56.0	42.7	5.1	3.1	N/A	N/A
K	7.9	N/A	54.5	6.0	N/A	N/A
L	25.2	N/A	22.3	8.3	N/A	N/A
M	34.7	N/A	26.4	11.4	N/A	N/A
N	51.6	N/A	0	0	N/A	N/A
O	47.5	N/A	N/A	N/A	N/A	N/A
P	48.1	N/A	N/A	N/A	N/A	N/A
Q	49.9	N/A	N/A	N/A	N/A	N/A
R	62.8	N/A	N/A	N/A	N/A	N/A
S	59.9	N/A	N/A	N/A	N/A	N/A

N/A indicates not applicable.

Table 17. Calculated total tons of coarse woody debris by ecological response unit based on current seral state proportions

Ecological Response Unit	Coarse Woody Debris
Spruce-Fir Forest	34.11
Mixed Conifer with Aspen	31.23
Mixed Conifer with Frequent Fire	26.28
Ponderosa Pine Forest	6.99
Piñon-Juniper Woodland	5.24
Piñon-Juniper Sagebrush	3.16

Table 18. Calculated total tons of coarse woody debris by ecological response unit and alternative based on modeled seral state proportions at year 15

Ecological Response Unit	Alternative	Coarse Woody Debris (tons)
Spruce-Fir Forest	All	36.06
Mixed Conifer with Aspen	All	34.46
Mixed Conifer with Frequent Fire	1	24.02
Mixed Conifer with Frequent Fire	2	22.04
Mixed Conifer with Frequent Fire	3	21.86
Mixed Conifer with Frequent Fire	4	21.75
Ponderosa Pine Forest	1	7.27
Ponderosa Pine Forest	2	5.21
Ponderosa Pine Forest	3	4.39
Ponderosa Pine Forest	4	5.57
Piñon-Juniper Woodland	1	5.81
Piñon-Juniper Woodland	2	5.92
Piñon-Juniper Woodland	3	5.92
Piñon-Juniper Woodland	4	5.81
Piñon-Juniper Sagebrush	1	3.98
Piñon-Juniper Sagebrush	2	4.28
Piñon-Juniper Sagebrush	3	4.28
Piñon-Juniper Sagebrush	4	3.98

Table 19. Percent change in tons of coarse woody debris per acre from current to year 15

Ecological Response Unit	Alternative	Coarse Woody Debris (Percent Change)
Spruce-Fir Forest	All	105.72%
Mixed Conifer with Aspen	All	110.35%
Mixed Conifer with Frequent Fire	1	91.38%
Mixed Conifer with Frequent Fire	2	83.87%
Mixed Conifer with Frequent Fire	3	83.19%
Mixed Conifer with Frequent Fire	4	82.76%
Ponderosa Pine Forest	1	104.06%
Ponderosa Pine Forest	2	74.49%
Ponderosa Pine Forest	3	62.76%
Ponderosa Pine Forest	4	79.66%
Piñon-Juniper Woodland	1	111.02%
Piñon-Juniper Woodland	2	113.06%
Piñon-Juniper Woodland	3	113.06%
Piñon-Juniper Woodland	4	111.02%
Piñon-Juniper Sagebrush	1	125.77%
Piñon-Juniper Sagebrush	2	135.24%
Piñon-Juniper Sagebrush	3	135.24%
Piñon-Juniper Sagebrush	4	125.77%

Snag Calculations

Number of snags, both over 8 inches in diameter and over 18 inches in diameter, were calculated by multiplying acres in each seral state by coefficients that represent average values compiled from regional Forest Inventory and Analysis Program data (see table 20 and table 21). The calculated values based on current seral state proportions do not match actual measured values on the Carson National Forest. Therefore, direct comparison of the current measured number of snags to a modeled future number is not appropriate. Instead modeled current values (see table 22) are compared to modeled future values (see table 23) to determine the magnitude and direction of trend in number of snags (see table 24).

Table 20. Coefficients for each ecological response unit by seral state for numbers of snags over 8 inches per acre

Seral State	Spruce-Fir Forest	Mixed Conifer with Aspen	Mixed Conifer with Frequent Fire	Ponderosa Pine Forest	Piñon-Juniper Woodland	Piñon-Juniper Sagebrush
A	19.1	37.7	18.4	9.3	6.2	0
B	9.2	17.1	10.3	2.2	2.2	3.8
C	23.3	17.3	11.3	4.2	4.9	2.1
D	41.3	24.6	16.6	5.7	8.4	10.9
E	37.9	31.8	48.4	7.2	2.0	0
F	32.2	20.8	11.8	2.6	8.3	5.9
G	28.1	16.2	13.6	5.2	11.9	12.3
H	13.3	25.7	29.7	7.2	NA	NA
I	15.3	48.3	20.7	2.6	NA	NA
J	8.8	48.7	12.5	5.2	NA	NA
K	0	NA	20.5	4.4	NA	NA
L	13.6	NA	21.3	3.6	NA	NA
M	19.9	NA	17.3	8.3	NA	NA
N	15.0	NA	0	0	NA	NA
O	16.5	NA	NA	NA	NA	NA
P	4.7	NA	NA	NA	NA	NA
Q	5.5	NA	NA	NA	NA	NA
R	15.3	NA	NA	NA	NA	NA
S	8.8	NA	NA	NA	NA	NA
T	19.1	NA	NA	NA	NA	NA

NA means not applicable.

Table 21. Coefficients for each ecological response unit by seral state for number of snags over 18 inches per acre

Seral State	Spruce-Fir Forest	Mixed Conifer with Aspen	Mixed Conifer with Frequent Fire	Ponderosa Pine Forest	Piñon-Juniper Woodland	Piñon-Juniper Sagebrush
A	0	11.1	5.3	1.6	3.4	0
B	2.7	4.8	2.0	1.0	1.3	0.2
C	6.2	6.8	1.3	1.3	1.2	0.8
D	3.1	5.3	1.0	1.0	2.7	3.4
E	23.4	11.5	4.0	4.0	0.3	0
F	7.8	10.7	0.9	0.9	0.9	0.7
G	16.2	6.9	0.7	0.7	1.4	1.0
H	3.2	7.4	0.6	0.6	NA	NA
I	23.9	25.6	2.4	2.4	NA	NA
J	36.0	19.6	1.2	1.2	NA	NA
K	0	NA	1.6	1.6	NA	NA
L	5.7	NA	0.8	0.8	NA	NA
M	6.9	NA	1.8	1.8	NA	NA
N	17.2	NA	0	0	NA	NA
O	15.5	NA	NA	NA	NA	NA
P	12.2	NA	NA	NA	NA	NA
Q	13.4	NA	NA	NA	NA	NA
R	23.9	NA	NA	NA	NA	NA
S	36.0	NA	NA	NA	NA	NA
T	0	NA	NA	NA	NA	NA

NA means not applicable.

Table 22. Calculated total number of snags by ecological response unit based on current seral state proportions

Ecological Response Unit	Number of snags over 8 inches	Number of snags over 18 inches
Spruce-Fir Forest	26.61	4.69
Mixed Conifer with Aspen	22.95	5.82
Mixed Conifer with Frequent Fire	25.93	3.55
Ponderosa Pine Forest	7.99	0.89
Piñon-Juniper Woodland	8.33	1.87
Piñon-Juniper Sagebrush	5.16	0.69

Table 23. Calculated total number of snags by ecological response unit and alternative based on modeled seral state proportions at year 15

Ecological Response Unit	Alternative	Number of snags over 8 inches	Number of snags over 18 inches
Spruce-Fir Forest	All	25.56	6.01
Mixed Conifer with Aspen	All	24.20	7.99
Mixed Conifer with Frequent Fire	1	22.73	4.70
Mixed Conifer with Frequent Fire	2	21.23	4.67
Mixed Conifer with Frequent Fire	3	20.31	5.07
Mixed Conifer with Frequent Fire	4	21.73	4.87
Ponderosa Pine Forest	1	7.08	1.01
Ponderosa Pine Forest	2	5.48	1.14
Ponderosa Pine Forest	3	4.80	1.24
Ponderosa Pine Forest	4	5.94	1.16
Piñon-Juniper Woodland	1	8.97	1.78
Piñon-Juniper Woodland	2	9.08	1.72
Piñon-Juniper Woodland	3	9.08	1.72
Piñon-Juniper Woodland	4	8.97	1.78
Piñon-Juniper Sagebrush	1	6.69	0.98
Piñon-Juniper Sagebrush	2	7.16	1.04
Piñon-Juniper Sagebrush	3	7.16	1.04
Piñon-Juniper Sagebrush	4	6.69	0.98

Table 24. Percentage change in number of snags per acre from current to year 15

Ecological Response Unit	Alternative	Change in number of snags over 8 inches	Change in number of snags over 18 inches
Spruce-Fir Forest	All	96.07%	128.02%
Mixed Conifer with Aspen	All	105.47%	137.40%
Mixed Conifer with Frequent Fire	1	87.67%	132.39%
Mixed Conifer with Frequent Fire	2	81.88%	131.57%
Mixed Conifer with Frequent Fire	3	78.33%	142.92%
Mixed Conifer with Frequent Fire	4	83.80%	137.14%
Ponderosa Pine Forest	1	88.66%	113.61%
Ponderosa Pine Forest	2	68.66%	128.73%
Ponderosa Pine Forest	3	60.07%	139.40%
Ponderosa Pine Forest	4	74.39%	130.82%
Piñon-Juniper Woodland	1	107.79%	95.81%
Piñon-Juniper Woodland	2	109.04%	92.39%
Piñon-Juniper Woodland	3	109.04%	92.39%
Piñon-Juniper Woodland	4	107.79%	95.81%
Piñon-Juniper Sagebrush	1	129.81%	141.83%
Piñon-Juniper Sagebrush	2	138.89%	149.31%
Piñon-Juniper Sagebrush	3	138.89%	149.31%
Piñon-Juniper Sagebrush	4	129.81%	141.83%

Carbon Modeling

Forests are dynamic systems that naturally undergo ebbs and flows in carbon storage and emissions as trees and other vegetation establish and grow, die with age or disturbances, and re-establish and regrow. Through photosynthesis, growing plants remove CO₂ from the atmosphere and store it in forest biomass, such as in plant stems, branches, foliage, and roots. Some of this organic material is eventually stored in forest soils through biotic and abiotic processes (Ryan et al. 2010). Carbon can also be transferred and stored outside of the forest ecosystem in the form of wood products, further influencing the amount of carbon entering the atmosphere (Gustavsson et al. 2006, Skog et al. 2014). Many management activities initially remove carbon from the forest ecosystem, but they can also result in long-term maintenance or increases in forest carbon uptake and storage by improving forest health and resilience to various types of stressors (McKinley et al. 2011).

The Forest Carbon Assessment for the Carson NF (Dugan et al. 2020) draws largely from two recent U.S. Forest Service reports: the Baseline Report (USDA FS 2015) and the Disturbance Report (Birdsey et al. 2019). They incorporate advances in data and analytical methods and collectively represent the best and most relevant scientific information available for the Carson NF.

Both reports relied on Forest Inventory and Analysis (FIA) and several validated, data-driven modeling tools to provide nationally consistent evaluations of forest carbon trends across the National Forest System (NFS). The Baseline Report applies the Carbon Calculation Tool (CCT) (Smith et al. 2007), which summarizes available FIA data across multiple survey years to estimate forest carbon stocks and changes in stocks at the scale of the national forest from 1990 to 2013. The Baseline Report also provides information on carbon storage in harvested wood products (HWP) for each Forest Service region. The Disturbance Report provides a national forest-scale evaluation of the influences of disturbances and management activities, using the Forest Carbon Management Framework (ForCaMF) (Healey et al. 2014; Raymond et al. 2015; Healey et al. 2016). This report also contains estimates of the long-term relative effects of disturbance and non-disturbance factors on carbon stock change and accumulation, using the Integrated Terrestrial Ecosystem Carbon (InTEC) model (Chen et al. 2000; Zhang et al. 2012).

Current Carbon Stocks

According to results of the Baseline Report (USDA FS 2015), carbon stocks on the Carson NF increased from 56.4±8.2 teragrams of carbon (Tg C) in 1990 to 56.9±7.3 Tg C in 2013, an 0.8 percent increase in carbon stocks over this period (figure 40). For context, 56.9 Tg C is equivalent to the emissions from approximately 45.4 million passenger vehicles in a year. Despite some uncertainty in annual carbon stock estimates, reflected by the 95 percent confidence intervals⁴, there is a high degree of certainty that carbon stocks on the Carson NF have been stable or increased slightly from 1990 to 2013 (figure 40).

About 30 percent of forest carbon stocks in the Carson NF are stored in the aboveground portion of live trees, which includes all live woody vegetation at least one inch in diameter. The soil carbon contained in organic material to a depth of one meter (excluding roots), is the second largest carbon pool, storing another 27 percent of the forest carbon stocks.

Annual carbon stock changes in the Carson NF were 0.0 ± 1.0 Tg C per year (stable) in 1990 and 0.0 ± 0.8 Tg C per year in 2012 (stable) (figure 41). The uncertainty between annual estimates can make it difficult to determine whether the forest is a sink or a source in a specific year (i.e., uncertainty bounds overlap zero) (figure 41). However, the trend of stable carbon stocks from 1990 to 2013 (figure 40) over the 23-year period suggests that the Carson NF is a stable reserve to slight carbon sink.

⁴ The 95 percent confidence intervals are derived using Monte Carlo simulations and represented by the error bars (figures 40 and 41). These confidence intervals indicate that 19 times out of 20, the carbon stock or stock change for any given year will fall within error bounds.

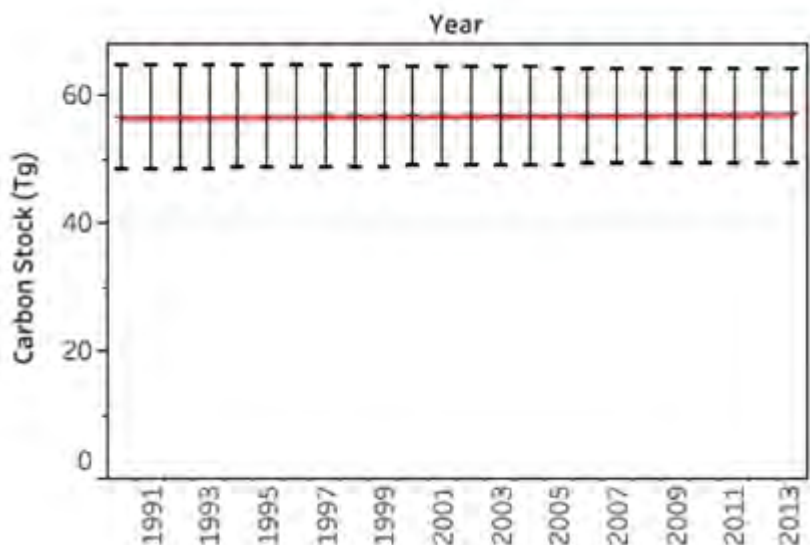


Figure 40. Total forest carbon stocks (Tg) from 1990 to 2013 for the Carson National Forest, bounded by 95 percent confidence intervals. Estimated using the CCT model.

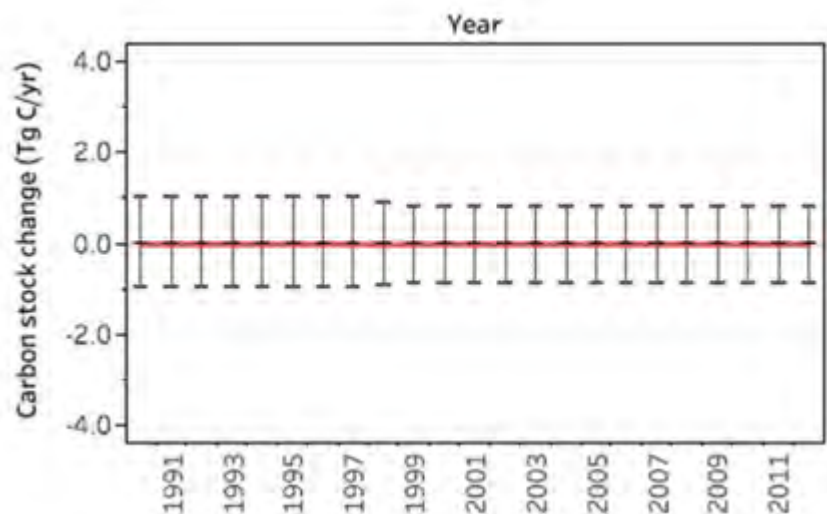


Figure 41. Carbon stock change (Tg/yr) from 1990 to 2012 for the Carson National Forest, bounded by 95 percent confidence intervals. A positive value indicates a carbon source, and a negative value indicates a carbon sink. Estimated using the CCT model.

Disturbance Effects

The disturbance report builds on estimates in the baseline report by supplementing high-resolution, manually-verified, annual disturbance data from Landsat satellite imagery (Healey et al. 2018). The Landsat imagery was used to detect land cover changes due to disturbances including fires, harvests, insects, and abiotic factors (e.g., wind, ice storms). The resulting disturbance maps indicate that fire has been the dominant disturbance type detected on the Carson NF from 1990 to 2011, in terms of the total percentage of forested area disturbed over the period (figure 42). However, according to the satellite imagery, fire affected a relatively small area of the forest during this time. Fire affected less than 1 percent of the total forested area of the Carson NF in any single year from 1990 to 2011, and in total less than 2

percent (approximately 9,700 ha) of the average forested area during this period (523,662 ha total). The second greatest factor in forest disturbance was insect damage, (2,424 ha), or 0.5 percent of total forest, and the third factor was harvest, (1,792 ha), or 0.3 percent of total forest. The average amount of forest disturbed by all factors over the period was 2.7 percent.

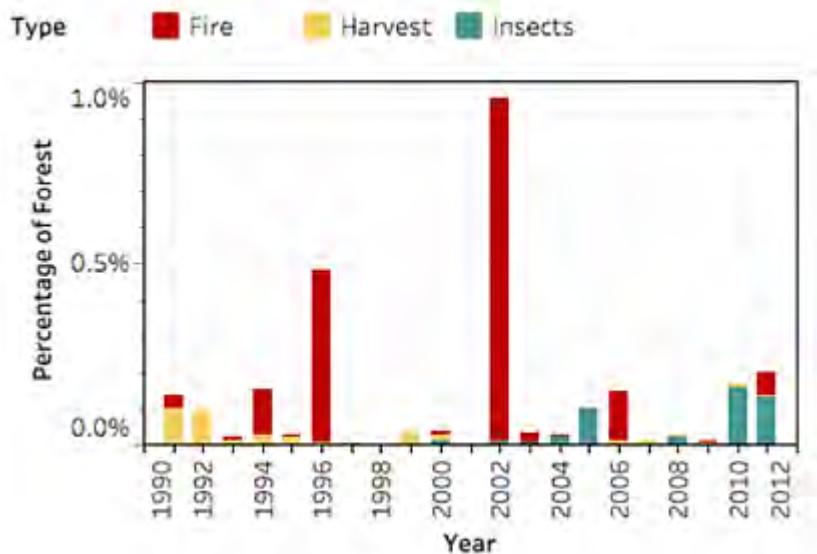


Figure 42. Percentage of forest disturbed from 1990 to 2011 on the Carson National Forest by disturbance type including fire, harvests, insects, and abiotic (wind). Estimated using annual disturbance maps derived from Landsat satellite imagery.

The Forest Carbon Management Framework (ForCaMF) incorporates Landsat disturbance maps summarized in figure 42, along with FIA data in the Forest Vegetation Simulator (FVS) (Crookston & Dixon 2005). The FVS is used to develop regionally representative carbon accumulation functions for each combination of forest type, initial carbon density, and disturbance type and severity (including undisturbed) (Raymond et al. 2015). The ForCaMF model then compares the undisturbed scenario with the carbon dynamics associated with the historical disturbances to estimate how much more carbon would be on each national forest if the disturbances and harvests during 1990-2011 had not occurred. ForCaMF simulates the effects of disturbance and management only on non-soil carbon stocks (i.e., vegetation, dead wood, forest floor). Like CCT, ForCaMF results supply 95 percent confidence intervals around estimates derived from a Monte Carlo approach (Healey et al. 2014).

For example, the ForCaMF model indicates that, by 2011, Carson NF contained 0.4 Mg C per ha less non-soil carbon (i.e., vegetation and associated pools) due to fire since 1990, as compared to a hypothetical undisturbed scenario figure 43). As a result, non-soil carbon stocks in the Carson NF would have been approximately 0.5 percent higher in 2011 if fire had not occurred since 1990.

The ForCaMF analysis does not capture carbon recovered by the ecosystem by forest regrowth. The ForCaMF model also does not track carbon stored in harvested wood after it leaves the forest ecosystem. In some cases, removing carbon from forests for human use can result in lower net contributions of greenhouse gases to the atmosphere than if the forest was not managed, when accounting for the carbon stored in wood products, substitution effects, and forest regrowth (Lippke et al. 2011; McKinley et al. 2011; Skog et al. 2014; Dugan et al. 2018).

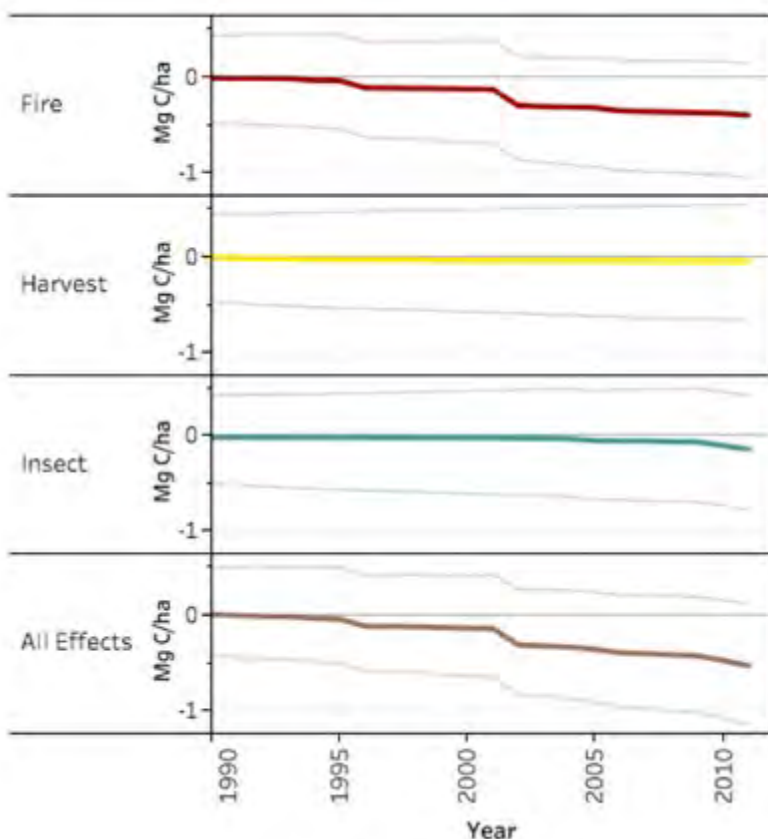


Figure 43. Lost potential storage of carbon (Megagrams) as a result of disturbance for the period 1990 to 2011 on the Carson National Forest. The zero line represents a hypothetical undisturbed scenario. Gray lines indicate 95 percent confidence intervals. Estimated using the ForCaMF model.

Fire (wildfire and prescribed) has been the dominant disturbance type on the Carson NF from 1990 to 2011. The area burned was relatively small, affecting on average just 0.09 percent of the Carson NF’s forested area annually (about 470 ha per year). Likewise, carbon losses from the forest ecosystem associated with fire have been relatively small, with non-soil losses from 1990 to 2011 totaling 0.4 Mg C per ha or about 0.5 percent of non-soil carbon stocks (Birdsey et al. 2019). Given that the Carson NF contains about 513,688 ha of forest land, non-soil carbon losses from fire have been about 9,785 Mg C per year (0.0098 Tg C yr⁻¹).

Insects affected on average 0.02 percent of forested area annually (about 115 ha) on the Carson NF from 1990 to 2011. Overall, insect disturbance detected over this 21-year period resulted in the loss of approximately 0.14 Mg C per ha (0.2 percent) of non-soil carbon. This is equivalent to an estimated loss of about 0.0034 Tg C per year, an extremely small fraction of the total carbon stocks on the Carson NF.

Timber harvest affected an average of 0.02 percent of forested areas annually (about 85 ha) from 1990 to 2011. Timber harvest resulted in the loss of approximately 0.05 Mg C per ha (0.1 percent) of non-soil carbon. This is equivalent to an estimated loss of about 0.0012 Tg C per year, an extremely small fraction of the total carbon stocks on the Carson NF (Birdsey et al. 2019). These estimates do not account for continued storage of harvested carbon in wood products or the effect of substitution. Recent declines in timber harvesting have slowed the rate of carbon accumulation in the product sector.

Each alternative was evaluated by comparing the amount of fire and mechanical treatment based on plan objectives to the levels that occurred from 1990 to 2011 (table 25).

Table 25. Potential carbon loss per year due to disturbance factors by alternative (Dugan, McKinley, De'Sciovile 2020)

Alternative	Mechanical treatment (acres)	Potential carbon loss due to mechanical treatment (Tg of C per year)	Prescribed fire (acres)	Potential carbon loss due to prescribed fire (Tg of C per year)	Insect damage (acres)	Potential carbon loss due to insects and disease (Tg of C per year)
Reference period	1,161	0.0012	210	0.0098	284	0.0034
1	1,368	0.0080	1,350	0.0114	284	0.0034
2	4,000	0.0233	13,500	0.1138	284	0.0034
3	10,400	0.0606	13,500	0.1138	284	0.0034
4	930	0.0054	17,760	0.1497	284	0.0034
5	4,000	0.0233	13,500	0.1138	284	0.0034

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Appendix D – Timber Suitability and Planned Timber Program

Introduction

Harvest of timber on National Forest System lands occurs for many different reasons, including ecological restoration, community protection in wildland-urban interfaces, habitat restoration, protection of municipal water supplies, and production of timber, pulp for paper, specialty woods for furniture, and fuel as a renewable energy source—all of which can support local businesses and employment. While timber harvest often occurs on lands classified as suitable for timber production, many of the forest products (timber, firewood, etc.) generated on the Carson National Forest have been, and will continue to be, produced as a result of restoration and fire protection activities that occur both on lands classified as suitable and those classified as unsuitable for timber production. The quantification of suitable timber lands neither commits lands to timber production nor commits the Carson National Forest to any future volume of timber sale.

The 1976 National Forest Management Act guides land management planning on national forests and grasslands. Like all laws, it is a product of the social and political issues at the time of its passage. Beginning in the 1950s, the Forest Service was called upon to provide large amounts of wood products for the marketplace, and did so, using industrial forest management techniques that emphasized maximum production. As harvest levels increased over the decades, Congress and members of the public became increasingly concerned about the impacts of intensive forest management on national forests. The National Forest Management Act was enacted in response to those public concerns, most notably, concerns associated with clearcutting. Consequently, the law has numerous timber-specific management requirements that focus on the appropriate regulation of harvest practices, especially clearcutting. The political environment and social values related to national forest management have substantially changed since the National Forest Management Act was enacted. The largely utilitarian views of the 1950s have given way to a balanced and integrated view of national forest management. Timber harvest may be considered a resource use (as described in the Act) or a management tool to achieve desired conditions (an activity to improve or restore healthy forest conditions). Timber harvest may be used as a tool on all lands, even those that are not suitable for timber production, in order to achieve desired conditions. The agency now focuses land management plans on desired conditions (outcomes) rather than on production of goods and services (outputs). This shift in management direction affects how the agency presently analyzes the National Forest Management Act required timber harvest suitability and sustained yield limit.

The National Forest Management Act requires the agency to determine the suitability of National Forest System lands for timber production and has specific requirements for timber suitability analysis in land management plans. This analysis includes specific timber production terminology.

Timber production is the purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use (36 CFR 219.19). There is a distinction between regulated timber harvest as a resource use (timber production) and timber harvest as a management tool to achieve desired conditions.

Projected wood sale quantity (PWSQ) is the estimated quantity of timber and all other wood products that is expected to be sold from the plan area for the plan period. The projected wood sale quantity consists of the projected timber sale quantity as well as other woody material such as fuelwood, firewood, or biomass that is also expected to be available for sale. The projected wood sale quantity includes volume from timber harvest for any purpose based on expected harvests that would be consistent with the plan components. The projected wood sale quantity is also based on the planning unit's fiscal capability

and organizational capacity. Projected wood sale quantity is not a target nor a limitation on harvest, and is not an objective in the Carson National Forest plan (FSH) 1909.12, chapter 60, section 60.5.

The projected timber sale quantity (PTSQ) is the estimated quantity of timber meeting applicable utilization standards that is expected to be sold during the plan period. As a subset of the projected wood sale quantity, the projected timber sale quantity includes volume from timber harvest for any purpose from all lands in the plan area based on expected harvests that would be consistent with the plan components. The projected timber sale quantity is also based on the planning unit's fiscal capability and organizational capacity. Projected timber sale quantity is neither a target nor a limitation on harvest, and it is not an objective in the Carson National Forest plan (FSH) 1909.12, chapter 60, section 60.5.

The sustained yield limit (SYL) is the amount of timber, meeting applicable utilization standards, which can be removed from a forest annually in perpetuity on a sustained-yield basis⁵. It is the volume that could be produced in perpetuity on lands that may be suitable for timber production. Calculation of the limit includes volume from lands that may be deemed not suitable for timber production after further analysis during the planning process. The calculation of the sustained yield limit is not limited by land management plan desired condition, other plan components, or the planning unit's fiscal capability and organizational capacity. The sustained yield limit is not a target but is a limitation on harvest, except when the plan allows for a departure (FSH) 1909.12, chapter 60, section 60.5.

Timber Suitability Analysis

Suitability is the appropriateness of applying certain resource management practices to a particular area of land, taking into consideration relevant social, economic, and ecological factors. Suitability is determined based on compatibility with plan desired conditions and objectives. This appendix provides descriptions of the criteria used in making the determination on the Carson National Forest along with the results of that determination for each plan alternative. The identification of an area as suitable for a particular use or uses guides project and activity decision making and is not a commitment or a final decision approving any particular project or activity. It does not mean that a particular use will or will not occur in the area. Per the 2012 Planning Rule, all forest plans must identify those lands that are suitable for timber production.

Phase 1: Lands that may be Suitable for Timber Production

Identification of land that may be suitable for timber production is the first phase in the process of determining lands that are suited for timber production. This preliminary classification is made prior to the consideration of plan components that may impact where timber production is desired and permitted. Lands that may be suitable excludes National Forest System lands based on the following criteria:

- a. Land that is not forested, identified by having less than 10 percent tree cover at maturity or having a non-forest use (powerline clearings, residential or administrative sites, and improved pasture).
- b. Known environmental factors (e.g., poor site conditions) exist that preclude reasonable assurance that restocking can be achieved within 5 years of final regeneration harvest.
- c. Technology to harvest timber without causing irreversible damage is not currently available.
- d. Timber production is prohibited by statute, executive order, or regulation, or the Secretary of Agriculture or the Chief of the Forest Service has withdrawn the land from timber production. Examples include designated wilderness areas, designated wild river segments, research natural areas, or other designated areas where timber production is specifically prohibited.

⁵ National Forest Management Act at section 11, 16 U.S.C. 1611; 36 CFR 219.11(d)(6).

Forest lands that remain after this initial screening (following removal of lands under A–D) are termed “lands that may be suitable for timber production,” and do not vary by alternative.

Non-forested Lands (Criteria A)

The identification of suitable lands relied heavily on existing Terrestrial Ecological Unit Inventory data for the Carson National Forest. To address non-forested lands, all terrestrial ecological units that are not capable of supporting 10 percent tree cover were removed from the analysis. Because some forested terrestrial ecological units have unforested components that are not mapped in the Terrestrial Ecological Unit Inventory, the remaining lands were refined by removing non-forested areas (tree cover capability is less than 10 percent) based on the Forest Service midscale vegetation classification.

Lands not Suitable for Timber Production due to Environmental and Technical Reasons (Criteria B and C)

The forested terrestrial ecological units remaining after criteria A screening were professionally evaluated by forest specialists⁶ to determine their suitability based on soil and site productivity attributes in the terrestrial ecological unit reports. See table 26 for a list of the terrestrial ecological units determined to be not suitable for timber production. The following conditions resulted in the exclusion of terrestrial ecological units from the suitable timber base (most excluded terrestrial ecological units had multiple contributing factors and conditions):

- Terrestrial ecological units with a climate class of 5(-1) or below, which represents marginal growth conditions for ponderosa pine production. Cooler and wetter climate classes (above 5(-1)) may be marginal for the preferred timber species on that site but were included because they have the potential to support other (non-preferred) tree species.
- The presence and dominance of lithic soils, which suggests lower restocking potential due to shallow soils.
- Low reforestation potential or poor soil conditions, which would limit the ability to reforest within 5 years following final regeneration harvest.
- Low site indices (generally 60 or below), which suggest low site productivity and inadequate restocking potential.
- Severe erosion and mass wasting potential, which suggest timber harvest may cause irreversible damage to the site and to soil productivity.
- Other sensitive soil types and steep slopes (usually over 40 percent slope), which suggest likely irreversible damage.

To refine the analysis, slopes greater than 40 percent (areas susceptible to irreversible damage) were removed from the remaining Terrestrial Ecological Unit Inventory map units.

⁶ Timber suitability workshop for the Santa Fe National Forest and Carson National Forest was held on December 4, 2017. Participants and attendees: Greg Miller (Soil Scientist), Jim Arcineiga (Forester), Peter Rich (Assistant Forest Planner), Robert Madera (Ecologist), Ken Reese (Forester), and Estella Smith (Soil Scientist).

Table 26. Terrestrial Ecological Unit Inventory (TEUI) mapping units not suitable for timber production

TEUI Mapping Unit	Ecological Response Unit	Adequate restocking (criteria B)	Available technology (criteria C)	Reason for finding of not suitable for timber production
156	Ponderosa Pine Forest	No	Yes	Shallow soils, low productivity
179	Spruce-Fir Forest	No	No	Rocky outcrops, shallow soil inclusions, steep, erodible soils
202	Ponderosa Pine Forest	No	No	Steep, shallow soils, droughty, low reforestation potential
302	Bristlecone Pine	No	No	Steep, droughty, low site index, not a commercial species
306	Spruce-Fir Forest	No	No	Erodible soils
309	Spruce-Fir Forest	Yes	No	Erodible soils
311	Ponderosa Pine Forest	No	No	Shallow, rocky soils, low-moderate reforestation potential
313	Spruce-Fir Forest	No	No	Erodible soils
317	Spruce-Fir Forest	No	No	Steep, erodible soils
450	Ponderosa Pine Forest	No	No	Steep, rocky, low reforestation potential
475	Spruce-Fir Forest	No	No	Timber is not an identified use, steep, low productivity
531	Ponderosa Pine Forest	No	No	Low site index, low soil strength
626	Ponderosa Pine Forest	No	No	Cobbly soils, low site index, low reforestation potential
631	Ponderosa Pine Forest	No	No	Unstable soils, low site index
632	Spruce-Fir Forest	Yes	No	Portions are too wet, unstable soils
634	Spruce-Fir Forest	No	Yes	Cobbly, low site index, low reforestation potential
800	Ponderosa Pine Forest	No	No	Shallow soils, steep, droughty
803	Mixed Conifer - Frequent Fire	Yes	No	Steep, oak competition
817	Mixed Conifer - Frequent Fire	Yes	No	Steep, erodible, rocky soils
820	Mixed Conifer w/ Aspen	Yes	No	Steep, erodible, rocky soils
822	Mixed Conifer - Frequent Fire	No	No	Low productivity, steep
823	Mixed Conifer w/ Aspen	No	No	Low productivity, steep, rocky
921	Mixed Conifer w/ Aspen	No	No	Low productivity, steep
922	Mixed Conifer w/ Aspen	No	No	Low productivity, steep
974	Sparsely Vegetated	No	No	Erodible, acidic soils
999	Spruce-Fir Forest	No	No	Steep, rocky soils

Lands Withdrawn from Timber Production (Criteria D)

Remaining lands were removed from the suitable timber base if timber production has been legally prohibited (criteria D). Areas removed because timber production is not allowed include designated wilderness areas (Pecos, Wheeler Peak, Columbine-Hondo, Latir Peak, Cruces Basin, and Chama River Canyon wilderness areas), The Rio Grande Wild and Scenic River, and inventoried roadless areas. 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. For these areas, site specific analyses during project planning would determine appropriate timber harvest prescriptions that are consistent with plan components for these areas.

Lands that may be Suitable for Timber Production

Based on this first phase of the suitability analysis, there are 465,350 acres on the Carson National Forest that may be suitable for timber production (table 27). These “lands that may be suitable for timber production” do not vary among action alternatives in the forest plan revision environmental impact statement. The previous plan used a different process to identify lands that may be suitable. The previous process was not based on terrestrial ecological unit mapping or midscale vegetation mapping and was more generalized. The accuracy of mapping was lower and used different criteria for classification. Also the order in which non-suitable lands are removed affects the number of acres in each category. For example, there are areas above tree line (non-forested) that are also in wilderness areas (withdrawn from timber production) that are counted on line 2 in table 27, not on line 4. In the previous process, those areas were included in lands withdrawn from timber production. All these factors contribute to a slightly different total for lands that may be suitable under the existing plan (487,898 acres). The actual location of those acres is significantly different.

Table 27. Determination of lands that may be suitable for timber production

Land classification category	Acres not suitable for timber production	Potentially suitable acres
1. Total Carson National Forest acres	not applicable	1,486,353
2. Non-forested land	747,743	not applicable
3. Lands where irreversible resource damage is likely and adequate restocking cannot be assured	212,093	not applicable
4. Lands withdrawn from timber production	61,167	not applicable
5. Total lands not suitable for timber production due to legal, technical, or environmental reasons (line 2+3+4)	1,021,003	not applicable
6. Lands that may be suitable for timber production (line 1-5)	not applicable	465,350

Phase 2: Lands suited and not suited for timber production based on compatibility with desired conditions and objectives

The second phase of the timber suitability analysis determines which of the lands that may be suitable for timber production (identified in phase 1) are suited for timber production based on the plan components described by each alternative. Additional areas may be removed from the suitable timber base when desired conditions, standards, and guidelines are not compatible with timber production. Lands and areas that met the following criteria were defined as suitable for timber production:

- Timber production is a desired primary or secondary use of the land.
- Timber production is anticipated to continue after desired conditions have been achieved.
- A flow of timber can be planned and scheduled on a reasonably predictable basis.
- Regeneration of the stand is intended.
- Timber production is compatible with the desired conditions or objectives for the land.

On lands identified unsuitable for timber production in this phase, harvest may still occur to protect or manage for multiple-use values other than timber production. Common examples include salvage, sanitation, public health, or safety, but may also include various other restoration activities. For example, meadow restoration may require cutting encroaching trees. While this activity may produce timber as a

byproduct, the treatment would have objectives other than timber production (e.g., keeping the meadow open as per desired conditions for that vegetation type) and would not be included in the suitable timber base. Table 28 shows management areas considered in each alternative of the plan revision environmental impact statement, and whether they are suitable or not suitable for timber production.

Table 28. Lands and areas suitable and not suitable for timber production based on compatibility with desired conditions and objectives

Alternative	Area	Suitable for Timber Production?
1	Eligible Wild and Scenic River Management Area – wild classification	No
1	Eligible Wild and Scenic River Management Area – scenic or recreational classification	Yes
1	Potential Recreation Area	No
1	Existing Recreation Area	No
1	Special Areas (Botanical, Zoological)	No
1	Semi-Primitive Areas (RARE II and New Mexico Wilderness Study Committee recommended areas)	No
1	Valle Vidal	No
2, 5	Recommended Wilderness Management Area	No
2, 5	Eligible Wild and Scenic River Management Area – wild classification	No
2, 5	Eligible Wild and Scenic River Management Area – scenic or recreational	Yes
2, 5	Developed Winter and Summer Resort Management Area	Yes
2, 5	Jicarilla Natural Gas Management Area	Yes
2, 5	Grassland Maintenance Management Area	No
2, 5	Valle Vidal Management Area	Yes
2, 5	San Antonio Management Area	Yes
3	Eligible Wild and Scenic River Management Area – wild classification	No
3	Eligible Wild and Scenic River Management Area – scenic or recreational	Yes
3	Developed Winter and Summer Resort Management Area	Yes
3	Jicarilla Natural Gas Management Area	Yes
3	Grassland Maintenance Management Area	No
3	Off-Highway Vehicle Management Area	Yes
4	Recommended Wilderness Management Area	No
4	Eligible Wild and Scenic River Management Area – wild classification	No
4	Eligible Wild and Scenic River Management Area – scenic or recreational	Yes
4	Developed Winter and Summer Resort Management Area	Yes
4	Jicarilla Natural Gas Management Area	Yes
4	Valle Vidal Management Area	No
4	San Antonio Management Area	No
4	Wetland Jewels Management Area	Yes
4	Rio Grande Cutthroat Trout Management Area	Yes

Since management areas differ by alternative (based on alternative theme), the resultant acres identified as suitable for timber production vary by alternative. The following tables (table 29 through table 33) and maps (figure 44 through figure 48) display the criteria and resulting acres considered to be suitable for timber production by alternative.

Table 29. Alternative 1 timber production suitability determination

Phase of the Timber Suitability Analysis	Land classification category	Acres
1st	A. Total National Forest System lands in the plan area	1,486,353
1st	B. Lands not suitable for timber production due to legal, technical, or environmental reasons	1,021,003
1st	C. Lands that may be suitable for timber production	465,350
2nd	E. Lands removed because timber harvest is not consistent with plan direction	see E-1 to E-6
2nd	E-1. Eligible Wild and Scenic River – wild classification	6,545
2nd	E-2. Potential Recreation Area	3168
2nd	E-3. Existing Recreation Area	785
2nd	E-4. Special Areas (Botanical, Zoological)	916
2nd	E-5. Semi-Primitive Areas (RARE II and New Mexico Wilderness Study Committee recommended areas)	3,745
2nd	E-6. Valle Vidal	67,836
2nd	F. Total lands not suitable for timber production (B+E)	1,103,999
2nd	G. Total lands suitable for timber production (A-F)	382,355

Table 30. Alternative 2 timber production suitability determination

Phase of the Timber Suitability Analysis	Land classification category	Acres
1st	A. Total National Forest System lands in the plan area	1,486,353
1st	B. Lands not suitable for timber production due to legal, technical, or environmental reasons	1,021,003
1st	C. Lands that may be suitable for timber production	465,350
2nd	E. Lands removed because management objectives limit timber harvest	see E-1 to E-3
2nd	E-1. Recommended Wilderness	2,880
2nd	E-2. Eligible Wild and Scenic River – wild classification	6,545
2nd	E-3. Grassland Maintenance Management Area	81
2nd	F. Total lands not suitable for timber production (B+E)	1,030,509
2nd	G. Total lands suitable for timber production (A-F)	455,844

Table 31. Alternative 3 timber production suitability determination

Phase of the Timber Suitability Analysis	Land classification category	Acres
1st	A. Total National Forest System lands in the plan area	1,486,353
1st	B. Lands not suitable for timber production due to legal, technical, or environmental reasons	1,021,003
1st	C. Lands that may be suitable for timber production	465,350
2nd	E. Lands removed because management objectives limit timber harvest	see E-1 and E-2
2nd	E-1. Eligible Wild and Scenic River – wild classification	6,545
2nd	E-2. Grassland Maintenance Management Area	81
2nd	F. Total lands not suitable for timber production (B+E)	1,027,629
2nd	G. Total lands suitable for timber production (A-F)	458,724

Table 32. Alternative 4 timber production suitability determination

Phase of the Timber Suitability Analysis	Land classification category	Acres
1st	A. Total National Forest System lands in the plan area	1,486,353
1st	B. Lands not suitable for timber production due to legal, technical, or environmental reasons	1,021,003
1st	C. Lands that may be suitable for timber production	465,350
2nd	E. Lands removed because management objectives limit timber harvest	see E-1 to E-4
2nd	E-1. Recommended Wilderness	18,093
2nd	E-2. Eligible Wild and Scenic River – wild classification	6,545
2nd	E-3. Valle Vidal Management Area	61,788
2nd	E-4. San Antonio Management Area	26,954
2nd	F. Total lands not suitable for timber production (B+E)	1,134,383
2nd	G. Total lands suitable for timber production (A-F)	351,970

Table 33. Alternative 5 timber production suitability determination

Phase of the Timber Suitability Analysis	Land classification category	Acres
1st	A. Total National Forest System lands in the plan area	1,486,353
1st	B. Lands not suitable for timber production due to legal, technical, or environmental reasons	1,021,003
1st	C. Lands that may be suitable for timber production	465,350
2nd	E. Lands removed because management objectives limit timber harvest	see E-1 to E-3
2nd	E-1. Recommended Wilderness	8,668
2nd	E-2. Eligible Wild and Scenic River – wild classification	6,545
2nd	E-3. Grassland Maintenance Management Area	81
2nd	F. Total lands not suitable for timber production (B+E)	1,045,803
2nd	G. Total lands suitable for timber production (A-F)	440,550



Figure 44. Areas suitable for timber production under alternative 1

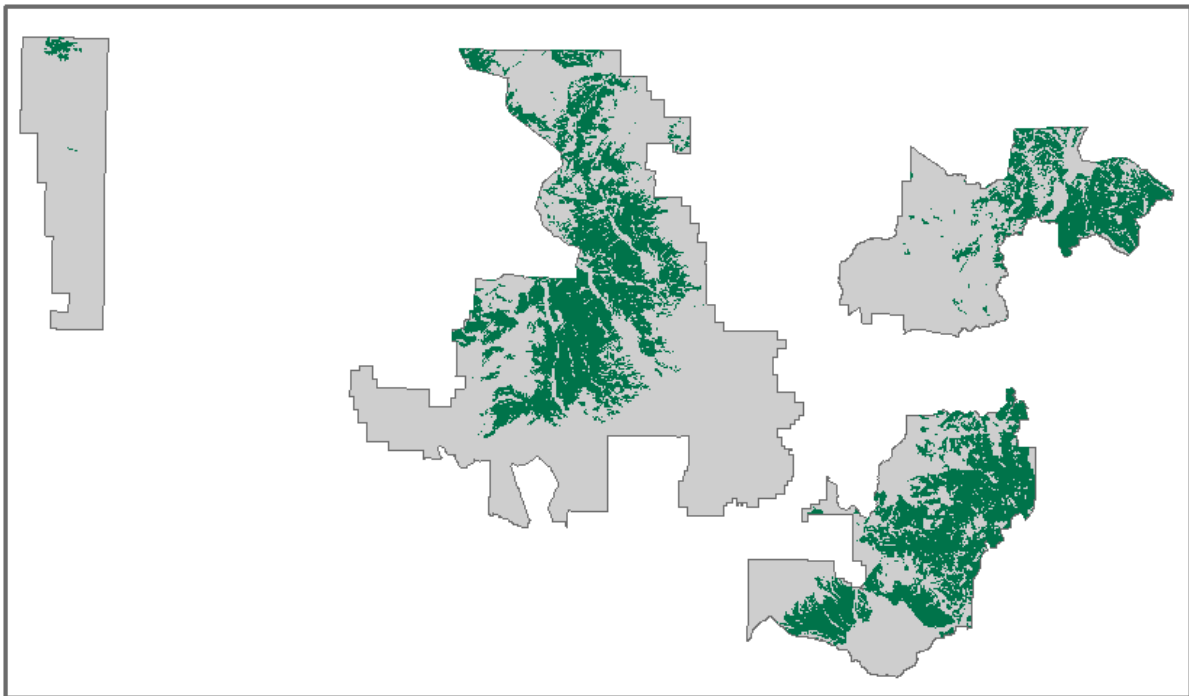


Figure 45. Areas suitable for timber production under alternative 2

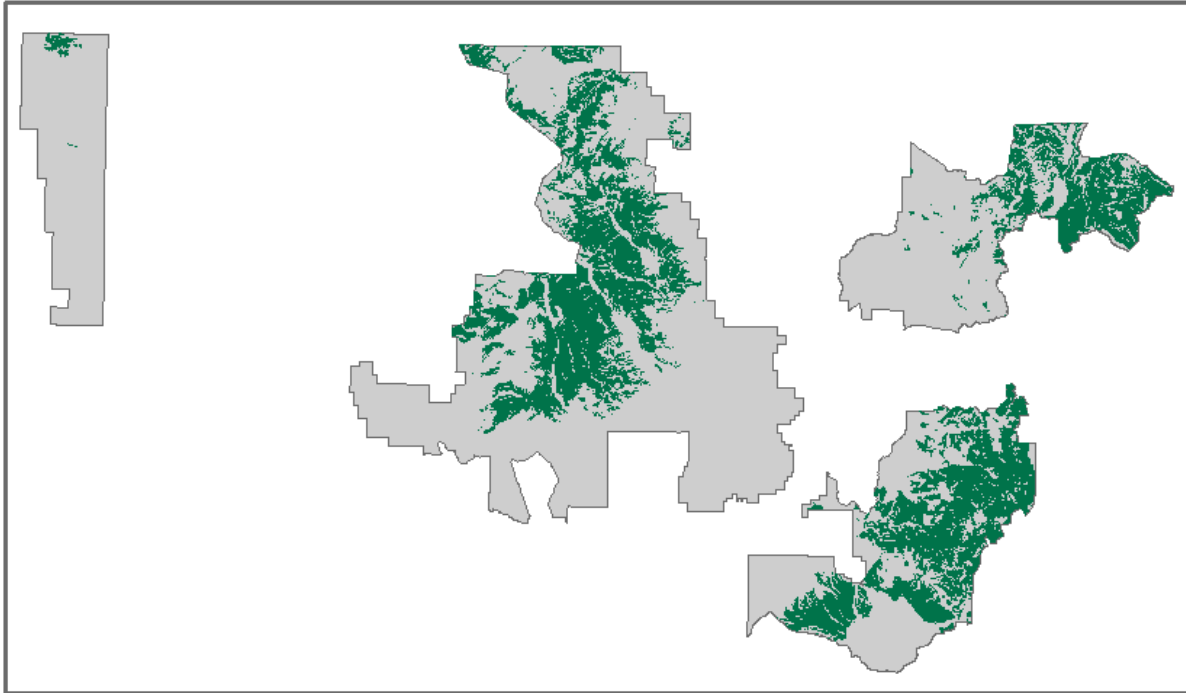


Figure 46. Areas suitable for timber production under alternative 3

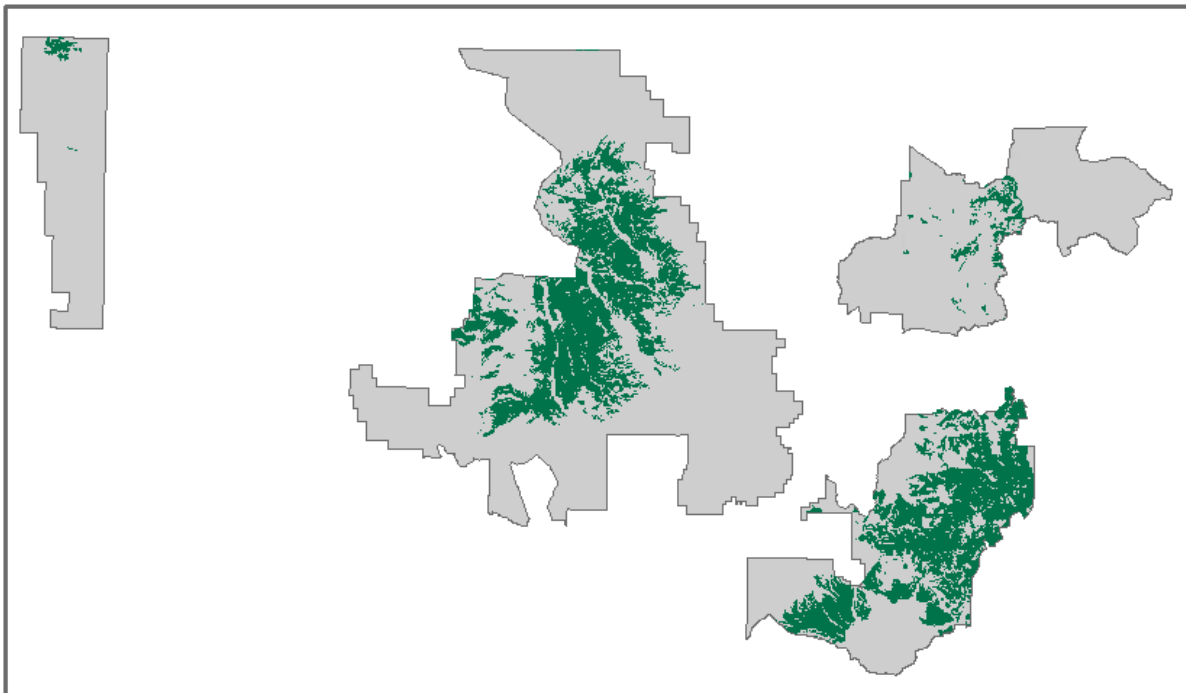


Figure 47. Areas suitable for timber production under alternative 4

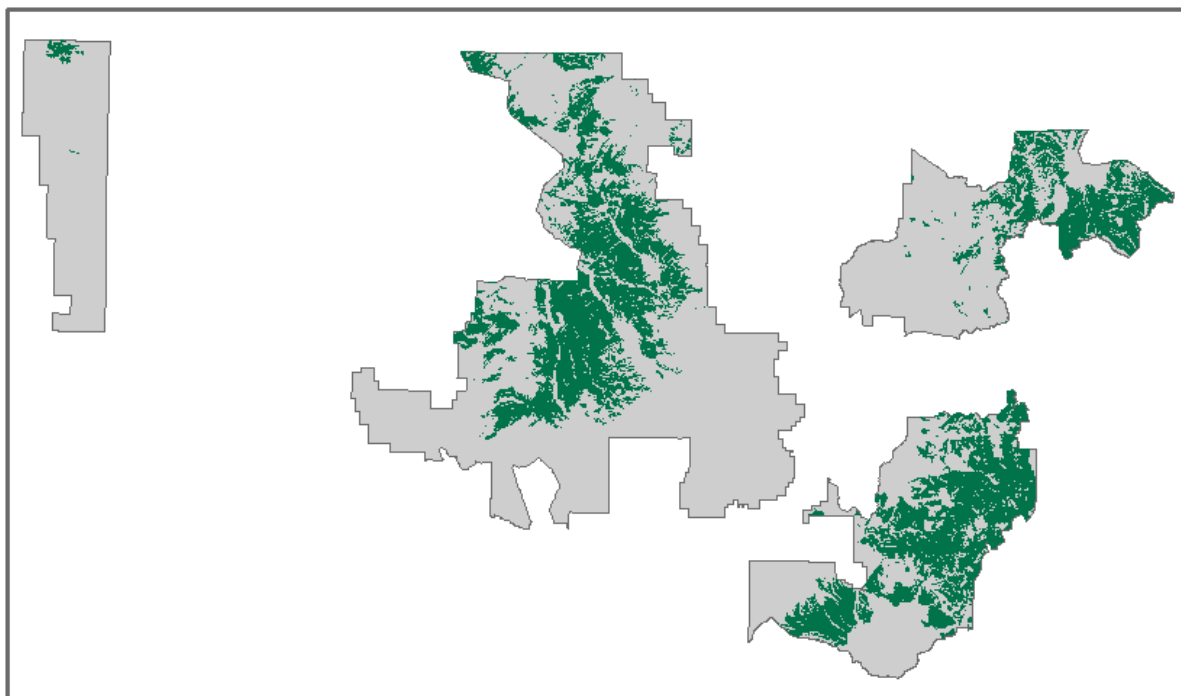


Figure 48. Areas suitable for timber production under alternative 5

Sustained Yield Limit Analysis

The sustained yield limit is an estimate of the amount of commercial wood products that may be sustainably harvested over a long period. The classification of lands that may be suitable for timber production provides the basis for calculating the sustained yield limit for a national forest.⁷ The sustained yield limit should be calculated using vegetation management strategies and assumptions that are appropriate for the forest type and that achieve and maintain a regulated forest condition for lands suitable for timber production based on compatibility with desired conditions and objectives. It is not necessary to select a management strategy that maximizes production, only one that sustains production over the long term. The strategy should take into account basic environmental factors that would affect timber production such as fire risk, insects and disease, soil conditions, and other factors needed to sustain production.

The sustained yield limit assumes that forest vegetation is structured in a desired, fully stocked condition (balance of tree age/structural stages by area) that facilitates repeated, regulated harvesting. In reality, the forest vegetation on most lands is departed from the desired condition, so planners use growth simulation models to estimate sustainable harvest levels. For the purpose of calculating the sustained yield limit, these same management assumptions are applied to those lands not suitable for timber production based on compatibility with desired conditions and objectives, even though regulated forest production is not planned or appropriate on these lands. On lands suitable for timber production, short-term harvest levels would tend to fluctuate until those lands are at a desired, regulated condition and then remain steady around that level. For lands not suitable for timber production based on compatibility with desired conditions and objectives, a regulated forest vegetation condition is not likely to be a desired objective, but the potential sustained yield of these lands is estimated by assuming a regulated condition. See the white paper by Youtz and Vandendriesche (2015) for a more detailed description of these modeling methodologies and outputs.

⁷ 36 CFR 219.11(d)(6) and FSH 1909.12, chapter 60, section 64.31

The following assumptions were used as the basis for the sustained yield limit analysis:

Sustained yield limit calculations are based upon uneven-aged forest management systems for the following forest vegetation types:

- Ponderosa pine and its subtypes, ponderosa pine–bunchgrass and ponderosa pine–Gambel oak (assumes management favors dominance of ponderosa pine)
- Mixed conifer–frequent fire (assumes management favors dominance of shade intolerant species)
- Mixed conifer with aspen (assumes management favors dominance of wind-firm species—Douglas-fir, southwestern white pine)
- Lower-elevation spruce-fir (assumes management favors dominance of wind-firm species—Douglas-fir, southwestern white pine)

Uneven-aged management analysis assumptions:

- Group selection cutting method
- A 20- or 30-year cutting cycle, six age classes, group/patch sizes and density increase by vegetation type as forest conditions become progressively more mesic
- Some analysis strategies combine group selection cutting with mid-cycle intermediate thinning
- Target matrix density varies by vegetation type
- In Ponderosa Pine Forest, a site index below 70 is considered low
- Based on Forest Inventory and Analysis Program plot data, 38 of 45 (84 percent) Ponderosa Pine Forest sites on the Carson National Forest have a low site index. The remaining 16 percent are considered high.

Sustained yield limit calculations are based upon an even-aged forest management system for the following forest vegetation type:

- Upper-elevation spruce-fir (assumes management favors shade-tolerant species—Engelmann spruce, subalpine fir)

Even-aged management analysis assumptions:

- Establish even-aged regeneration (natural and/or artificial)
- Clearcutting or patch-cutting (with or without reserves)⁸
- Rotation age at or after culmination of mean annual increment

Analysis Methods:

- Regionwide Forest Inventory Analysis plot data, sorted by ecological response unit and site index
- Forest Vegetation Simulator – regionally calibrated for:
 - diameter growth
 - stand density mortality

⁸ Silvics of subalpine fir and Engelmann spruce (susceptibility to windthrow, historic fire regime, etc.) are not suited to uneven-aged management.

- tree senescence mortality
- seen tree defect
- merchantable cubic feet volumes (5 inches or larger DBH, 4-inch minimum top diameter inside bark or DIB)
- merchantable board feet volumes (9 inches or larger DBH, 6-inch minimum top DIB)
- natural tree regeneration

Forest Vegetation Simulator modeling produced coefficients of sustained timber volume output based on forest type and site index (table 34). The sustained yield limit is calculated by applying those coefficients to the number of acres that may be suitable for timber production on the Carson National Forest. The Carson's sustained yield limit across all forest types is 42.2 million board feet per year (10.7 million cubic feet per year).

Table 34. Production coefficients and acres that may be suitable for timber production used to calculate the sustained yield limit for the Carson National Forest (based on Youtz and Vandendriesche 2015)

Forest Type (Ecological Response Unit)	Uneven-aged yield (per acre/year), board feet (9 inches + dbh)	Uneven-aged yield (per acre/year), cubic feet (5 inches + dbh)	Acres of "may be suitable" timber by Ecological Response Unit
Ponderosa pine/grass (low site index)	75.4	15.5	83,903
Ponderosa pine/grass (high site index – 30-year cut cycle)	115.9	23.6	15,981
Dry mixed conifer (all site index – 30-year cut cycle)	93.8	22.9	143,114
Wet mixed conifer (all site index – 30-year cut cycle)	89.6	24.7	61,995
Spruce-fir (mix) (all site index – 30-year cut cycle)	99.6	27.9	150,614

Planned Forest Management by Alternative

The projected forest management program varies by plan alternative based on plan objectives for mechanical treatment, the theme of the alternative, and other plan components. Treatment levels in high elevation forests do not vary among alternatives and are based on the current 10 year average (table 35). The distribution of management among treatment types in other vegetation communities is based on the 10 year average of management levels by type with the following additional assumptions (table 36 to table 40):

- The total amount of mechanical treatment is the midpoint of the range described by objectives in each alternative
- Alternatives 2 and 3 do not include any treatments with diameter caps.
- 2 percent in alternative 2 and 8 percent in alternative 3 of the total mechanical treatment acres were changed to even aged treatment to allow for insect and disease treatment (F-shelterwood seed cut to target basal area). Shelterwood seed cuts provide more total volume per acre, and are more compatible with the theme of alternative 3.

- Remaining harvest thinning treatment acres in alternatives 2 and 3 were changed to C-thin from below to target basal area. Remaining fuels treatment acres were changed to E-group selection with matrix thin to target basal area.
- There are no objectives for mechanical treatment under alternative 4. Some fuels treatment is still assumed to occur in wildland-urban interface areas. Therefore alternative 4 maintains the current level of recent fuels treatment acres but instead of including them all in M-thin to 9 inch diameter cap (as in alternative 1) those acres are distributed (in the same proportions as alternative 1) among the three thinning treatment types, M-thin to 9 inch diameter cap, D-thin under a 16 inch diameter cap to target basal area, and C-thin from below to target basal area.
- In alternatives 2, 3, and 5 which include the grassland maintenance management area (GMMA) additional treatment acres were added in piñon-juniper vegetation communities (PJO and PJS). Half of the acres in grassland maintenance management areas that are currently treed (states C, D, F, G) were divided evenly across the next 2 decades to be treated by G-clear cut with legacy trees (permanent savanna objective). It is assumed that not every acre in grassland maintenance management areas would be easily treated and that there would be some inclusions of remaining trees. In piñon-juniper woodland this resulted in C: 160 acres (40 treated/decade), D: 1,254 acres (314 treated/decade), F: 531 (133 treated/decade), and G: 6,064 (1,516 treated/decade). In piñon-juniper sagebrush this resulted in C: 8,562 acres (2,141 treated/decade), D: 275 acres (69 treated/decade), F: 2,440 (610 treated/decade), and G: 4,268 (1067 treated/decade).

Table 35. Annual number of acres of mechanical treatment-by-treatment type in high elevation forest for all alternatives

Standard Treatments*	Spruce-Fir Forest (acres)	Mixed Conifer with Aspen (acres)
B - free thin, all sizes to target basal area	0	0
C - thin from below to target basal area	0	14
D - thin under a 16 inches diameter cap to target basal area	0	0
E - group selection with matrix thin to target basal area	0	0
F - shelterwood seed cut to target basal area	0	0
G - clearcut with non-regeneration objective legacy trees	0	0
H - clearcut/coppice for hardwood regeneration	0	0
I - planting	0	0
M - thin under a 9 inches diameter cap	0	0

*From Weisz and Vandendriesche 2011

Table 36. Annual number of acres of mechanical treatment-by-treatment type in other vegetation communities under alternative 1

Standard Treatments*	Mixed Conifer with frequent fire (acres)	Ponderosa pine forest (acres)	Piñon-juniper woodland (acres)	Piñon-juniper sagebrush (acres)
B - free thin, all sizes to target basal area	0	0	0	0
C - thin from below to target basal area	56	87	167	0
D - thin under a 16 inches diameter cap to target basal area	5	10	0	0
E - group selection with matrix thin to target basal area	12	244	0	0
F - shelterwood seed cut to target basal area	0	0	0	0
G - clearcut with non-regeneration objective legacy trees	0	0	0	0
H - clearcut/coppice for hardwood regeneration	0	0	0	0
I - planting	33	259	0	0
M - thin under a 9 inches diameter cap	360	602	0	0

*From Weisz and Vandendriesche 2011

Table 37. Annual number of acres of mechanical treatment-by-treatment type in other vegetation communities under alternative 2

Standard Treatments*	Mixed Conifer with frequent fire (acres)	Ponderosa pine forest (acres)	Piñon-juniper woodland (acres)	Piñon-juniper sagebrush (acres)
B - free thin, all sizes to target basal area	0	0	0	0
C - thin from below to target basal area	124	442	167	0
D - thin under a 16 inches diameter cap to target basal area	0	0	0	0
E - group selection with matrix thin to target basal area	635	3,118	0	0
F - shelterwood seed cut to target basal area	16	72	0	0
G - clearcut with non-regeneration objective legacy trees	0	0	200	389
H - clearcut/coppice for hardwood regeneration	0	0	0	0
I - planting	33	259	0	0
M - thin under a 9 inches diameter cap	0	0	0	0

*From Weisz and Vandendriesche 2011

Table 38. Annual number of acres of mechanical treatment-by-treatment type in other vegetation communities under alternative 3

Standard Treatments*	Mixed Conifer with frequent fire (acres)	Ponderosa pine forest (acres)	Piñon-juniper woodland (acres)	Piñon-juniper sagebrush (acres)
B - free thin, all sizes to target basal area	0	0	0	0
C - thin from below to target basal area	339	864	167	0
D - thin under a 16 inches diameter cap to target basal area	0	0	0	0

Standard Treatments*	Mixed Conifer with frequent fire (acres)	Ponderosa pine forest (acres)	Piñon-juniper woodland (acres)	Piñon-juniper sagebrush (acres)
E - group selection with matrix thin to target basal area	1,729	6,098	0	0
F - shelterwood seed cut to target basal area	180	600	0	0
G - clearcut with non-regeneration objective legacy trees	0	0	200	389
H - clearcut/coppice for hardwood regeneration	0	0	0	0
I - planting	33	259	0	0
M - thin under a 9 inches diameter cap	0	0	0	0

*From Weisz and Vandendriesche 2011

Table 39. Annual number of acres of mechanical treatment-by-treatment type in other vegetation communities under alternative 4

Standard Treatments*	Mixed Conifer with frequent fire (acres)	Ponderosa pine forest (acres)	Piñon-juniper woodland (acres)	Piñon-juniper sagebrush (acres)
B - free thin, all sizes to target basal area	0	0	0	0
C - thin from below to target basal area	274	432	167	0
D - thin under a 16 inches diameter cap to target basal area	25	50	0	0
E - group selection with matrix thin to target basal area	0	0	0	0
F - shelterwood seed cut to target basal area	0	0	0	0
G - clearcut with non-regeneration objective legacy trees	0	0	0	0
H - clearcut/coppice for hardwood regeneration	0	0	0	0
I - planting	33	259	0	0
M - thin under a 9 inches diameter cap	49	99	0	0

*From Weisz and Vandendriesche 2011

Table 41 summarizes the average annual vegetation management practices, forest-wide across all vegetation communities. These acreages do not represent a commitment to action and all future vegetation management must account for other resource impacts as required by the forest plan and be within the fiscal capability of the Carson National Forest. Revisions to the forest plan (and to the vegetation management practices within) are expected to be conducted every 15 years. As such, all numbers presented below are valid for approximately the next two decades.

The existing forest plan did not contain specific plan components for forest-wide vegetation management. As a result, the average of treatments that have occurred over the past decade were used to estimate treatment amounts under alternative 1 (no action). There is one additional acre included in the opening maintenance treatment total from treatments occurring in the montane-subalpine and sagebrush shrubland vegetation communities.

Table 40. Annual number of acres of mechanical treatment-by-treatment type in other vegetation communities under alternative 5

Standard Treatments*	Mixed Conifer with frequent fire (acres)	Ponderosa pine forest (acres)	Piñon-juniper woodland (acres)	Piñon-juniper sagebrush (acres)
B - free thin, all sizes to target basal area	0	0	0	0
C - thin from below to target basal area	124	442	167	0
D - thin under a 16 inches diameter cap to target basal area	0	0	0	0
E - group selection with matrix thin to target basal area	635	3,118	0	0
F - shelterwood seed cut to target basal area	16	72	0	0
G - clearcut with non-regeneration objective legacy trees	0	0	200	389
H - clearcut/coppice for hardwood regeneration	0	0	0	0
I - planting	33	259	0	0
M - thin under a 9 inches diameter cap	0	0	0	0

*From Weisz and Vandendriesche 2011

Table 41. Average annual acres forestwide by vegetation management type

Forest Cover Type and Vegetation Management Practice	Alt. 1 annual average acres	Alt. 2 annual average acres	Alt. 3 annual average acres	Alt. 4 annual average acres	Alt. 5 annual average acres
Even Aged Opening Maintenance Treatments ¹	237	826	826	237	826
Mechanical Treatments	1	590	590	1	590
Fire (Prescribed and Natural Ignitions)	236	236	236	236	236
Ponderosa Pine Treatments	2,060	13,879	17,809	14,326	13,879
Uneven Aged Management	825	3,632	7,562	581	3,632
Fire (Prescribed and Natural Ignitions)	1,234	10,247	10,247	13,745	10,247
Mixed Conifer – Frequent Fire Treatments	549	3,799	5,272	4,127	3,799
Uneven Aged Management	434	775	2,248	348	775
Fire (Prescribed and Natural Ignitions)	115	3024	3024	3779	3024
Other Treatments ²	214	473	770	181	770
Total Treatments	3,060	18,977	24,677	18,871	19,274
Mechanical Treatments	1,260	4,997	10,400	930	4,997
Fire (Prescribed and Natural Ignitions)	1,586	13,507	13,507	17,760	13,507
Other Treatments	214	473	770	181	770

1. Even aged treatments to maintain openings primarily occur in piñon-juniper woodland and piñon-juniper sagebrush vegetation communities.

2. Other treatments include tree planting and thinning in woodlands or spruce-fir forests for restoration or fuels treatment.

Timber and Other Wood Product Sale Quantity by Alternative

Projected wood product output (including commercial timber) varies by alternative (table 42 through table 51). Estimates are based on Vegetation Dynamics Development Tool modeling outputs (Appendix C – Description of the Modeling Process) and regionally developed coefficients that relate acres treated to volume outputs by state class, treatment type, and vegetation community, also referred to as the ecological response unit (USDA Forest Service Southwest Region 2018). These estimates for output volumes are from the cutting of live trees only. Dead and down fuelwood volumes are not included. Dead and down fuelwood volume in this environmental analysis is assumed constant, and is based on the recent average volume removed (869,552 cubic feet per decade). That volume may vary in the future but is based on the number of permits purchased by the public, not on decisions made by the Carson National Forest. Total fuelwood volume by alternative (dead and down plus green fuelwood) is summarized in the total fuelwood volume per decade by alternative (table 52) includes a constant estimate of dead and down fuelwood (0.9 MMCF) plus projected green fuelwood (5.9 inches industrial roundwood, 5 inches+ other non-industrial softwood fuelwood, and hardwood fuelwood).

Table 42. Projected harvest levels of timber products under alternative 1 (volumes other than salvage or sanitation that meet timber product utilization standards)

Timber Products	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands suitable for timber production A1. Sawtimber (industrial softwoods, 9"+)	1.0	4.4	15,273	1.6	7.3	23,883
Lands suitable for timber production A2. Other Products (industrial softwood, 5-9" – roundwood, commonly pulpwood, mostly in the form of fuelwood)	0.4	not applicable	59,261	0.4	not applicable	47,450
Lands not suitable for timber production B1. Sawtimber (9"+)	2.0	9.1	30,971	2.9	13.0	43,929
Lands not suitable for timber production B2. Other Products (5-9")	0.7	not applicable	102,385	0.8	not applicable	83,367
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	4.1	13.5	207,890	5.8	20.3	198,630

Table 43. Harvest levels of other estimated wood products under alternative 1 (fuelwood, biomass, and other volumes that do not meet timber product utilization standards)

Estimated Wood Products	MMCF First Decade	Tons First Decade	MMCF Second Decade	Tons Second Decade
D1. Non-industrial softwood fuelwood (5"+)	5.3	1.5	5.4	1.5
D2. Hardwood fuelwood (5"+)	0.3	0.1	0.3	0.1
D3. Aspen (5"+)	0.1	0.0	0.2	0.0
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	9.8	207,892	11.6	198,632

Table 44. Projected harvest levels of timber products under alternative 2 (volumes other than salvage or sanitation that meet timber product utilization standards)

Timber Products	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands suitable for timber production A1. Sawtimber (industrial softwoods, 9"+)	12.9	60.3	192,729	13.3	64.6	196,476
Lands suitable for timber production A2. Other Products (industrial softwood, 5-9" – roundwood, commonly pulpwood, mostly in the form of fuelwood)	2.4	not applicable	102,519	2.1	not applicable	82,378
Lands not suitable for timber production B1. Sawtimber (9"+)	20.8	98.1	311,883	22.9	113.2	33,8618
Lands not suitable for timber production B2. Other Products (5-9")	4.1	not applicable	13,6559	3.6	not applicable	11,2010
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	40.1	158.5	743,689	41.9	177.8	729,482

Table 45. Harvest levels of other estimated wood products under alternative 2 (fuelwood, biomass, and other volumes that do not meet timber product utilization standards)

Estimated Wood Products	MMCF First Decade	Tons First Decade	MMCF Second Decade	Tons Second Decade
D1. Non-industrial softwood fuelwood (5"+)	5.9	1.6	6.5	1.8
D2. Hardwood fuelwood (5"+)	1.1	0.4	1.0	0.4
D3. Aspen (5"+)	0.7	0.2	0.6	0.1
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	47.8	743,692	50.0	729,484

Table 46. Projected harvest levels of timber products under alternative 3 (volumes other than salvage or sanitation that meet timber product utilization standards)

Timber Products	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands suitable for timber production A1. Sawtimber (industrial softwoods, 9"+)	36.4	170.7	544,950	24.2	115.6	358,854
Lands suitable for timber production A2. Other Products (industrial softwood, 5-9" – roundwood, commonly pulpwood, mostly in the form of fuelwood)	6.3	not applicable	162,195	3.8	not applicable	108,996
Lands not suitable for timber production B1. Sawtimber (9"+)	51.4	247.0	769,052	28.3	139.0	417,980
Lands not suitable for timber production B2. Other Products (5-9")	9.2	not applicable	210,073	5.0	not applicable	132,263
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	103.4	417.7	1,686,271	61.2	254.7	1,018,092

Table 47. Harvest levels of other estimated wood products under alternative 3 (fuelwood, biomass, and other volumes that do not meet timber product utilization standards)

Estimated Wood Products	MMCF First Decade	Tons First Decade	MMCF Second Decade	Tons Second Decade
D1. Non-industrial softwood fuelwood (5"+)	7.7	2.1	7.0	1.9
D2. Hardwood fuelwood (5"+)	3.4	1.3	1.6	0.6
D3. Aspen (5"+)	3.0	0.7	2.1	0.5
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	117.6	1,686,275	72.0	1,018,095

Table 48. Projected harvest levels of timber products under alternative 4 (volumes other than salvage or sanitation that meet timber product utilization standards)

Timber Products	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands suitable for timber production A1. Sawtimber (industrial softwoods, 9"+)	1.6	7.2	24,546	1.8	8.4	26,413
Lands suitable for timber production A2. Other Products (industrial softwood, 5-9" – roundwood, commonly pulpwood, mostly in the form of fuelwood)	0.4	not applicable	57,155	0.3	not applicable	44,116
Lands not suitable for timber production B1. Sawtimber (9"+)	2.4	10.8	36,389	2.2	10.2	33,229
Lands not suitable for timber production B2. Other Products (5-9")	0.8	not applicable	106,493	0.7	not applicable	83,231
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	5.2	18.0	224,582	5.0	18.5	186,988

Table 49. Harvest levels of other estimated wood products under alternative 4 (fuelwood, biomass, and other volumes that do not meet timber product utilization standards)

Estimated Wood Products	MMCF First Decade	Tons First Decade	MMCF Second Decade	Tons Second Decade
D1. Non-industrial softwood fuelwood (5"+)	1.8	0.5	2.3	0.6
D2. Hardwood fuelwood (5"+)	0.3	0.1	0.2	0.1
D3. Aspen (5"+)	0.4	0.1	0.2	0.1
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	7.6	224,583	7.8	186,989

Table 50. Projected harvest levels of timber products under alternative 5 (volumes other than salvage or sanitation that meet timber product utilization standards)

Timber Products	MMCF First Decade	MMBF First Decade	Tons First Decade	MMCF Second Decade	MMBF Second Decade	Tons Second Decade
Lands suitable for timber production A1. Sawtimber (industrial softwoods, 9"+)	12.6	59.0	188,639	13.0	63.3	192,584
Lands suitable for timber production A2. Other Products (industrial softwood, 5-9" – roundwood, commonly pulpwood, mostly in the form of fuelwood)	2.3	not applicable	101,333	2.0	not applicable	81,401
Lands not suitable for timber production B1. Sawtimber (9"+)	21.1	99.4	315,973	23.2	114.5	342,511
Lands not suitable for timber production B2. Other Products (5-9")	4.1	not applicable	137,745	3.7	not applicable	112,987
C. Projected Timber Sale Quantity (PTSQ) (A1+A2+B1+B2)	40.1	158.5	743,689	41.9	177.8	729,482

Table 51. Harvest levels of other estimated wood products under alternative 5 (fuelwood, biomass, and other volumes that do not meet timber product utilization standards)

Estimated Wood Products	MMCF First Decade	Tons First Decade	MMCF Second Decade	Tons Second Decade
D1. Non-industrial softwood fuelwood (5"+)	5.9	1.6	6.5	1.8
D2. Hardwood fuelwood (5"+)	1.1	0.4	1.0	0.4
D3. Aspen (5"+)	0.7	0.2	0.6	0.1
E. Projected Wood Sale Quantity (PWSQ) (C+D1+D2+D3)	47.8	743,692	50.0	729,484

The total fuelwood volume per decade by alternative (table 52) includes a constant estimate of dead and down fuelwood (0.9 MMCF/year) plus projected green fuelwood (5.9 inches industrial roundwood, 5 inches+ other non-industrial softwood fuelwood, and hardwood fuelwood).

Table 52. Total fuelwood volume per decade by alternative

Alternative	Fuelwood (MMCF/decade)
1	15.5
2	22.0
3	30.8
4	12.1
5	22.0

Appendix D References

- USDA Forest Service Southwest Region (United States Department of Agriculture – Forest Service, Southwest Region). 2018. Eco Analysis Tool. Spreadsheet on file at Forest Service Southwest Regional Office.
- Weisz, R. and D. Vandendriesche. 2011. Use of the Forest Vegetation Simulator to Quantify Disturbance Activities in State and Transition Models. PNW-GTR-869. Proceedings of the First Landscape State-and-Transition Simulation Modeling Conference, June 14–16, 2011.
- Youtz, J.A. and D. Vandendriesche. 2015. Overview of the Planning Requirements for Timber Suitability and associated NFMA timber calculations per the 2012 Planning Rule (36 CFR 219. 11) and Directives (FSH 1909.12, Chapter 60). USDA Forest Service, Southwestern Region, Albuquerque, NM.

Appendix E – Public Engagement Process and Coordination with Other Public Planning Efforts

The Carson National Forest is revising its land management plan under the 2012 Planning Rule (36 CFR 219). The rule emphasizes collaboration and public involvement throughout the planning process and the plan's implementation. The Carson National Forest conducted public outreach meetings during all phases of plan revision from 2014 to 2019, including development of the assessment, need for change, initial plan components, plan alternatives, the draft plan, and the final plan (table 53). These meetings provided information to the public on the process itself and provided opportunities for them to provide ideas, feedback, and comments.

In accordance with the 2012 Planning Rule, plan revision public engagement has emphasized collaboration with Tribes, cooperating agencies, private landowners, and outreach to a wide range of users as well as local, regional, and national interest groups. The Carson's developed an initial vision for robust public engagement through conversations with the public in 2014 at the beginning of the revision process. From those conversations, seven themes emerged which influenced the public participation design and strategy

- 1) Many people want to work with the Carson NF, people care about the forest.
- 2) Relationships and trust need attention.
- 3) Stakeholders desire a clear understanding of their role in the decision-making process, especially concerning their influence in the process and how their comments and contributions are addressed.
- 4) Create safe opportunities for shared learning among diverse stakeholders.
- 5) Cultural, historical, and place attachments run deep in northern New Mexico.
- 6) There is a consensus that education is important.
- 7) Good communication is essential. The public wants to be informed about forest management policies and practices.

Public engagement has included over 80 general public meetings in at least 24 local communities, a relationship building workshop in March of 2017, and monthly open houses between November 2017 and August 2019. Most meetings were focused on a particular step in the revision process and most occurred on weeknight evenings. These meetings were typically 2 hours long and provided opportunities for the public to be informed of the plan revision process and engage on specific topics throughout the process. The relationship building workshop was a three-day working meeting and included Carson NF staff and leadership, partners, and elected officials or their representatives. It focused on partnership opportunities and shared understanding around plan revision but also a broad range of forest management topics. The monthly open houses were held during the day, without a set agenda or topic, but allowed the public to ask questions or informally discuss any part of the process.

Public collaboration began during Forest Service National Collaboration Cadre listening sessions held in January and February 2014. Twenty-two sessions were held across 19 northern New Mexico sites. In addition, four Tribal sessions were held in Albuquerque, Cuba, Ohkay Owingeh, and Taos. In June 2014, the Carson held a round of 14 public meetings in communities around the forest about current conditions and to hear what the public values about the forest. Additional presentations and meetings were held with county planners, land grant communities, tribes, and other stakeholders. In June 2015, following the release of the draft assessment report, the Carson held another 14 public meetings to present the key findings from the assessment and to hear solutions from the public for how to address identified risks

(needs for changing plan direction). The assessment report and preliminary need for change documents were posted on-line on the public website for the Carson NF plan revision (www.fs.usda.gov/goto/carsonforestplan).

In January 2016, the Carson National Forest began the wilderness recommendation process with meetings in Mora, Tierra Amarilla, and Taos to provide information on the wilderness process and to seek public input on the proposed inventory process and criteria. A draft wilderness inventory map was posted online in February 2016. The public was able to comment online, by mail, or in-person at district offices. A final wilderness inventory map was released in March 2016. Six public meetings describing the evaluation step and seeking public comment on the evaluation process were held in April and May of 2016. In June 2016, a draft wilderness evaluation map was released, and the public was able to comment online, by mail, or in-person at district offices. In addition, the planning team attended several meetings convened by interested groups and met elected officials and their representatives in the field to explain the wilderness recommendation process and discuss their comments.

The first version of the preliminary draft proposed plan was posted online in July of 2017 for the public to review and comment on. In August the Carson held a series of four place-based meetings to discuss management alternatives in specific, controversial areas of the forest. Based on public input a second version of the preliminary draft proposed plan with fully developed alternatives was released in English and in Spanish, online and at district offices in December 2017. In September of 2018 four meetings were held to provide an update on draft plan development and to help the public understand how the plan will be implemented in the future.

A notice of availability published in the Federal Register on August 9, 2019 initiated the formal 90-day comment period on the draft environmental impact statement and draft plan as required by Forest Service NFMA regulations at 36 CFR 219. Documents were available online, at district offices, and at local libraries. The comment period closed on November 7, 2019. During the comment period the Carson held 12 public meetings to present the draft plan, alternatives, and environmental impact statement analysis and to provide an opportunity for the public to submit comments online. The Carson planning team also attended several similar comment period meetings hosted by the Santa Fe National Forest.

Throughout the plan revision process the Carson NF has encouraged participation by local communities by holding meetings in many small communities around northern New Mexico and southern Colorado. The process has been designed to be accessible to any interested individual or entity while focusing on reaching the remote, rural, low-income, and minority populations that surround the Carson. Documents were posted online and also made available as printed copies at many locations. The preliminary draft and final draft plan were translated into Spanish and Spanish speaking employees were available at most public meetings.

The planning team gave presentations to and participated in many other meetings organized by other groups, including the NM Acequia Association, NM Land Grant Council, NM Department of Agriculture, Northern NM Stockman's Association, Friends of the Rio Grande, Rocky Mountain Youth Corps, Taos High School, University of New Mexico-Taos, and others. The planning team informed the public about the plan and the revision process through other venues including multiple radio interviews, newspaper articles, the annual fish fiesta, social media, and "ski with a ranger" presentations at ski areas.

Numerous Tribes and Pueblos have relied on the lands managed by the Carson NF since time immemorial, and have sacred sites, cultural heritage sites, and sites for gathering traditional and cultural resources on National Forest lands. In acknowledgement of their unique and ongoing relationship to National Forest lands, the Carson plan revision team engaged tribes from the beginning of the revision process. Between 2015 and 2019, there were at least 18 meetings between the Carson and Tribes that

incorporated Forest Plan Revision. The meetings included three collaboration cadre meetings, an All Pueblo Governor Council, and three intertribal roundtables.

The Carson also outreached directly to the land grant and grazing communities. These communities have a long history with the forest and depend on forest resources and rangelands managed by the Carson for traditional and cultural practices including livestock grazing. The plan revision team held over 30 meetings specifically with these communities between 2014 and 2020. Additionally, specific outreach to permittees was done for public meetings, with invitations mailed to all Carson permittees. The NM Land Grant Council, NM Department of Agriculture, and soil and water conservation districts participated in the plan revision process as cooperating agencies and helped convene and facilitate meetings with their constituents. Cooperating agencies have contributed their knowledge and understanding of northern New Mexico to the plan revision process, often serving as a conduit representing the interests and needs of local communities.

A significant opportunity for public engagement and feedback followed the release of the draft plan and draft environmental impact statement. The draft documents were released to the public in June 2019, prior to the formal comment period in order to allow additional time for review. A notice of availability published in the Federal Register on August 9, 2019, initiated the formal 90-day comment period on the draft environmental impact statement and draft forest plan as required by Forest Service NFMA regulations at 36 CFR 219. The comment period closed on November 7, 2019. During the 90-day comment period the Carson held or attended 14 meetings with Tribes and Pueblos, Cooperating Agencies, 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 environmental impact statement. Additionally, three tri-forest meetings were held collaboratively with the Santa Fe and Cibola NFs, with one for Tribes and Pueblos, one for Government officials, and one for the general public.

Comments received during the official 90-day comment period following the release of the draft plan and draft environmental impact statement have been distilled into concern statements that may cover multiple similar comments. The final documents reflect changes based on issues raised by public comment as described in Appendix A of the final environmental impact statement. Public outreach meetings notes and additional information can be found in the planning record or on the plan revision website: www.fs.usda.gov/goto/carsonforestplan. Comments received since the publication of the notice of intent are included in the project record. The final opportunity for public involvement in the NEPA review and plan revision process follows the release of the final plan and final environmental impact statement. Only those individuals and entities who have submitted substantive formal comments related to this plan revision during the opportunities provided for public comment will be eligible to file an objection during the objection period (36 CFR 219.53(a)). The objection period begins with the publication of a public notice in the newspaper of record of the release of the final plan, final environmental impact statement, and draft record of decision and lasts for 60 days.

Table 53. Public participation activities related to forest plan revision for the Carson National Forest

Date	Meeting Type	Audience	Location
1/31/2014	Listening Session	General Public	Pecos
1/31/2014	Listening Session	General Public	Albuquerque
1/31/2014	Listening Session	General Public	Las Vegas
1/31/2014	Listening Session	General Public	Santa Fe
2/1/2014	Listening Session (2 sessions)	General Public	Taos
2/1/2014	Listening Session	General Public	Santa Fe
2/1/2014	Listening Session	General Public	Los Alamos

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Date	Meeting Type	Audience	Location
2/1/2014	Listening Session	General Public	Questa
2/1/2014	Listening Session	General Public	Jemez Springs
2/1/2014	Listening Session	General Public	Red River
2/3/2014	Listening Session	General Public	Rio Rancho
2/3/2014	Listening Session	General Public	Chama
2/3/2014	Listening Session	General Public	Taos
2/3/2014	Listening Session	General Public	Peñasco
2/3/2014	Listening Session	General Public	Cuba
2/3/2014	Listening Session	General Public	Española
2/4/2014	Listening Session	General Public	El Rito
2/4/2014	Listening Session (3 sessions)	General Public	Santa Fe
2/4/2014	Listening Session	General Public	Coyote
6/3/2014	Assessment Meeting – What do you value?	General Public	Peñasco
6/5/2014	Assessment Meeting – What do you value?	General Public	Truchas
6/7/2014	Assessment Meeting – What do you value?	General Public	Questa
6/7/2014	Assessment Meeting – What do you value?	General Public	Red River
6/10/2014	Assessment Meeting – What do you value?	General Public	Taos
6/12/2014	Assessment Meeting – What do you value?	General Public	Taos Ski Valley
6/17/2014	Assessment Meeting – What do you value?	General Public	Española
6/19/2014	Assessment Meeting – What do you value?	General Public	La Jara, CO
6/25/2014	Assessment Meeting – What do you value?	General Public	Canjilon
6/26/2014	Assessment Meeting – What do you value?	General Public	Bloomfield
6/26/2014	Assessment Meeting – What do you value?	General Public	El Rito
6/28/2014	Assessment Meeting – What do you value?	General Public	Angel Fire
6/28/2014	Assessment Meeting – What do you value?	General Public	Cimarron
7/22/14	Assessment Meeting – What do you value?	Grazing Permittees	Abiquiu
3/20/2015	All Pueblo Council of Governors	Tribal	Albuquerque
4/25/2015	Plan Revision Update	Land Grants	Abiquiu
5/2/2015	Plan Revision Update	Land Grants	Taos
5/11/2015	Plan Revision Update	Land Grants	Tecolote
5/28/2015	Key Findings and Need for Change	General Public	Farmington
6/1/2015	Key Findings and Need for Change	General Public	Taos Ski Valley
6/2/2015	Key Findings and Need for Change	General Public	Red River
6/4/2015	Key Findings and Need for Change	General Public	Cimarron
6/8/2015	Key Findings and Need for Change	General Public	Truchas
6/9/2015	Key Findings and Need for Change	General Public	Peñasco
6/10/2015	Key Findings and Need for Change	Taos Pueblo	Taos
6/10/2015	Key Findings and Need for Change	General Public	Angel Fire
6/11/2015	Key Findings and Need for Change	General Public	Taos
6/15/2015	Key Findings and Need for Change	General Public	Tres Piedras
6/16/2015	Key Findings and Need for Change	General Public	Canjilon
6/17/2015	Key Findings and Need for Change	General Public	El Rito
6/17/2015	Key Findings and Need for Change	Picuris Pueblo	Peñasco
6/18/2015	Key Findings and Need for Change	General Public	La Jara, CO
8/4/2015	Key Findings and Need for Change	Friends of the Rio Grande	Arroyo Seco

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Date	Meeting Type	Audience	Location
8/5/2015	Plan Revision Update	Merced de Cristoval de la Serna Land Grant	Taos
8/12/2015	Key Findings and Need for Change	Grazing Permittees	Española
8/18/2015	Key Findings and Need for Change	Jicarilla Apache Nation	Dulce
11/2/2015			
12/2/2015	Plan Revision Update	General Public	Cimarron
1/12/2016	Wilderness Process and Inventory	General Public	Tierra Amarilla
1/15/2016	Wilderness Process and Inventory	General Public	Taos
1/19/2016	Wilderness Process Update	Grazing Permittees	Taos
1/20/2016	Wilderness Process and Inventory	General Public	Mora
2/18/2016	Wilderness Process Update	Grazing Permittees	Abiquiu
2/23/2016	Wilderness Process and Inventory	Town Council	Red River
3/23/2016	Wilderness Process and Inventory	Friends of the Rio Grande	Arroyo Seco
3/23/2016	Plan Revision Update	Merced de Cristoval de la Serna Land Grant	Taos
4/6/2016	Wilderness Evaluation	General Public	Abiquiu
4/8/2016	Wilderness Evaluation	General Public	Taos
4/11/2016	Wilderness Evaluation	General Public	Amalia
4/13/2016	Wilderness Evaluation	General Public	Manassa, CO
4/15/2016	Wilderness Evaluation	General Public	Peñasco
5/4/2016	Wilderness Evaluation	General Public	Abiquiu
6/4/2016	Plan Revision Update	Land Grants	Los Ojos
6/7/2016	Plan Revision Update	Merced de Cristoval de la Serna Land Grant	Taos
6/14/2016	Intertribal Roundtable	Tribal	Albuquerque
6/15/2016	Wilderness Process	Elected Officials	Taos
6/21/2016	Wilderness Evaluation	Grazing Permittees	Abiquiu
7/5/2016	Plan Revision Update	Land Grants	Peñasco
7/18/2016	Wilderness Evaluation	Picuris Pueblo	Peñasco
7/27/2016	Wilderness Evaluation	Taos Pueblo	Taos
8/16/2016	Plan Alternatives – Place-Based Meeting	General Public	Taos
8/16/2016	Plan Revision Update	Ohkay Owingeh	Ohkay Owingeh
8/17/2016	Plan Alternatives – Place-Based Meeting	General Public	Chama
8/27/2016	Plan Revision Update	Taos Pueblo	Taos
8/29/2016	Plan Revision Update	Rio Costilla Cooperative Livestock Association	Questa
8/30/2016	Plan Alternatives – Place-Based Meeting	General Public	Taos
8/31/2016	Plan Alternatives – Place-Based Meeting	General Public	Red River
1/11/17	Plan Revision Update	Land Grants	Questa
1/14/17	Northern NM Stockman's Association Annual Meeting	Grazing Permittees	Taos
2/15/2017	Plan Revision Update	Picuris Pueblo	Peñasco
3/17/2017	Traditional Community Listening Session	General Public	Taos
3/21/2017	Relationship Building Workshop	Partners	Taos
4/18/17	Intertribal Roundtable	Tribal	Española
4/26/2017	Plan Revision Update	Land Grants	Española

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Date	Meeting Type	Audience	Location
6/18/2017	Plan Revision Update	Santa Barbara and Las Trampas Land Grants	Peñasco
8/21/17	Intertribal Roundtable	Tribal	Albuquerque
9/10/2017	Plan Update – How to Implement the Plan	General Public	Peñasco
9/11/2017	Plan Update – How to Implement the Plan	General Public	Red River
9/12/2017	Plan Update – How to Implement the Plan	General Public	El Rito
9/13/2017	Plan Update – How to Implement the Plan	General Public	Chama
9/25/2017	Grazing/Traditional Use discussion	Grazing Permittees	Española
10/17/2017	Grazing/Traditional Use discussion	Grazing Permittees	Abiquiu
11/21/2017	Open House	General Public	Taos
12/13/2017	Open House	General Public	Taos
1/13/2018	Northern NM Stockman's Association Annual Meeting	Grazing Permittees	Taos
1/17/2018	Open House	General Public	Taos
2/14/2018	Open House	General Public	Taos
3/20/2018	Grazing/Traditional Use discussion	Grazing Permittees	Abiquiu
3/21/2018	Open House	General Public	Taos
4/17/2018	Open House	General Public	Taos
5/16/2018	Open House	General Public	Taos
6/21/2018	Open House	General Public	Taos
6/28/2018	Plan Revision Update	Taos Pueblo	Taos
6/28/2018	Plan Revision Update	Santa Barbara and Las Trampas Land Grants	Peñasco
7/18/2018	Open House	General Public	Taos
8/15/2018	Open House	General Public	Taos
9/17/2018	Open House	General Public	Bloomfield
9/19/2018	Open House	General Public	Taos
3/26/2019	Plan Revision Update	Grazing Permittees	Abiquiu
4/17/2019	Open House	General Public	Taos
5/15/2019	Open House	General Public	Taos
6/12/2019	Open House	General Public	Taos
7/18/2019	Open House	General Public	Taos
8/15/2019	Open House	General Public	Taos
8/20/2019	Tri-Forest Open House	General Public	Santa Fe
8/21/2019	Draft Plan and DEIS Commenting	General Public	Taos
8/22/2019	Draft Plan and DEIS Commenting - Santa Fe NF hosted	General Public	Buena Vista
8/28/2019	Draft Plan and DEIS Commenting	General Public	El Rito
8/28/2019	Draft Plan and DEIS Commenting	General Public	Canjilon
8/29/2019	Draft Plan and DEIS Commenting	General Public	Bloomfield
8/29/2019	Draft Plan and DEIS Commenting	General Public	Farmington
8/30/2019	Draft Plan and DEIS Commenting	General Public	Tres Piedras
9/3/2019	Draft Plan and DEIS Commenting	General Public	Red River
9/4/2019	Draft Plan and DEIS Commenting	General Public	Peñasco
9/10/2019	Draft Plan and DEIS Commenting	General Public	Peñasco
9/11/2019	Draft Plan and DEIS Commenting	General Public	Questa

Date	Meeting Type	Audience	Location
9/12/2019	Draft Plan and DEIS Commenting	General Public	Canjilon
9/12/2019	Draft Plan and DEIS Commenting	General Public	El Rito
9/17/2019	Draft Plan and DEIS Commenting	General Public	Taos
9/18/2019	Tri-Forest Plan Revision Update	Tribal	Santa Fe
9/19/2019	Tri-Forest Plan Revision Update	Elected Officials	Santa Fe
9/25/2019	Draft Plan and DEIS Commenting – Santa Fe NF hosted	General Public	Abiquiu
10/10/2019	Plan Revision Update	Land Grants	Santa Fe
10/21/2019	Plan Revision Update	Navajo Nation	Window Rock, AZ
1/25/2020	Plan Revision Update	Grazing Permittees	Abiquiu

Cooperating Agencies

Cooperating agencies are various Federal, state, local, and Tribal governmental entities that lend technical assistance or other resources to the development of the Carson’s land management plan. The National Environmental Policy Act of 1969 (42 U.S.C.4231 et seq.) allows certain governmental organizations to be granted cooperating agency status when the agency has “special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment” (40 CFR 1508.5). All decision-making authority for management of the National Forest is held by the Forest Service and the U.S. Department of Agriculture. In August 2016, the Carson NF solicited interest from Federal, State, local and tribal governments in their being cooperating agencies for the plan revision process. 13 agencies ultimately signed on as cooperators including:

- Colfax County
- Colfax Soil and Water Conservation District
- East Rio Arriba Soil and Water Conservation District
- Jicarilla Apache Nation
- Mora County
- New Mexico Department of Agriculture
- New Mexico Department of Game and Fish
- New Mexico Environment Department
- New Mexico Energy, Minerals, and Natural Resources Department; State Forestry Division
- New Mexico Land Grant Council
- New Mexico Acequia Commission
- Picuris Pueblo
- Rio Arriba County
- San Juan Soil and Water Conservation District
- Taos County
- Taos Pueblo
- Taos Soil and Water Conservation District

- Upper Chama Soil and Water Conservation District
- Western Mora Soil and Water Conservation District

Cooperating agencies reviewed and provided feedback on pre-draft and draft products, and contributed to plan development by describing:

1. their objectives as expressed in their plans and policies,
2. the compatibility and interrelated impacts of these plans and policies,
3. opportunities for the plan to address identified impacts or contribute to joint objectives, and
4. opportunities to resolve or reduce conflicts in the context of developing the final Plan's desired conditions and objectives.

Cooperating agencies represented the interests and needs of their constituents by soliciting input, disseminating information, and organizing and facilitating meetings. Many members attended general public meetings to engage in discussions and provide input.

Involving cooperating agencies in this planning process provided a forum for maximizing the collective voice and interests of the communities and greater public around the national forest. The Carson NF benefited from Cooperating Agencies' knowledge and understanding of the concerns and needs of local communities in northern New Mexico. Both parties also benefited from better communication with and representation to the public and constituents.

Appendix F – Wilderness Process

Wilderness Recommendation Process

The 2012 Planning Rule requires each national forest to identify and evaluate lands that may be suitable for inclusion in the National Wilderness Preservation System and to determine whether to recommend any such lands for wilderness designation (36 CFR 219.7 (c) (2)). Forest Service directives (FSH 1909.12, Chapter 70) for implementing the 2012 Planning Rule provide further guidance on how to complete this process in four steps:

Step 1: Inventory

The [inventory](#) step efficiently, effectively, and transparently identifies all lands in the Carson National Forest that may have wilderness characteristics. This step primarily looks at the size, roads, and other improvements found within landscapes, to determine if an area should be carried forward to the evaluation step. Only those lands that meet the required criteria (FSH1909.12, Chapter 70, section 71.2) are carried forward.

Step 2: Evaluation

The [evaluation](#) step looks at the lands that were brought forward from inventory and evaluates them based on the five wilderness characteristics (FSH 1909.12, chapter 70, section 72.1) as defined in the [Wilderness Act of 1964](#).

Step 3: Analysis

The analysis step identifies the effects any recommended wilderness would have on the ecological, social, and economic landscape. The results of the analysis help inform the determination of which lands may be carried forward for final Recommendation. The draft forest plan and alternatives incorporate some, none, or all of the lands from evaluation, depending on the theme of the alternative. The environmental impact statement documents the analysis of anticipated effects, if lands were to be managed as wilderness, under the proposed forest plan and each alternative.

Step 4: Recommendation

A wilderness Recommendation may be proposed as part of the draft forest plan and alternatives to the draft plan. The final Recommendation step makes a recommendation for specific areas to be included in the National Wilderness Preservation System as part of the final Record of Decision in the forest plan revision process. Note that only Congress can create new wilderness areas. This final recommendation is just that, a recommendation.

The Carson National Forest has completed the inventory, evaluation, and draft analysis steps. The methods for the first two steps and results are described in two sections in this document. The first section provides information about the inventory process and results. The second section provides an area by area evaluation of wilderness characteristics of inventoried lands. The forest has incorporated none, some, or all of the areas brought forward into the evaluation step into the draft forest plan and alternatives, depending on the theme of the alternatives. These have been analyzed within the environmental impact statement.

Public Involvement for the Wilderness Recommendation Process

The Carson National Forest held three public meetings in January 2016 to introduce the wilderness recommendation process and present proposed inventory criteria. Meetings were held from 6 to 8 p.m. in Tierra Amarilla, Taos, and Mora, New Mexico. The forest solicited public feedback on two questions:

(1) Was the list of proposed criteria appropriate and were they being applied appropriately? and (2) What does wilderness mean to you or how do you feel about wilderness? These questions were also posted on the forest's website for two weeks to allow comment from a wider audience. The responses to these questions were consolidated and published as a report that is available on the Carson National Forest's website. Many comments were more appropriate to the later evaluation or analysis steps, and have been addressed there. Some comments had to do with opening or closing roads, which is not a decision to be made through the wilderness recommendation process. Most comments related to the proposed inventory criteria and process had to do with the need to exclude additional improvements such as acequias, trick tanks, corrals, etc. It was determined that these improvements would be better addressed during the evaluation and analysis steps, as removing them from inventory had little impact on the resulting map.

The criteria were applied to develop a draft inventory map which was released to the public on January 26, 2016. The map was made available for comment online through the Carson National Forest, Forest Plan Revision website, and also as a hardcopy at each Carson National Forest ranger district office. Comments on the criteria, how they were applied, and whether any excluded areas should be re-added to the inventory and taken into the evaluation step were accepted for 30 days. Comments could be given through an online interactive map, by email, by mail, or in person at any ranger district office. Comments that related to a specific inventory polygon were responded to. Those comments and responses, as well as all other comments received, are published on the Carson National Forest, Forest Plan Revision website. As a result of public comments, seven polygons totaling 15,303 acres were re-added to the inventory, because they were either adjacent to lands administered by the USDI Bureau of Land Management and managed to protect wilderness characteristics, or adjacent to lands on the Rio Grande National Forest that may be inventoried as part of its wilderness process.

A final inventory map was released to the public on February 29, 2016. Six public meetings were held in April and May 2016 to present the map, explain the evaluation step to follow, and solicit feedback on the proposed evaluation process and evaluation considerations. Meetings were from 6-8 p.m. in Abiquiu, Amalia, Taos, and Peñasco, New Mexico, and Manassa, Colorado. A second meeting was held in Abiquiu, New Mexico. The forest presented a general overview of the wilderness process and, in particular, the evaluation step, explained the five wilderness characteristics to be evaluated, and presented proposed attributes of an area that would be considered when conducting the evaluation. The public was asked to provide feedback on the proposed considerations for evaluating wilderness characteristics and then to apply the considerations to specific inventory polygons. All public comments for inventory and evaluation steps were compiled and are available on the Carson National Forest, Forest Plan Revision website.

Based on public feedback, some of the considerations for evaluating wilderness characteristics were clarified. These considerations were used to evaluate wilderness characteristics for each inventoried area. A preliminary evaluation was released for public review on June 15, 2016, and included a draft map of areas evaluated as having wilderness characteristics and the corresponding summary reports for each inventoried area. The map and documentation were made available online and as a paper copy at each Carson National Forest ranger district office. The public was able to provide comment online, via email, via mail, or in person at any ranger district office. On June 15, 2016, the Carson National Forest held a meeting in Taos for elected officials and discussed the wilderness process, the evaluation map, and the general forest plan revision timeline. In addition, the Carson National Forest planning team attended several meetings to present the wilderness process, explain the evaluation process, present the draft evaluation results, and assist attendees with providing comments. These meetings included a meeting hosted by the New Mexico Department of Agriculture (Abiquiu 6/21/2016), in which all permittees with grazing allotments that overlapped an evaluation area were invited. On June 29, 2016, Rivers and Birds hosted a meeting in Taos, in which representatives of special interest groups and some unaffiliated members of the public were invited. The New Mexico Land Grant Council hosted a meeting in Cebolla

on July 12, 2016, for all land grant heirs with interest in any of the areas that were evaluated as having wilderness characteristics. Representatives from the Carson National Forest attended the Land Grant Consejo meeting on June 4, 2016, in Tierra Amarilla to present and discuss wilderness, and presented before the Interim Land Grant Legislative Committee on July 12, 2016, in Peñasco. As a result of public comments and more accurate on-the-ground information, four evaluation area's names were changed, and 25,789 acres were reevaluated for wilderness characteristics after the preliminary evaluation.

Since 2016, the draft wilderness evaluation document was posted on the plan revision web page and hard copies were placed at each district offices for the public to review and provide feedback. A preliminary draft forest plan was posted in July 2017 and an updated version which incorporated public feedback was posted again in December 2017. The forest also spent time meeting with groups or individuals who requested a meeting, which included the Northern New Mexico Stockmen's Association, The Wilderness Society, land grants, acequias and tribes, to discuss wilderness and other plan revision comments.

In August 2017, the Carson National Forest held four placed-based meetings to discuss potential management areas in four areas, which included recommended wilderness, around the national forest that were of special interest to local communities, land grants, tribes, recreation users, and conservation groups. The meetings were a way for Carson National Forest personnel to hear collectively from these users but also for them to hear from each other how they value and use the forest.

The Carson National Forest held monthly open houses beginning in August 2016 to allow the public to speak with and ask questions of the national forest personnel on the many documents, including wilderness being developed as part of the draft forest plan and draft environmental impact statement.

Tribal Engagement for the Wilderness Recommendation Process

Involvement with federally recognized Tribes has been ongoing. A letter announcing the initiation of the Wilderness Recommendation Process and the first set of meetings was sent to the 17 tribes with an interest in the Carson National Forest. A letter explaining the evaluation step and a copy of the draft evaluation map was sent to each tribe following its release. Representatives from the Carson National Forest attended the Regional Forester's Tribal Consultation meeting on June 14, 2016, in which wilderness was a topic of discussion. The forest planner and forest archeologist/tribal representative met with the Jemez Pueblo on June 28, 2016, Picuris Pueblo on July 18, 2016, Taos Pueblo on July 27, 2016 to discuss the Wilderness Recommendation Process and the draft evaluation results.

The forest held a tribal roundtable session in April 2017, inviting 16 tribes who have expressed interest in the cultural, spiritual, and historical importance of the Carson National Forest lands. The roundtable sessions were developed to allow the tribal partners to talk with forest leadership about what they wanted from forest management, including recommended wilderness, what things they thought worked well, and how we could go forward collectively as we develop and implement the new plan. The Carson National Forest also participated in two Regional tribal roundtables held by the Southwest Regional Forester. These discussions brought together all of the national forests in New Mexico to discuss, learn, and collaborate with tribes around forest plan revision, including recommended wilderness.

Since 2017, to better hear from the tribes, the Carson National Forest participated with several tribes (Taos Pueblo, Ohkay Owingeh, Picuris Pueblo, Santa Clara Pueblo, and the Jicarilla Apache Nation) quarterly to discuss current issues and potential projects. These quarterly discussions also included updates and information sharing around the plan revision process, including recommended wilderness.

Inventory

Inventory is the first step in the Wilderness Recommendation Process. It identifies which lands to be evaluated for wilderness characteristics by using criteria. The criteria help to determine which lands

should move forward in the process, or which already have certain conditions that do not make them viable for further consideration. During inventory, any private land within the national forest boundary was not included for consideration and existing designated wilderness areas were also removed from further consideration. Generally, the inventory criteria are based on the size of the parcel, if the landscape has open roads, and the types of improvements (such as structures) found within the landscape. The inventory step also takes into account how substantially noticeable these improvements are.

The Carson National Forest started the inventory step using the definitions and requirements found in the directives for recommending wilderness during forest plan revision (FSH 1909.12, 71.2). After developing the draft criteria using directive guidance, the national forest staff asked the public to help confirm the criteria or make changes or adjustments to the criteria. The inventory criteria were finalized after internal review and input from the public. The criteria used to create the inventory for the Carson National Forest are:

Size: Blocks of land must be 5,000 acres or larger to be included in the inventory. Smaller areas were added back into the inventory if:

- they are adjacent to an existing wilderness, or other lands that are being managed to preserve their primitive character, or
- they are of sufficient size and geography that they may be effectively preserved, used, and managed in an unimpaired condition.

Roads: Roads open to motor vehicle use, based on the most recent motor vehicle use maps were removed from the inventory. To capture the actual influence of roads, all open roads identified on the motor vehicle use maps were buffered by a minimum of 100 feet on either side. Some roads identified on the motor vehicle use maps have either 150- or 300-foot corridors for the purpose of dispersed camping and big game retrieval. Where those corridors exist, the buffer was extended to match that distance delineated on the motor vehicle use maps. Sixteen permitted roads that are not open to the public, but are permitted for administrative, maintenance, or other uses were also buffered by 100 feet and removed from further consideration.

Improvements: Only those improvements that are not substantially noticeable in the area as a whole were included in the inventory. The Carson National Forest defined substantially noticeable to mean the improvements are visually apparent on aerial photographs at a scale of one inch to one mile. The list below includes improvements that were considered substantially noticeable and were removed from the inventory.

- Surfaced runways or landing pads with permanent structures. None exist on the Carson National Forest.
- Clearcut forested areas larger than 10 acres (e.g., regeneration harvest areas, unshaded fuel breaks, and piñon-juniper chaining).
- Complexes of vertical structures over 20 feet tall that: (1) require regular access for maintenance; (2) have associated ground disturbance that is one acre or greater; and (3) occur in a complex with a density of 3 or more per 500 acres. The entire complex-affected area was removed from inventory. This resulted in one single tower complex removed from further consideration.
- Water developments with windmills that are over 20 feet tall that: (1) have associated ground disturbance of one acre or greater and (2) occur in a complex with a density of 3 or more per 500 acres. On the Carson National Forest, no windmills occur in a complex of 3 or more; therefore, none were removed.

- Complexes of gas extraction wells that occur in a complex with a density of 3 or more per 500 acres were considered. Again, the entire complex-affected area was removed from inventory. Some areas on the Jicarilla Ranger District met this complex criterion and were removed from further consideration.
- Open pit mines were considered. None exist on the Carson National Forest.
- Recreation areas were considered. Recreation management areas (e.g. ski areas and developed campgrounds), as defined by the current forest plan, were removed from further consideration.
- Powerlines and pipelines with a cleared corridor were considered. No known above-ground pipelines greater than 6 inches occur on the Carson National Forest. A 100-foot corridor was applied to powerlines with a visible corridor on aerial photos and these areas were removed from further consideration.
- Structures that occur as a complex were considered. Structures were defined as a building that is mapped in the Carson National Forest's GIS database. A complex of structures was defined as 3 or more per 25 acres. The entire complex-affected area was removed from inventory. Twenty complexes of buildings were removed from further consideration.
- Railroads were considered. One railroad crosses the Carson National Forest. It was buffered by 100 feet and the buffered area was removed from further consideration.
- Dams were considered. One concrete dam occurs on the Carson National Forest. The footprint of the dam was removed from further consideration.

Once the above criteria were applied and areas removed, acreages were calculated for each of the remaining areas and any that were smaller than 5,000 acres were reviewed to see if these areas were geographically manageable to preserve primitive character. Inventory areas that were smaller than 5,000 acres, but larger than 1 acre and adjacent to an existing designated wilderness, wilderness study areas, national monuments, or other similarly protected lands were added back in, as these areas could possibly be managed in an unimpaired condition to preserve primitive character. All other inventory areas that were smaller than 5,000 acres but were not adjacent to existing wilderness or similarly protected lands were removed from the inventory. These areas were found to have little topographic definition to be able to manage in an unimpaired condition as these areas were surrounded by existing open roads or private land and were in impaired condition due adjacent activities and accessibility. This resulted in 88 discrete areas totaling 880,594 acres that would be carried into the evaluation step. Each of these areas were labeled with their inventory numbers as a way of referencing each area throughout the process.

Seven areas were re-added to the inventory, based on feedback from the public and better site specific information. Reasons for re-adding areas were either the area was adjacent to Bureau of Land Management lands that may be managed to protect wilderness character or adjacent to lands on the Rio Grande National Forest that may be inventoried as part of its Wilderness Recommendation Process. A total of 15,303 acres were added back into the inventory between draft and final. The final inventory was 895,897 acres. Some of the comments received during the preliminary inventory were related to areas that were already included in the inventory. Some comments were more appropriate for evaluation and were carried forward and used to inform the evaluation step.

Inventory Results

The Carson National Forest is made up of the Questa, Camino Real, Tres Piedras, El Rito, Canjilon, and Jicarilla ranger districts. Their locations are shown on the map below (figure 49). About 60 percent (895,897 acres) of the Carson National Forest was included in the inventory. Table 54 and figure 50 through figure 53 show lands included in the inventory and the ranger district on which they are located.

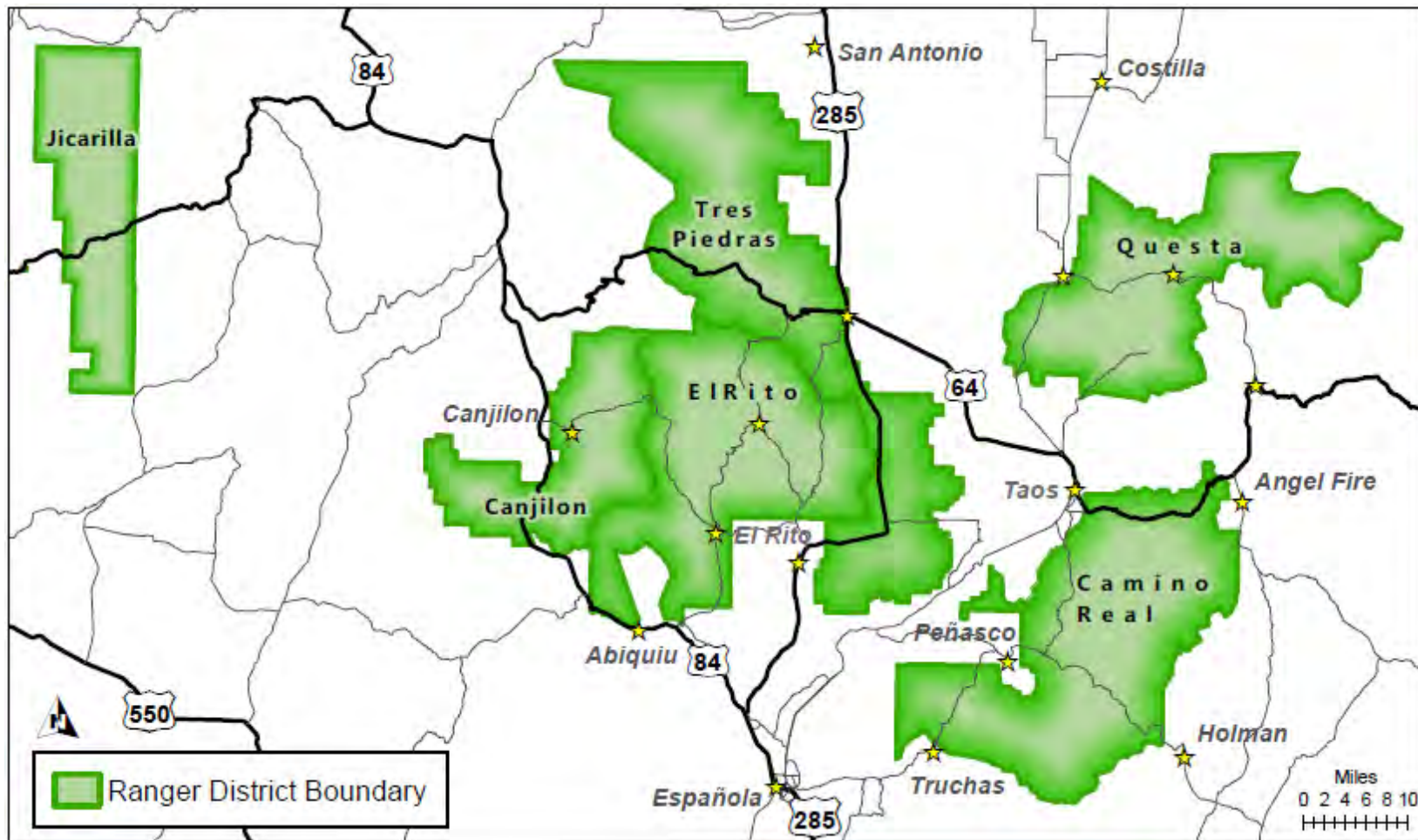


Figure 49. Ranger districts on the Carson National Forest

Table 54. Inventoried lands acres by ranger district and evaluation areas

Ranger District	Inventory Number*	Acres
Camino Real	C1	5,077
Camino Real	C2	5,196
Camino Real	C3	5,304
Camino Real	C4	19,091
Camino Real	C5	6,075
Camino Real	C6	6,183
Camino Real	C7	6,887
Camino Real	C9	9,155
Camino Real	C10	12,869
Camino Real	C11	13,710
Camino Real	C12	14,846
Camino Real	C13	21,874
Camino Real	C14	52,625
Camino Real	C15	61,619
El Rito and Canjilon	CrW1	322
El Rito and Canjilon	CrW2	393
El Rito and Canjilon	CrW3	400
El Rito and Canjilon	CrW4	484
El Rito and Canjilon	CrW5	523
El Rito and Canjilon	CrW6	745
El Rito and Canjilon	CrW7	902
El Rito and Canjilon	CrW8	1,130
El Rito and Canjilon	CrW9	1,134
El Rito and Canjilon	W1	5,405

Ranger District	Inventory Number*	Acres
El Rito and Canjilon	W2	5,432
El Rito and Canjilon	W3	5,484
El Rito and Canjilon	W5	5,828
El Rito and Canjilon	W6	6,022
El Rito and Canjilon	W8	6,479
El Rito and Canjilon	W9	6,802
El Rito and Canjilon	W15	8,034
El Rito and Canjilon	W16	8,045
El Rito and Canjilon	W18	9,466
El Rito and Canjilon	W19	10,347
El Rito and Canjilon	W22	13,202
El Rito and Canjilon	W23	13,839
El Rito and Canjilon	W24	17,199
El Rito and Canjilon	W25	14,455
El Rito and Canjilon	W26	24,717
El Rito and Canjilon	W28	27,399
El Rito and Canjilon	W31	36,354
El Rito and Canjilon	W32	39,929
El Rito and Canjilon	Wxs596ADD	304
El Rito and Canjilon	Wxs671ADD	1,113
Jicarilla	J1	5,757
Jicarilla	J2	8,343
Jicarilla	J3	9,178
Jicarilla	J4	9,327
Jicarilla	J5	19,212

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Ranger District	Inventory Number*	Acres
Questa	ChW1	1
Questa	ChW2	2
Questa	ChW3	7
Questa	ChW4	21
Questa	ChW5	2,866
Questa	ChW6	4,789
Questa	LpW1	364
Questa	LpW2	2,042
Questa	Q1	5,807
Questa	Q2	6,475
Questa	Q3	9,544
Questa	Q4	33,562
Questa	Q5	69,682
Questa	Qxs162ADD	3,660
Questa	WpW1	11
Questa	WpW2	11
Questa	WpW3	50
Questa	WpW4	324
Questa	WpW5	1,600
Questa	WpW6	3,454
Tres Piedras	CbW1	3
Tres Piedras	CbW2	5
Tres Piedras	CbW3	7
Tres Piedras	CbW4	9
Tres Piedras	CbW5	12

Ranger District	Inventory Number*	Acres
Tres Piedras	CbW6	13
Tres Piedras	CbW7	22
Tres Piedras	CbW8	23
Tres Piedras	CbW9	805
Tres Piedras	W4	5,539
Tres Piedras	W7	6,126
Tres Piedras	W10	6,902
Tres Piedras	W11	7,139
Tres Piedras	W12	7,157
Tres Piedras	W13	7,543
Tres Piedras	W14	7,906
Tres Piedras	W17	8,958
Tres Piedras	W20	11,842
Tres Piedras	W21	12,162
Tres Piedras	W25	5,760
Tres Piedras	W27	25,680
Tres Piedras	W29	31,738
Tres Piedras	W30	31,838
Tres Piedras	Wxs573ADD	208
Tres Piedras	Wxs701ADD	2,304
Tres Piedras	Wxs710ADD	3,271
Tres Piedras	Wxs723ADD	4,445
Total	95	895,897

*Each of inventory area is labeled with an inventory number as a way of referencing each area throughout the process.

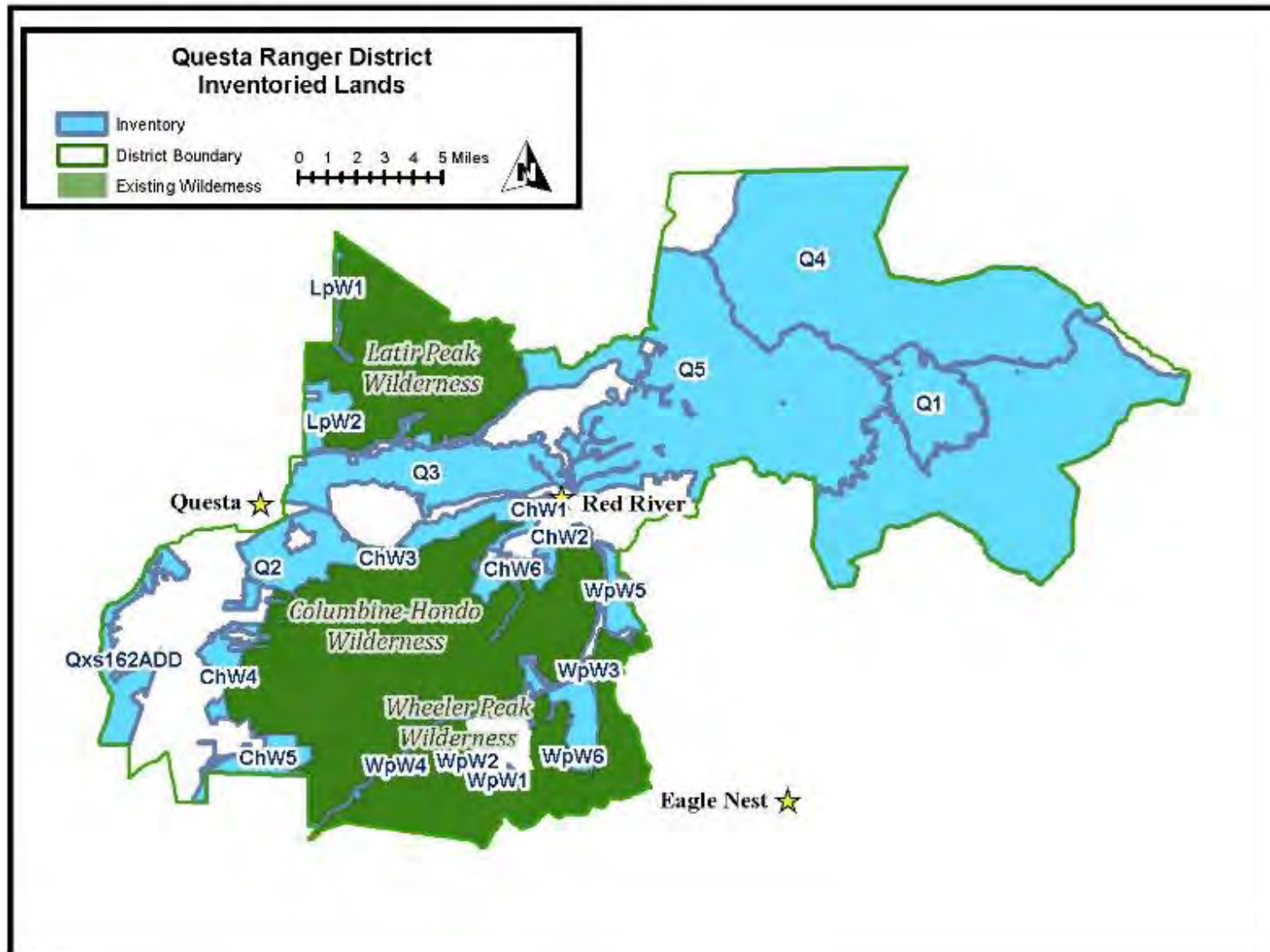


Figure 50. Questa Ranger District inventoried lands

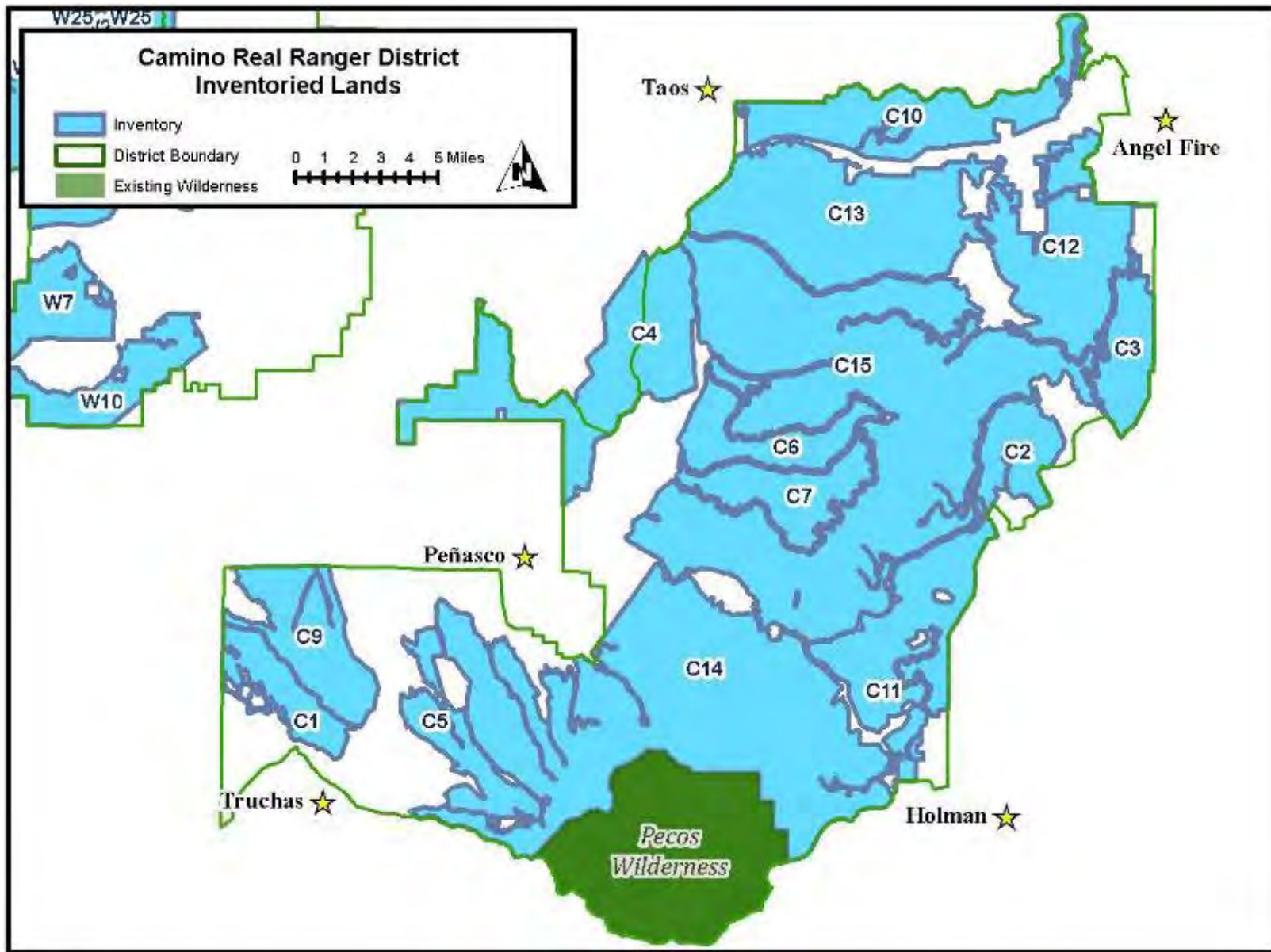


Figure 51. Camino Real Ranger District inventoried lands

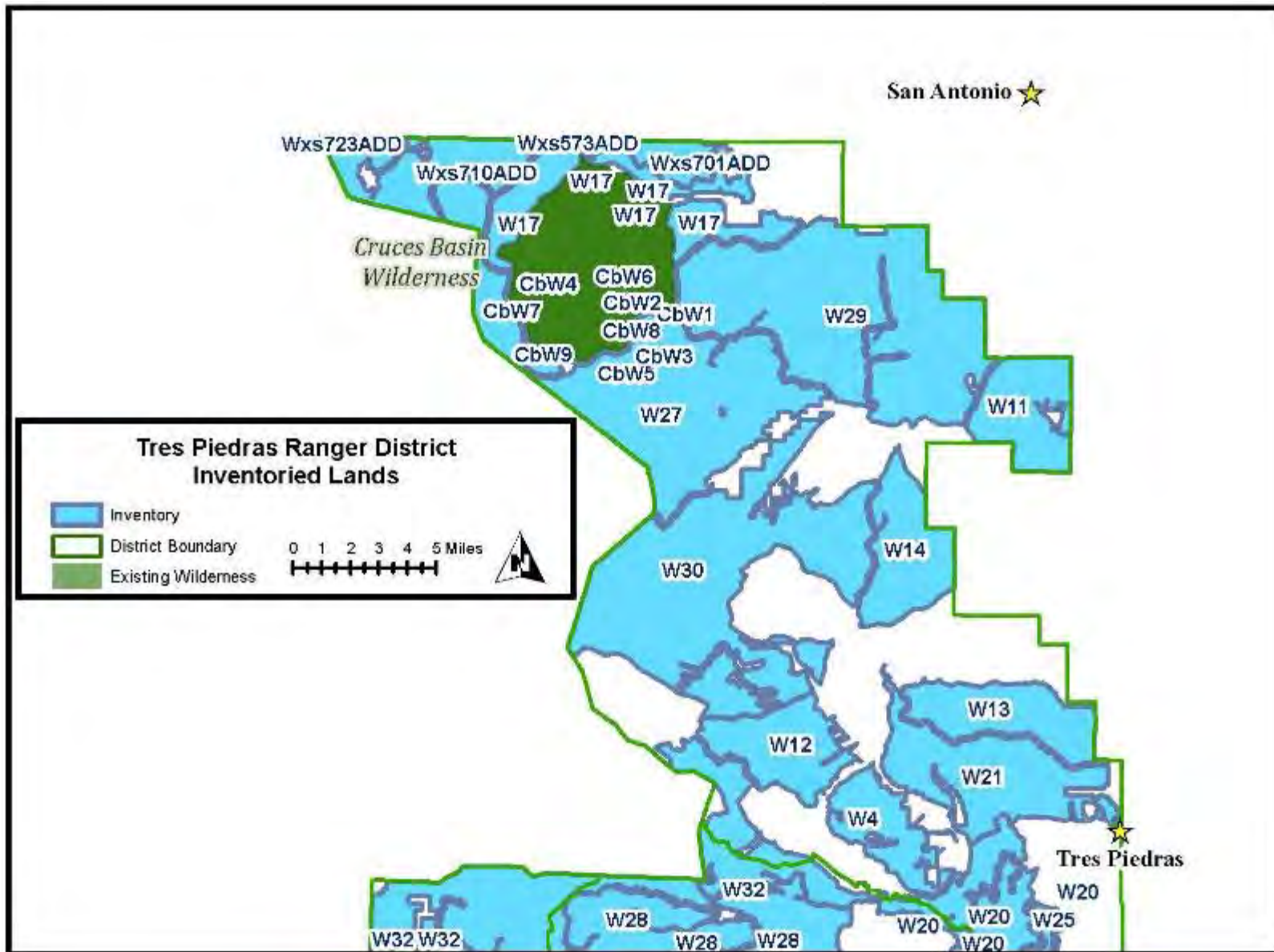


Figure 52. Northern part of the Tres Piedras Ranger District inventoried lands

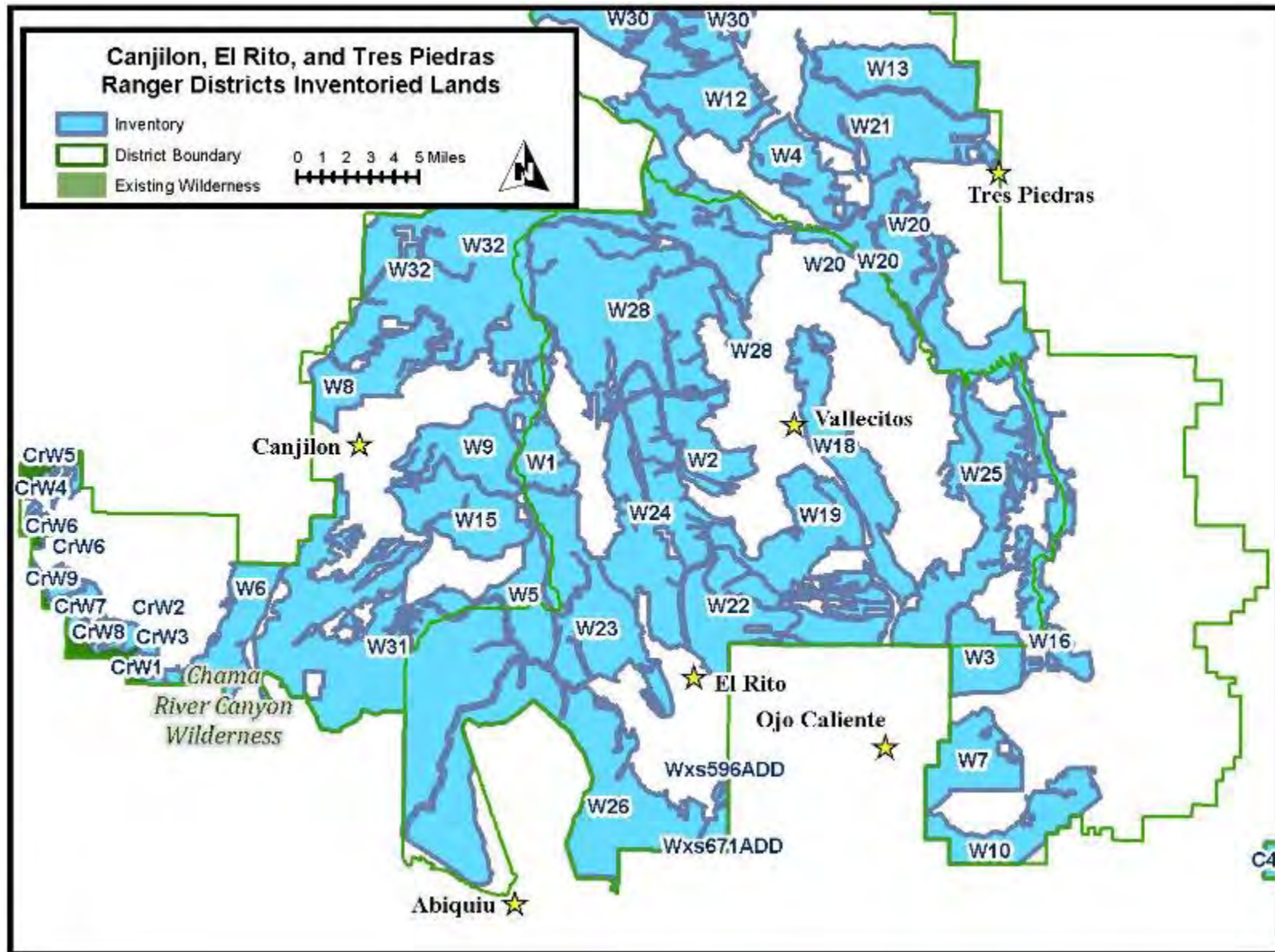


Figure 53. Canjilon, El Rito, and the southern part of Tres Piedras Ranger District inventoried lands

Evaluation

The purpose of the evaluation step is to determine the degree to which the lands included in the inventory have wilderness characteristics. Lands evaluated as having wilderness characteristics may then be carried forward into the analysis step. The results of the analysis help inform the determination of which lands may be carried forward for final recommendation. The draft forest plan and alternatives incorporate some, none, or all of the lands from evaluation, depending on the theme of the alternative. The environmental impact statement documents the analysis of anticipated effects, if lands were to be managed as wilderness, under the proposed forest plan and each alternative.

Wilderness character is defined by five wilderness characteristics described by the Wilderness Preservation Act of 1964, with direction from Forest Service Handbook (FSH 1909.12, Chapter 70, section 72.1) on land management planning. To determine potential suitability for inclusion in the National Wilderness Preservation System, the Forest Plan Revision Team, extended team members, and district employees evaluated each inventoried area, using the five wilderness characteristics as defined below:

Characteristic 1: Apparent naturalness

Addresses the question: Does the area generally appear to be affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable? Consider such factors as:

- The composition of plant and animal communities. The purpose of this factor is to determine if plant and animal communities appear substantially unnatural (for example, past management activities have created a plantation style forest with trees of a uniform species, age, and planted in rows);
- The extent to which the area appears to reflect ecological conditions that would normally be associated with the area without human intervention; and
- The extent to which improvements included in the area represent a departure from apparent naturalness.

Characteristic 2: Opportunities for solitude or unconfined recreation

Addresses the question: Does the area have outstanding opportunities for solitude or for a primitive and unconfined type of recreation? The word "or" means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre.

Consider impacts that are pervasive and influence a visitor's opportunity for solitude within the evaluated area. Factors to consider may include topography, presence of screening, distance from impacts, degree of permanent intrusions, and pervasive sights and sounds from outside the area.

Consider the opportunity to engage in primitive-type or unconfined recreation activities that lead to a visitor's ability to feel a part of nature. Examples of primitive-type recreation activities include observing wildlife, hiking, backpacking, horseback riding, fishing, hunting, floating, kayaking, cross-country skiing, camping, and enjoying nature.

Characteristic 3: Size

Addresses the question: Is the area of sufficient size to practically manage it for its preservation and use in an unimpaired condition?

Characteristic 4: Ecological, scientific, educational, scenic, or historical values (outstanding values)

Addresses the question: Does the area contain ecological or other features of scientific, educational, scenic, or historical value? These are not required to be present, but should be identified and evaluated where they exist. Such features or values may include:

- Rare plant or animal communities or rare ecosystems. Rare can be determined locally, regionally, nationally, or within the system of protected designations.
- Outstanding landscape features such as waterfalls, mountains, viewpoints, waterbodies, or geologic features.
- Historic and cultural resource sites. (Confidentiality requirements with respect to cultural resource sites must be respected (25 U.S.C 3056)).
- Research natural areas.
- High quality water resources or important watershed features.

Characteristic 5: Manageability of wilderness characteristics

Addresses the question: Can the area be managed to preserve its wilderness characteristics? Consider such factors as:

- Shape and configuration of the area;
- Legally established rights or uses within the area;
- Specific Federal or State laws that may be relevant to availability of the area for wilderness or the ability to manage the area to protect wilderness characteristics;
- The presence and amount of non-Federal land in the area; and
- Management of adjacent lands.

To facilitate the evaluation, all inventoried lands were grouped together by either watershed boundaries or allotment boundaries and called evaluation areas. Table 55 and figure 54 show these evaluation areas, the inventory numbers included in these areas, and the acres of inventoried lands within each evaluation area. The names of four evaluation areas have been changed in response to public comments during the initial evaluation released for comment in June of 2016. Embudo Creek Watershed was changed to Camino Real South; Petaca was changed to Tres Piedras-Lucero Lakes; Cruces Basin and San Antonio was changed to Tres Piedras North; and Arroyo Seco Watershed was changed to Mesa Montosa-Ghost Ranch. All inventoried lands within each evaluation area were individually evaluated for wilderness characteristics but discussed as a whole within each evaluation area.

Table 55. Evaluation areas, inventory numbers within evaluation areas, and acres on each ranger district

Ranger District	Evaluation Area	Inventory Numbers*	Acres
Camino Real	Camino Real South	C1, C5, C9, C11, and C14	86,643
Camino Real	Luna-Coyote	C2 and C3	10,500
Camino Real	Rio Grande del Rancho Watershed	C6, C7, C12, C13, and C15	111,408
Camino Real	Taos Canyon	C10	12,869
Camino Real	Warm Spring-Miranda	C4	19,091
El Rito and Canjilon	Alamosa	W18, W19, and W22	33,016
El Rito and Canjilon	Sierrita de Canjilon, Upper Canjilon-Upper El Rito Watersheds	W8, W28, and W32	73,807
El Rito and Canjilon	Comanche East Canyon	W3, W16, and W25	27,984
El Rito and Canjilon	El Rito-Lobato	W1, W2, W23, W24, W26, Wxs596ADD, and Wxs671ADD	68,008
El Rito and Canjilon	Mesa Montosa-Ghost Ranch	W5, W9, W15, and W31	57,018
El Rito and Canjilon	Rio Chama Wilderness Accompaniments and Echo Amphitheater	CrW1, CrW2, CrW3, CrW4, CrW5, CrW6, CrW7, CrW8, CrW9, and W6	12,056
Jicarilla	Jicarilla	J1, J2, J3, J4, and J5	51,816
Questa	Columbine-Hondo and Wheeler Peak Wilderness Accompaniments	ChW1, ChW2, ChW3, ChW4, ChW5, ChW6, Q2, WpW1, WpW2, WpW3, WpW4, WpW5, and WpW6	19,612
Questa	Latir Wilderness Accompaniments	LpW1 and LpW2	2,085
Questa	Midnight Meadows and Mallette Canyon	LpW2, Q3, and Q5	23,557
Questa	Rio Grande del Norte Accompaniments	Qxs162ADD	3,660
Questa	Valle Vidal	Q1, Q4, and Q5	95,351
Tres Piedras	Mesa Vibora-Cerro Azul	W7 and W10	13,028
Tres Piedras	Rio Tusas Watershed	W4, W12, W20, and W25	30,298
Tres Piedras	Tres Piedras North	CbW1, CbW2, CbW3, CbW4, CbW5, CbW6, CbW7, CbW8, CbW9, W11, W17, W27, W28, W29, W30, Wxs573ADD, Wxs701ADD, Wxs710ADD, and Wxs723ADD	116,479
Tres Piedras	Tres Piedras-Lucero Lakes	W13, W14, and W21	27,611
Total	21	95	895,897

*Each of inventory area was labeled with an inventory number as a way of referencing each area throughout the process.

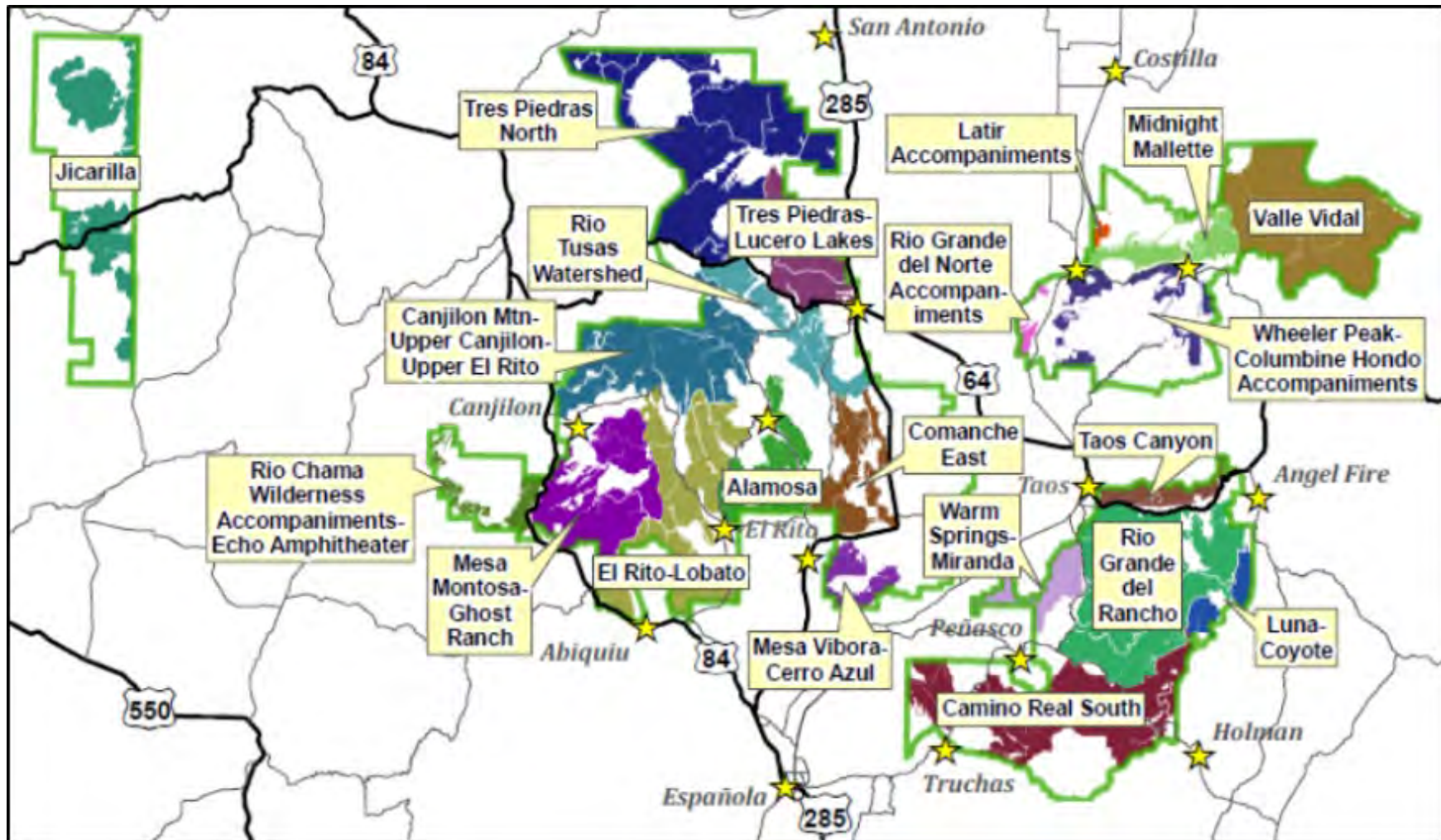


Figure 54. Evaluation areas for the recommended wilderness process

The evaluation of inventoried lands for wilderness characteristics was a qualitative evaluation. A preliminary evaluation was released to the public June 2016 for comment. As a result of public comments and more accurate on-the-ground information, four evaluation area's names were changed, and 25,789 acres were reevaluated for wilderness characteristics after the preliminary evaluation.

The evaluation is sorted first by ranger district, then by the evaluation areas within each of the ranger districts, and finally by the narrative discussion of the five wilderness characteristics within each evaluation area.

There were several resources used to inform the evaluation that included: (1) on-the-ground knowledge of Forest Service personnel, (2) aerial photos, (3) GIS data, (4) field visits, (5) knowledge of our cooperating agencies⁹, and (6) input from the public.

The evaluation of inventoried lands for wilderness characteristics was a qualitative evaluation. Using the tools and information described above, a narrative discussion for each wilderness characteristic in each evaluation area was developed. To determine if an evaluation area or part of an evaluation area has wilderness characteristics, wilderness characteristics 1-5 were evaluated individually for each evaluation area and then a collective determination was made which considered all of the characteristics together for each evaluation area. In other words, an evaluation area needs to have both wilderness characteristics 1, 2, and 5 for an area to have wilderness characteristics. The evaluation area is then evaluated for characteristic 3, size. If the area is less than 5,000 acres, other factors (e.g., ability to be managed to retain wilderness characteristics, adjacency to other federal lands with wilderness characteristics) must be considered to make a final determination. If wilderness characteristic 4 exists, the evaluation must also meet all of the other criteria as described above.

Evaluation Process

The Carson tried to be as thorough as possible in describing manmade activities or structures (identified using the tools and information described above) within or adjacent to the evaluation areas and where they were located. Adjacent manmade activities could affect apparent naturalness and/or solitude and unconfined recreation. Outstanding values (Characteristic 4) were discussed only if they existed within an evaluation area. Management of evaluation area and of adjacent federal lands was also taken into consideration when the area was evaluated for wilderness characteristics. When evaluation areas were evaluated, characteristic 1, 2, and 5 were evaluated first, then characteristic 4, and then characteristic 3. Below the characteristics will be discussed in the order they were evaluated.

Characteristic 5 – Manageability

When evaluating for manageability, areas which would conflict with managing for wilderness characteristics were considered. The rationale for removing these specific areas from further evaluation is described below.

Vallecitos Federal Sustained Yield Unit

The Vallecitos Federal Sustained Yield Unit was congressionally established under Public Law 273 in 1947 to “promote the stability of forest industries, of employment, of communities, and of taxable forest wealth, through continuous supplies of timber.” Given that the management for a federal sustained yield

⁹ The Carson National Forest signed a memorandum of understanding (MOU) with 14 key state and local government entities and two Indian Tribes to involve them as cooperating agencies in revising and updating its existing forest plan. Members of Carson National Forest's Government Working Group include Counties of Colfax, Mora, Rio Arriba, and Taos, Soil and Water Conservation Districts for Colfax, East Rio Arriba, San Juan, Taos, and Western Mora, NM Acequia Commission, NM Land Grant Council, NM Environment, Surface Water Quality Bureau, NM Department Of Agriculture, NM Department of Game and Fish, NM State Forestry, Picuris Pueblo, Taos Pueblo, and Jicarilla Apache Nation.

unit requires timber harvesting projects and large scale motorized and mechanized equipment use, the Vallecitos Federal Sustained Yield Unit was removed from portions of evaluation areas.

Wild Horse Territories

The Carson National Forest has four federally designated wild horse territories; however, only the Jarita Mesa and Jicarilla Wild Horse Territories are occupied and have management plans. Mesa Montosa and Mesa de las Viejas were declassified as wild horse territories in the 1986 plan, and these territories do not have management plans. The Forest Service is required to manage these wild horse herds to protect the herd and maintain ecological integrity of the land. The management plans for these areas require managing population numbers by capturing and transporting excessive members of the herd. This generally requires the use of all-terrain vehicles and motor vehicles with trailers, which are stated as management tools in the plan. Given the management requirements necessitated by the existing Federal designation, the management to preserve wilderness characteristics in these two wild horse territories is precluded by the previous existing designated use of the area as directed by the territories' management plans. For this reason, these two wild horse territories were removed from portions of evaluation areas.

Acequias

Acequias are historic ditches throughout the forest that bring water from rivers and streams to communities for irrigation purposes. They are generally community-run through associations headed by a majordomo (ditch master) and date back to the time of Spanish settlement in the 1500s. These waterways are still in use today for the original purposes for which they were established. Acequias predate the national forest reservation and are afforded special rights and status under National Forest System management. Under the Chief's Policy relating to the Act of July 26, 1866 (Revised Statute 2339), continuing routine operation and maintenance of acequias is allowed without special use authorization being required. A 100-foot buffer was drawn around known acequias that have legally existing water rights and the right-of-way to maintain structures (i.e., headgates, flumes, channel), to include the use of motorized or mechanized equipment.



Figure 55. Acequia de Arriba del Llano de San Miguel (C14)

Wildland-Urban Interface

Fire management unit 1 areas are wildland-urban interface areas on the Carson NF that are near towns or villages. Wildland-urban interface areas that require intensive management of fuels and intrusive suppression action if a fire occurs. This makes it difficult to manage to preserve wilderness

characteristics. As documented in the Wildland Fire Decision Support System, these units are under current fire management direction, which states that fire is never desired and will be suppressed to protect life and property.

Shape and Configuration

Shape and configuration consideration was contingent upon pinch points. A pinch point is a strip of land within an inventoried area that is less than ¼ mile wide between existing roadways. This pinch point could not be managed to preserve wilderness characteristics.

Valle Vidal Private Property

During the inventory step, portions of land within Valle Vidal (Q5) were misidentified as National Forest System lands. Further inspection during evaluation found they were private lands belonging to Vermejo Park.

Evaluation Scenario

Figure 56 shows example inventory area XXX (5,343 acres) to illustrate the evaluation scenario of areas which would conflict with managing for wilderness characteristics (characteristic 5). In this scenario, 10 percent (532 acres) of inventory area XXX would be evaluated as areas which would conflict with managing the area for wilderness characteristics.

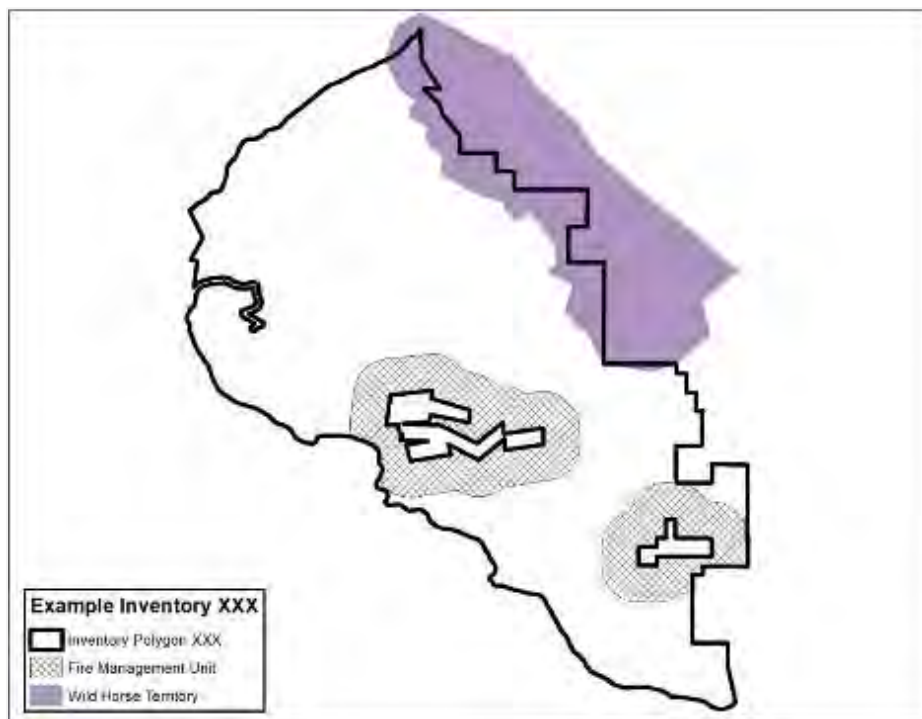


Figure 56. Example inventory XXX illustrates a scenario of conflicts with managing the area for wilderness characteristics

Characteristic 1–Apparent Naturalness

When evaluating for apparent naturalness, the extent to which manmade improvements and activities existing in the area represent a departure from apparent naturalness was considered. These manmade improvements or activities included mines that are still in use or have been rehabilitated in the last 15 years, old logging roads that are still visible (located on the ground using a global positioning system),

range and wildlife improvements (e.g., spring developments, cattle guards, trick tanks, and corrals), and evidence (e.g., stumps and slash) of logging activities that have occurred within the last 10 years.

Evaluation Scenario

Figure 57 illustrates how naturally apparent manmade improvements and activities could appear in example inventory area XXX.

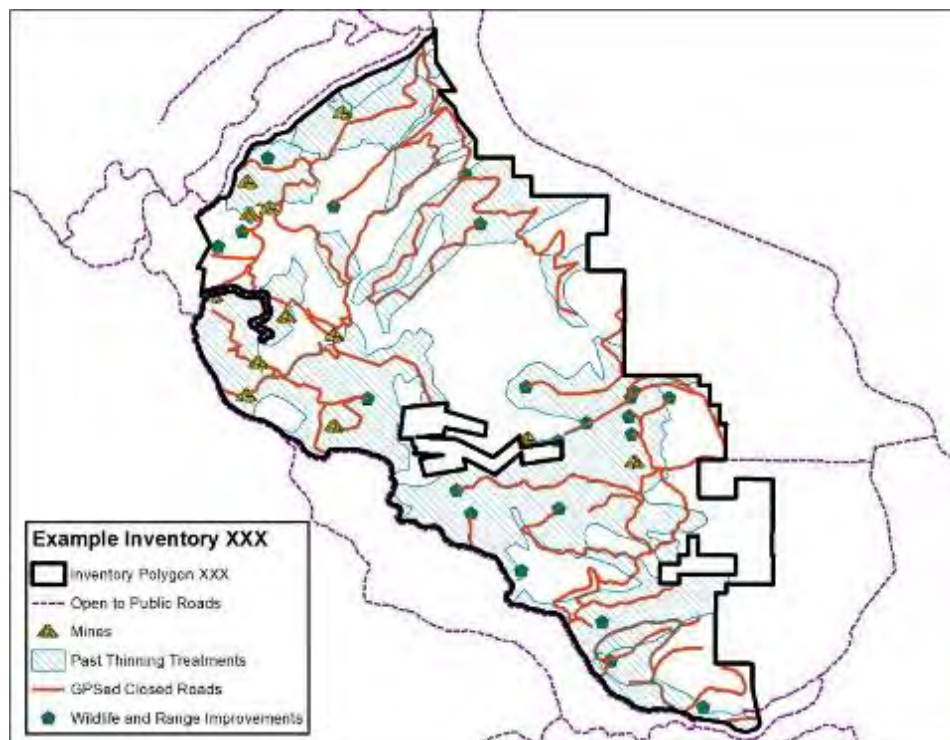


Figure 57. Example of human-made improvements and activities that are apparent in example inventory area XXX

The Carson evaluated where and how prevalent these activities or improvements were within all inventoried lands of the evaluation area. For the sample scenario, 54 percent (2,897 acres) of inventory area XXX would be evaluated as lacking apparent naturalness. Figure 58 shows the areas evaluated in this example that were determined to have apparent naturalness (2,446 acres or 46 percent) within inventory polygon XXX.



Figure 58. Areas evaluated as having apparent naturalness in example inventory XXX

Characteristic 2–Solitude or Unconfined Recreation

When evaluating for solitude, pervasive sights and sounds from just outside and within the evaluation area were considered. A 0.25-mile buffer around noise factors was used to address potential noise issues. Factors included chainsaw noise from fuelwood gathering along existing open roads, train whistles, vehicle noise on existing roads, and areas currently open to snowmobile use during the winter.

When evaluating for unconfined recreation, we considered the opportunity to engage in primitive-type or unconfined recreation activities that lead to a visitor's ability to feel a part of nature. A majority of the inventory polygons are evaluated as having unconfined recreation.

Evaluation Scenario

In this example 75 percent (4,009 acres) of inventory area XXX would be evaluated as having the characteristic of solitude. Figure 59 shows areas evaluated as having both solitude and unconfined recreation (71 percent or 3,778 acres) within inventory area XXX.

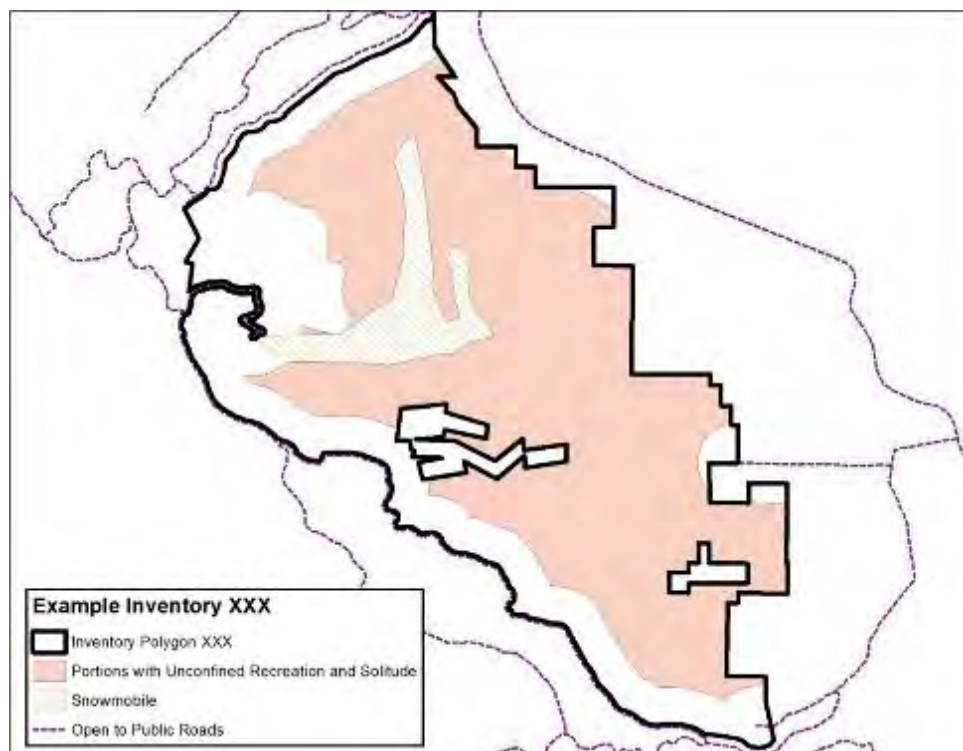


Figure 59. Areas evaluated as having solitude and unconfined recreation in example inventory XXX

Characteristic 4 – Outstanding Values

Outstanding values (characteristic 4) were evaluated only when they were found to exist within an evaluation area. Factors included rare plant or animal communities or rare ecosystems; outstanding landscape features such as waterfalls, mountains, viewpoints, waterbodies, or geologic features; inventoried roadless areas; research natural areas; historic and cultural resource sites; and high quality water resources or important watershed features.

Evaluation Scenario

Figure 60 depicts where outstanding features were evaluated in inventory area XXX. For this evaluation scenario, a national historic trail and eligible wild and scenic rivers were included within inventory area XXX.

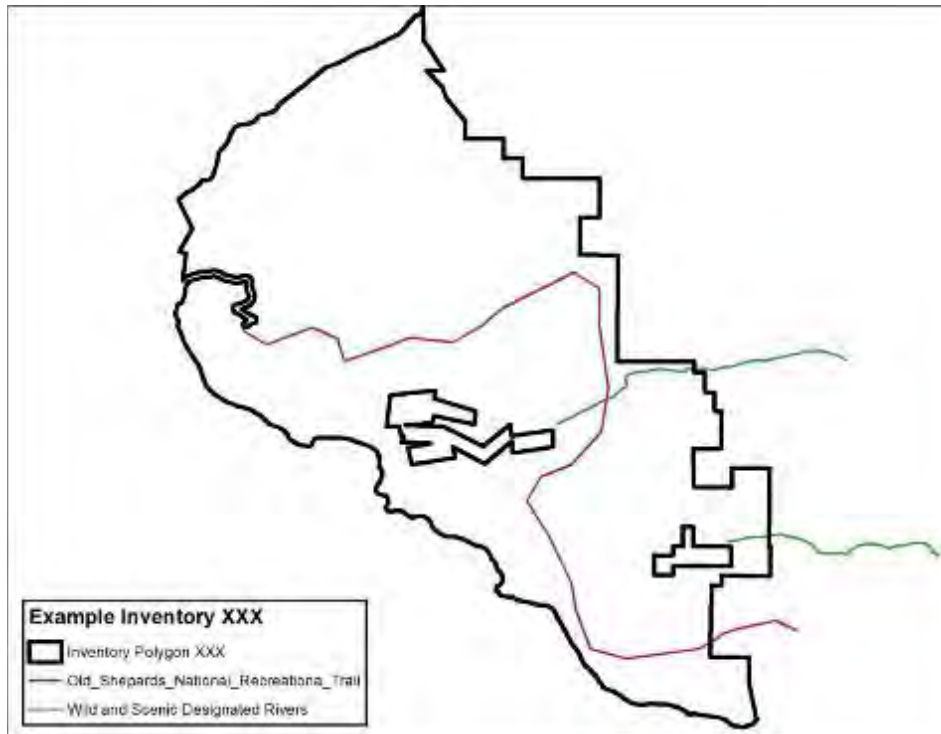


Figure 60. Outstanding Values within example inventory XXX

Characteristic 3 – Size

For the final step, characteristics 1-4 were then evaluated all together for each evaluation area. The forest considered if the areas with characteristic 1, 2, and 4 are of sufficient size (characteristic 3) to practically manage it for its preservation and use in an unimpaired condition.

Evaluation Scenario

Figure 61 shows the portion of inventory area XXX that were evaluated as having apparent naturalness, solitude, unconfined recreation, and outstanding values (33 percent or 1,781 acres of inventory XXX).

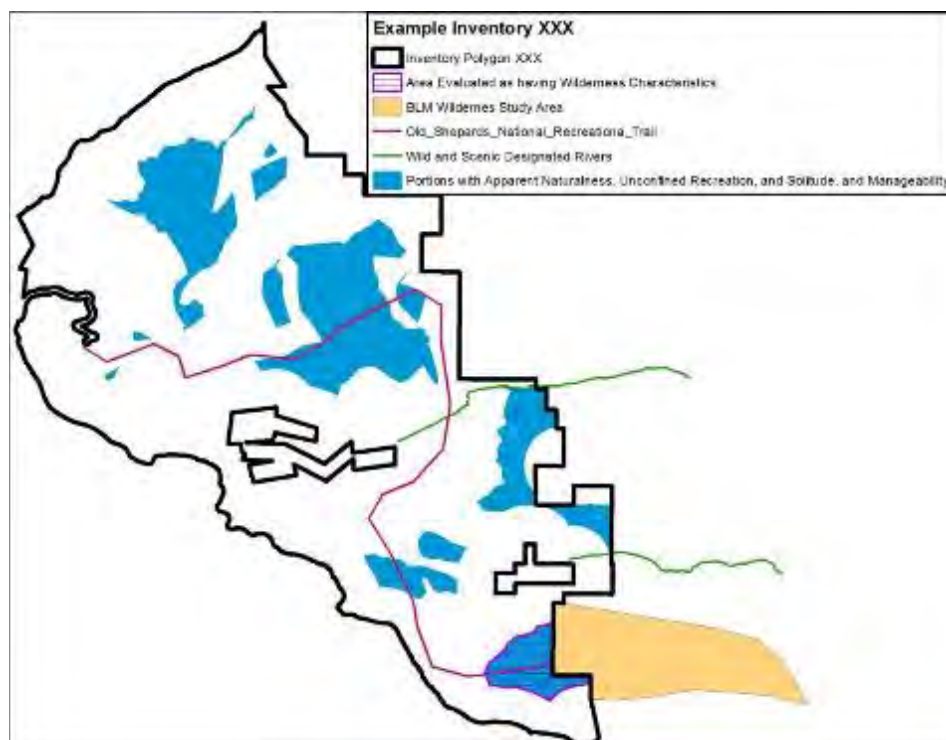


Figure 61. Portion of example inventory XXX evaluated as having apparent naturalness, solitude, unconfined recreation, manageability, and outstanding values

For the example scenario inventory area XXX, the remaining acreages that were evaluated as having characteristics 1, 2, 5, and sometimes 4 are less than 875 acres individually. The largest being around 864 acres, and the smallest being less than 5 acres. Upon review, there are 101 acres that are adjacent to a Bureau of Land Management Wilderness Study Area, and if this area was to be managed in conjunction with the Bureau of Land Management Wilderness Study Area, it would be over 5,000 acres as a whole. The remaining 1,148 acres lack geographical definition to maintain these acreages for preservation and/or use in an unimpaired condition. Therefore, 101 acres would be evaluated as having wilderness characteristic for our scenario and the remaining acreages would be evaluated as have wilderness characteristics, due to lack of apparent naturalness (54 percent), limited solitude or unconfined recreation (29 percent), manageability (10 percent), and size.

Scenario Evaluation Determination

101 acres of inventory XXX are evaluated as having wilderness characteristics, and thus were included in the next stage of the wilderness recommendation process, analysis. This portion makes up 2 percent of the area. Therefore, 101 acres were evaluated as having wilderness characteristic for our scenario and the remaining acreages do not have wilderness characteristics, due to lack of apparent naturalness (54 percent), limited solitude or unconfined recreation (29 percent), manageability (10 percent), and size. Areas determined to not have wilderness characteristics will not be included in the analysis step of the wilderness recommendation process.

Evaluation Results

About 8 percent of the inventoried lands were evaluated as having wilderness characteristics. That is approximately 5 percent of the entire Carson National Forest. Table 56 and figure 62 through figure 73 show lands evaluated as having wilderness characteristics by ranger district. The detailed rationale for removing inventoried lands in Evaluation Phase 2 can be found in the full Wilderness Recommendation

Process – Inventory and Evaluation Report within the project record or on the Carson National Forest website.

Table 56. Lands evaluated as having wilderness characteristics

Ranger District	ID Number	Evaluation Area	Acres	Percent of Evaluation Area	Percent of Inventoried Lands	Percent of Carson
Camino Real	C14v	Camino Real South	12,597	15	1	1.00
Camino Real	C14x	Camino Real South	2,340	3	0.3	0.20
El Rito and Canjilon	CrW5b	Rio Chama Wilderness Accompaniments and Echo Amphitheater	82	1	0.01	0.01
El Rito and Canjilon	CrW6c	Rio Chama Wilderness Accompaniments and Echo Amphitheater	21	0.2	0.002	0.001
El Rito and Canjilon	W31d	Mesa Montosa-Ghost Ranch	11,479	20	1	1.00
El Rito and Canjilon	W32a	Sierrita de Canjilon, Upper Canjilon-Upper El Rito Watersheds	6,998	9	1	0.50
Questa	Q4g	Valle Vidal	9,361	10	1	1.00
Questa	Q5n	Midnight Meadows and Mallette Canyon	1,165	5	0.1	0.10
Tres Piedras	W17f	Tres Piedras North	1,675	1	0.002	0.001
Tres Piedras	W17k	Tres Piedras North	2,670	2	0.3	0.20
Tres Piedras	W27a	Tres Piedras North	7,117	6	1	0.50
Tres Piedras	W29c	Tres Piedras North	2,491	2	0.3	0.20
Tres Piedras	W29e	Tres Piedras North	10,000	9	1	1.00
Total	NA	NA	67,996	NA	8	4.6

NA is not applicable.

Camino Real South (C14v)

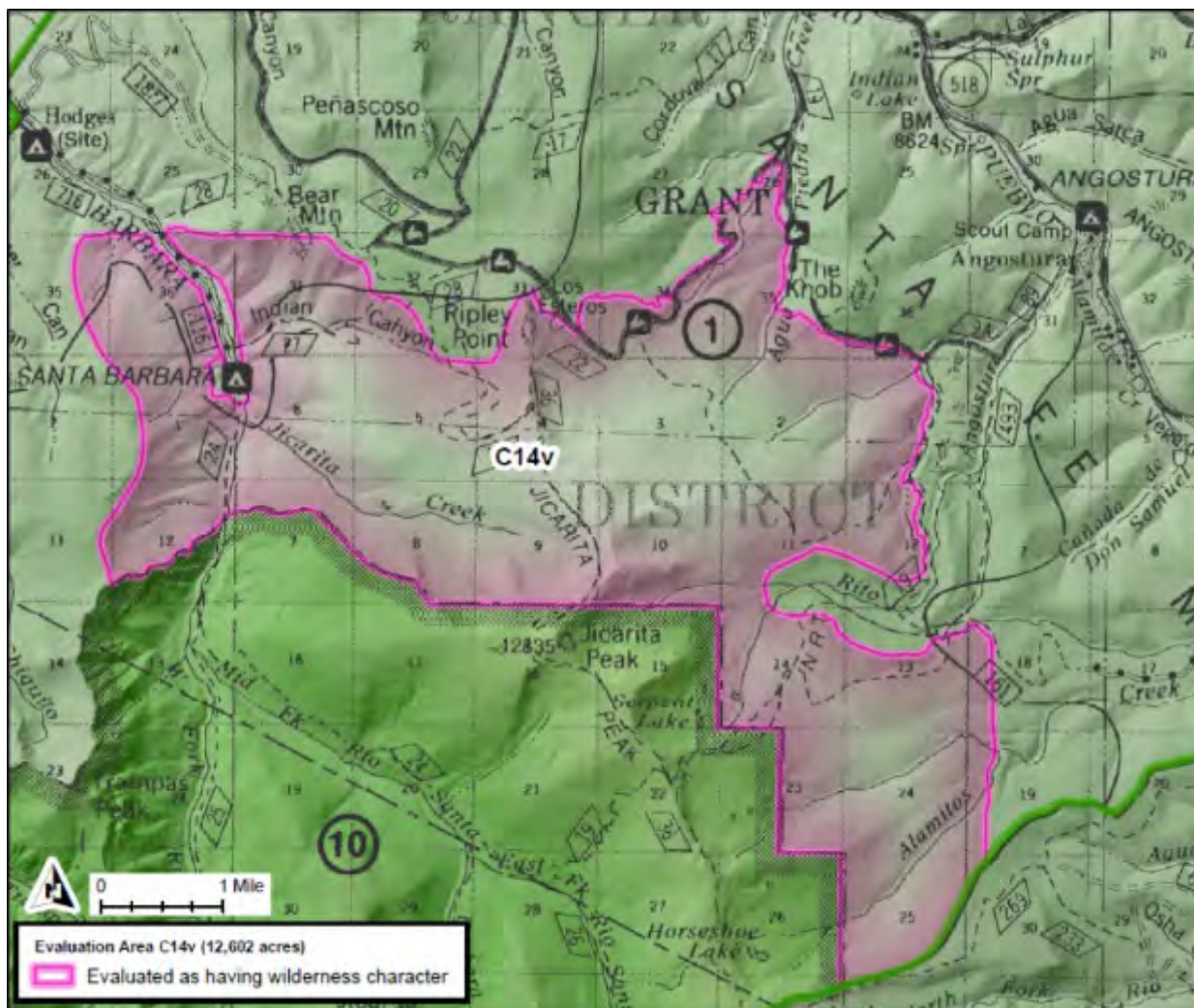


Figure 62. Camino Real South C14v evaluated as having wilderness characteristics

Within Camino Real South (C14v), plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and does not detract from apparent naturalness. There are opportunities to engage in primitive and unconfined recreation including: hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon, making opportunities to feel alone possible in much of the area. Other outstanding values include the Jicarita Peak National Recreation Trail (though there are higher value, more popular trails in the area) and remnant structures and logging evidence from the 1907-1928 Santa Barbara Pole and Tie Company and Trampas Lumber Company.

Camino Real South (C14x)

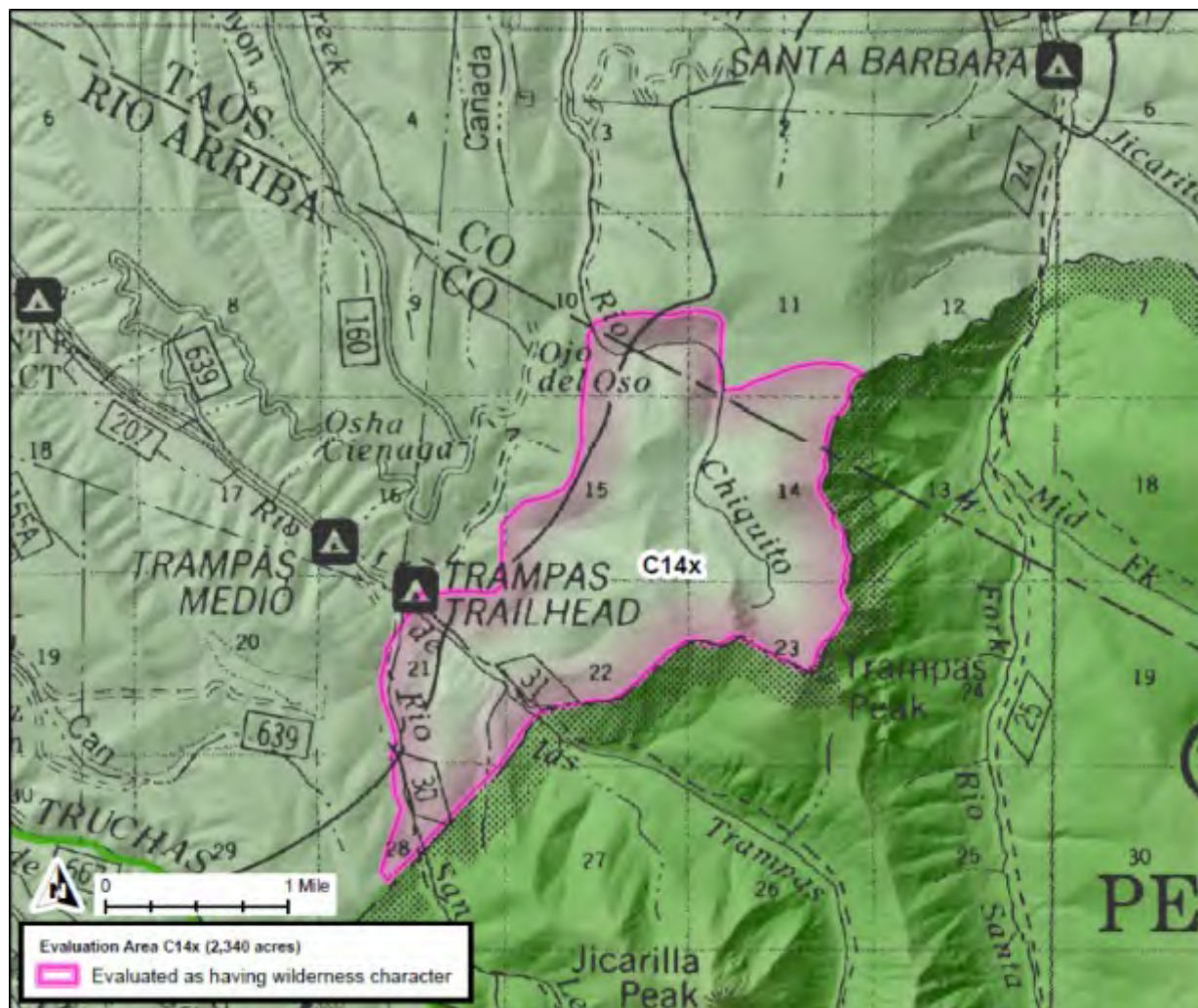


Figure 63. Camino Real South C14x evaluated as having wilderness characteristics

Within in Camino Real South C14x, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and does not detract from apparent naturalness. There are opportunities to engage in primitive and unconfined recreation including: hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon, making opportunities to feel alone possible in much of the area. Other outstanding values include the Jicarita Peak National Recreation Trail (though there are higher value, more popular trails in the area) and remnant structures and logging evidence from the 1907-1928 Santa Barbara Pole and Tie Company and Trampas Lumber Company.

Rio Chama Wilderness Accompaniments and Echo Amphitheater (CrW5b and CrW6c)

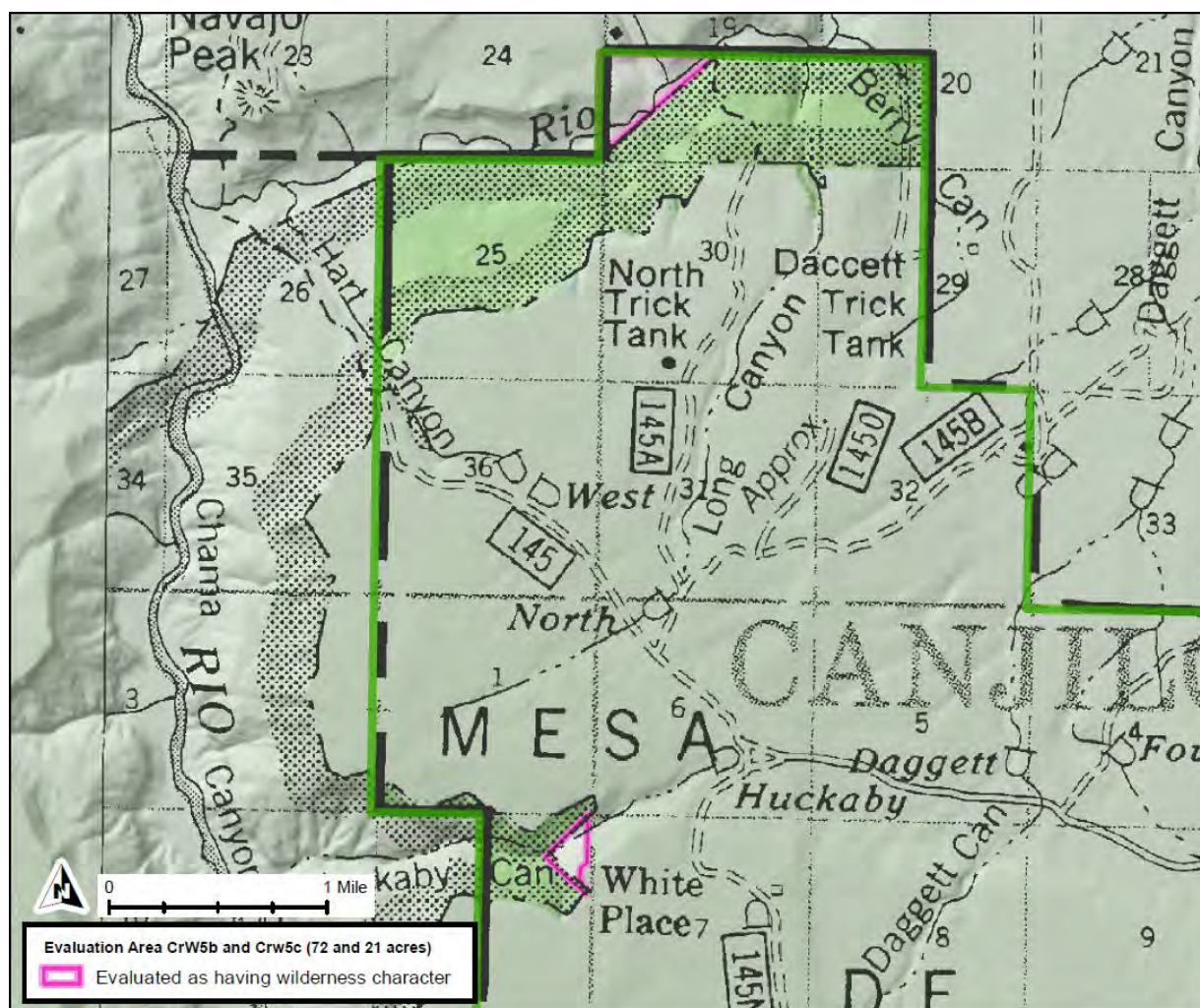


Figure 64. Rio Chama Wilderness Accompaniments and Echo Amphitheater CrW5b and CrW6c evaluated as having wilderness characteristics

Within CrW5b and CrW6c, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the areas in the absence of human intervention. Infrastructure is absent inside the areas and does not significantly detract from apparent naturalness. Opportunities exist to engage in primitive recreation including hiking, viewing natural landscapes, and wildlife viewing. Human activities inside the RWMA are rare and the adjacent Chama River Canyon Wilderness provides opportunities to feel alone. No other outstanding values have been identified.

Mesa Montosa-Ghost Ranch (W31d)

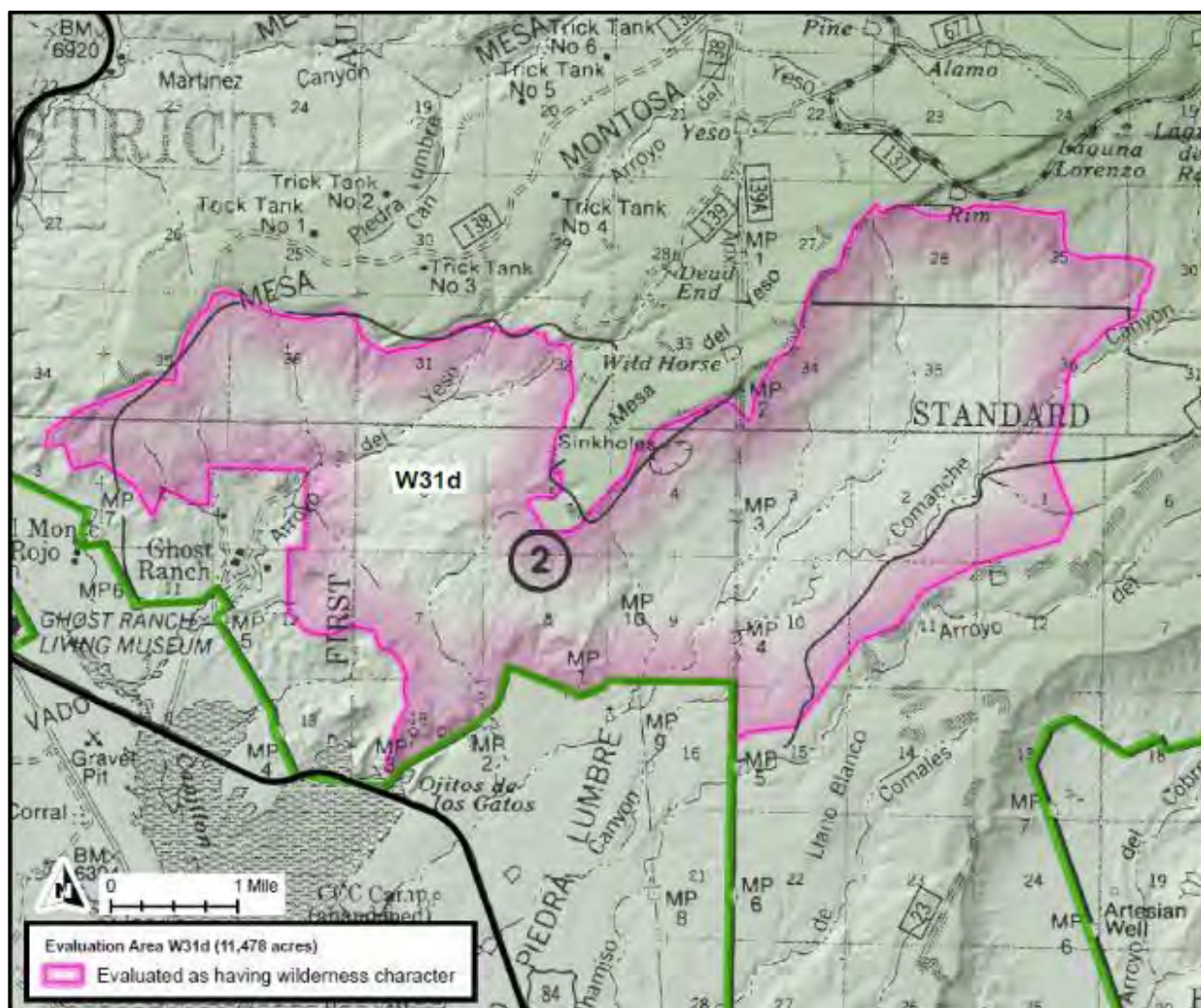


Figure 65. Mesa Montosa-Ghost Ranch W31d evaluated as having wilderness characteristics

Within Mesa Montosa-Ghost Ranch W31d, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and does not detract from apparent naturalness. There are high quality opportunities to engage in primitive and unconfined recreation including: hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon making opportunities to feel alone possible in much of the area. Other outstanding values include sandstone cliffs, fossils, and rare plants, including Chacon milkvetch, Chama blazing star, and tufted sand verbena.

Sierrita de Canjilon, Upper Canjilon-Upper El Rito Watersheds (W32a)

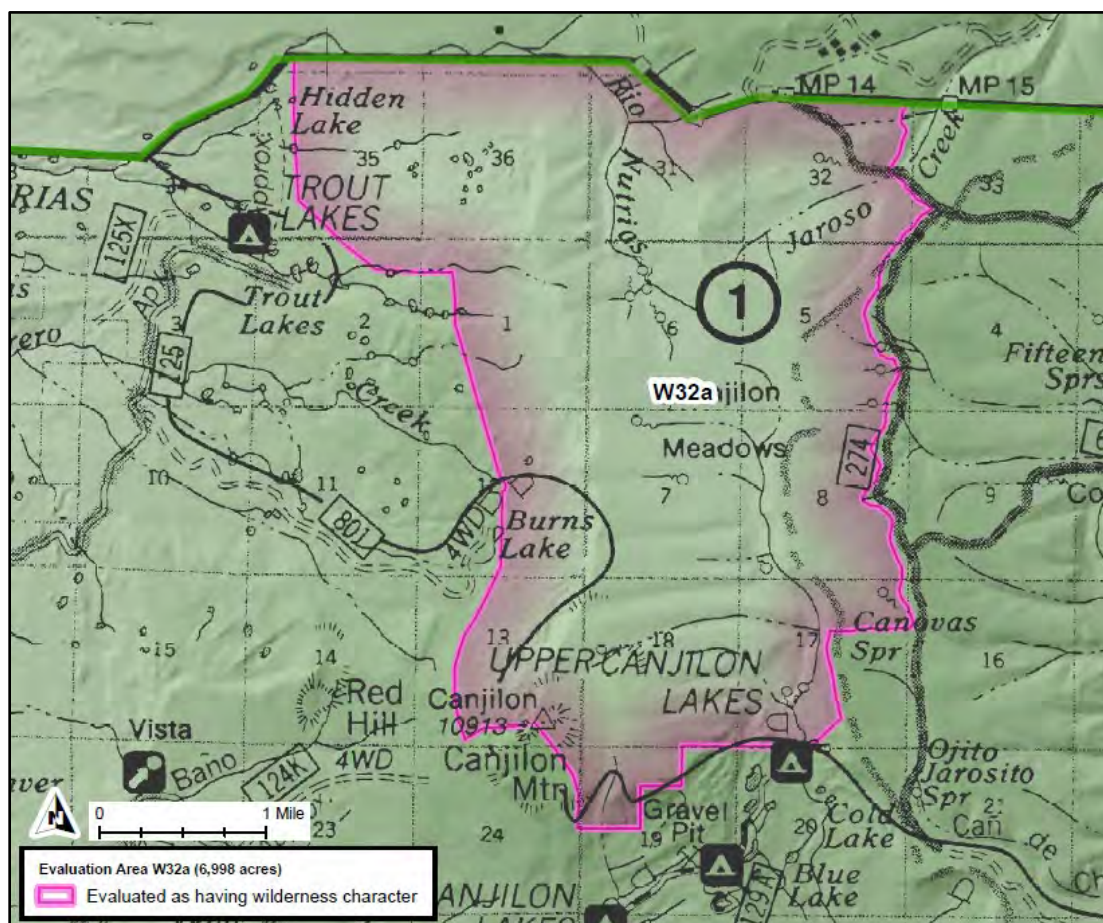


Figure 66. Sierrita de Canjilon, Upper Canjilon-Upper El Rito Watersheds W32a evaluated as having wilderness characteristics

Within Sierrita de Canjilon, Upper Canjilon-Upper El Rito watersheds W32a, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area, other than range fencing, is rare and does not detract from apparent naturalness. There are opportunities to engage in primitive and unconfined recreation including: hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Outstanding values include the Continental Divide Trail and Canjilon Mountain.

Valle Vidal (Q4g)

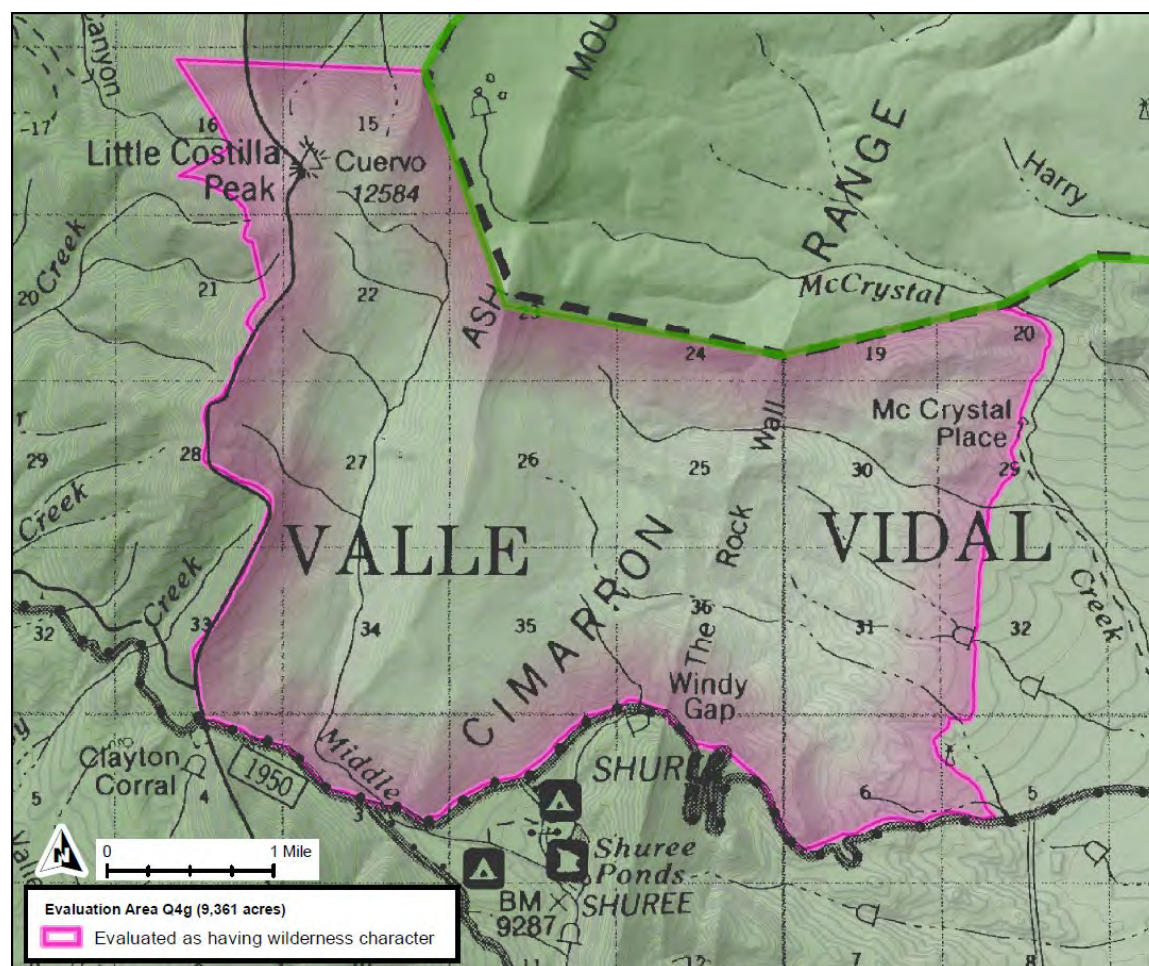


Figure 67. Valle Vidal Q4g evaluated as having wilderness characteristics

Within Valle Vidal Q4g, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and does not detract from apparent naturalness. There are high quality opportunities to engage in primitive and unconfined recreation including hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon, making opportunities to feel alone possible in much of the area. Outstanding values include the bristlecone pine stand, Ash Mountain (shale rock peak), and the Rock Wall geologic feature.

Midnight Meadows and Mallette Canyon (Q5n)

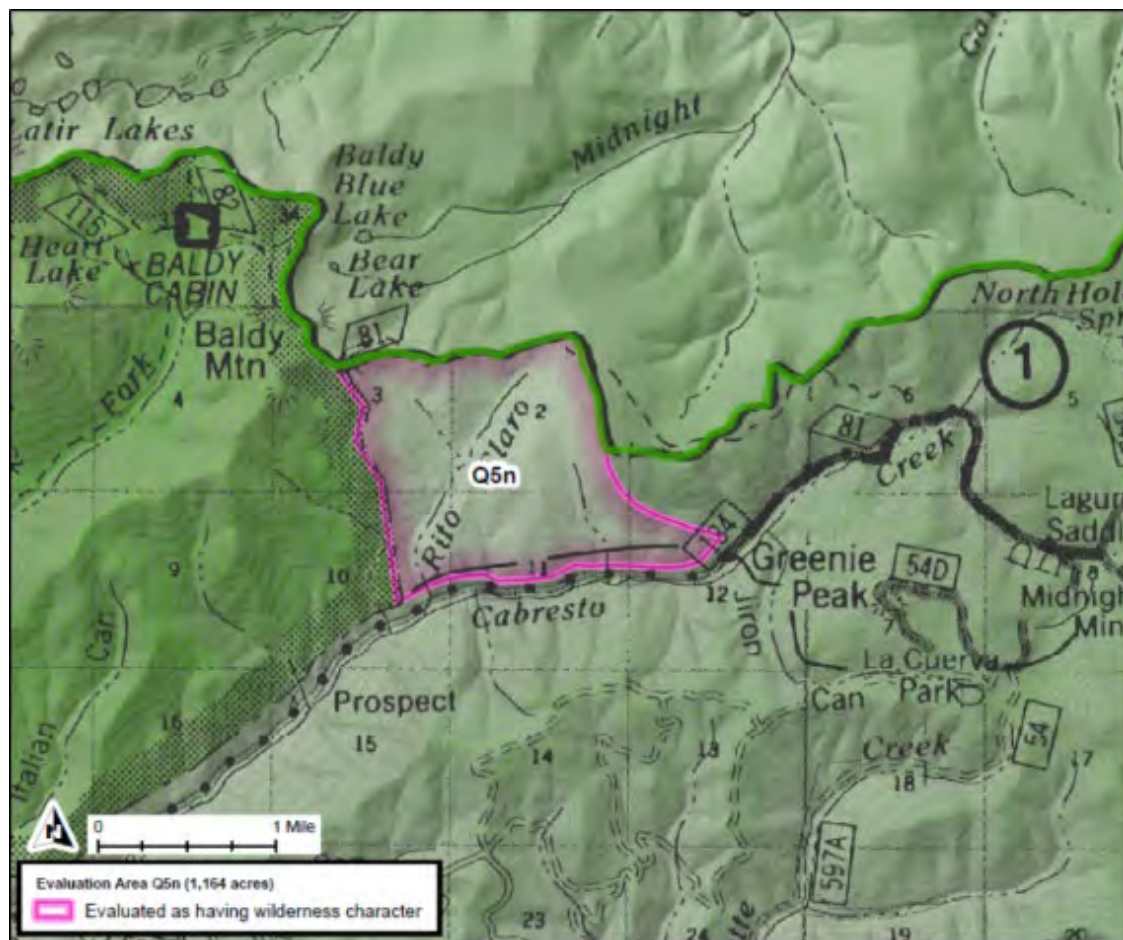


Figure 68. Midnight Meadows and Mallette Canyon Q5n evaluated as having wilderness characteristics

Within Midnight Meadows and Mallette Canyon Q5n, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and does not detract from apparent naturalness. Some high quality opportunities to engage in primitive and unconfined recreation exist in the area including hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon, making opportunities to feel alone possible in much of the area, especially away from Forest Road 134. No outstanding values were identified.

Tres Piedras North (W17f)

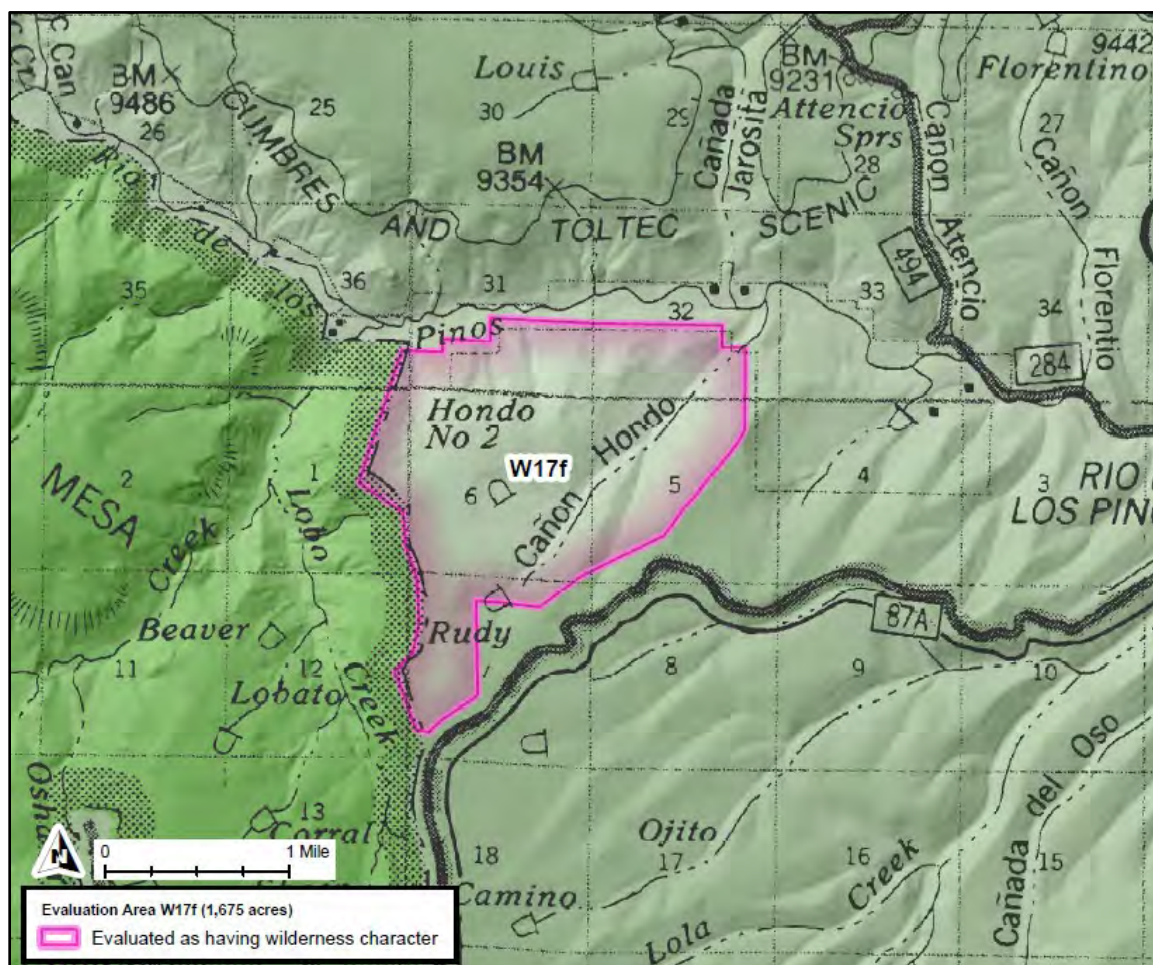


Figure 69. Tres Piedras North W17f evaluated as having wilderness characteristics

Within W17f, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and does not detract from apparent naturalness. There are opportunities to engage in primitive and unconfined recreation including: hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon during some times of year providing opportunities to feel alone. No outstanding values were identified.

Tres Piedras North W17k

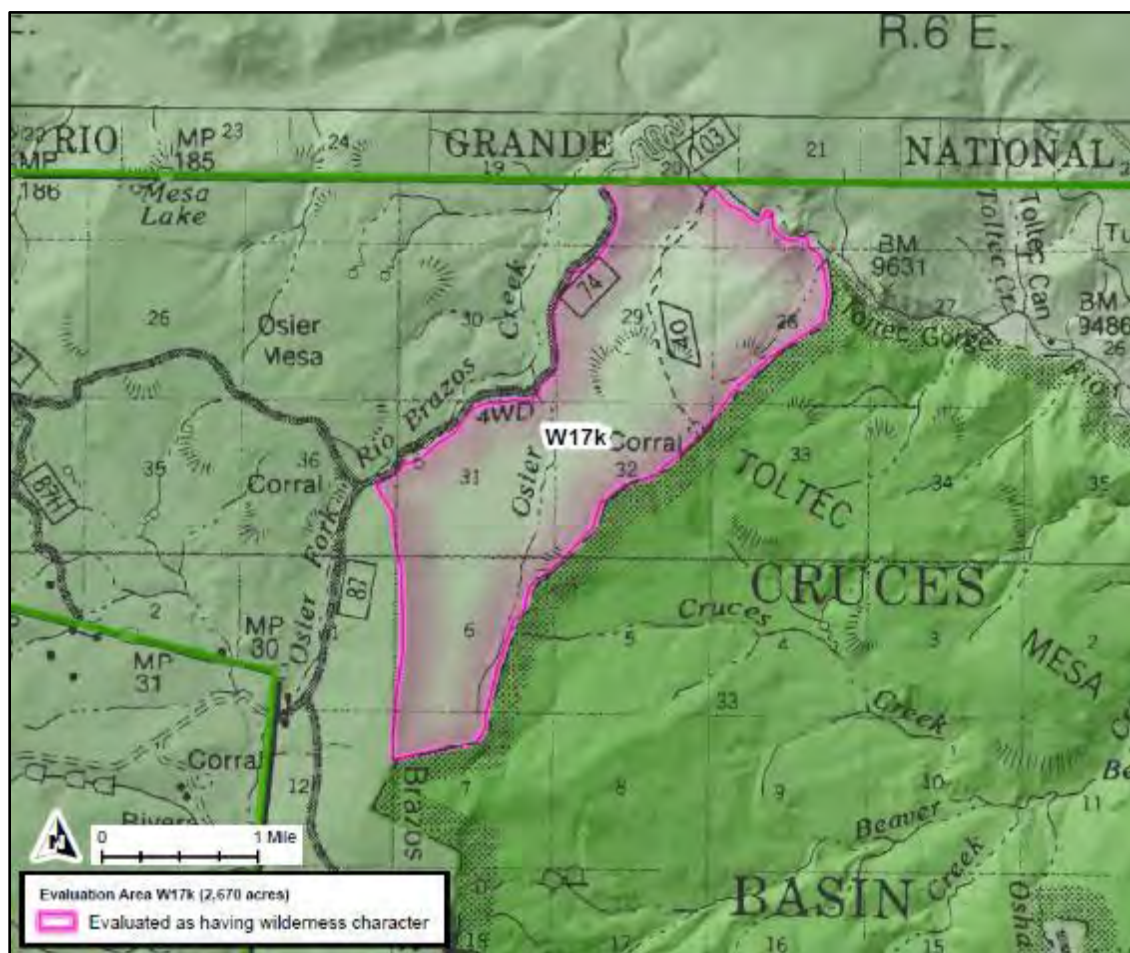


Figure 70. Tres Piedras North W17k evaluated as having wilderness characteristics

Within W17k, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure other than range fencing is rare and does not detract from apparent naturalness. There are opportunities to engage in primitive and unconfined recreation including: hiking, viewing natural landscapes, and wildlife viewing. Human activities are uncommon at some times of year, making opportunities to feel alone possible in the area. Outstanding values include the Continental Divide Trail.

Tres Piedras North (W27a)

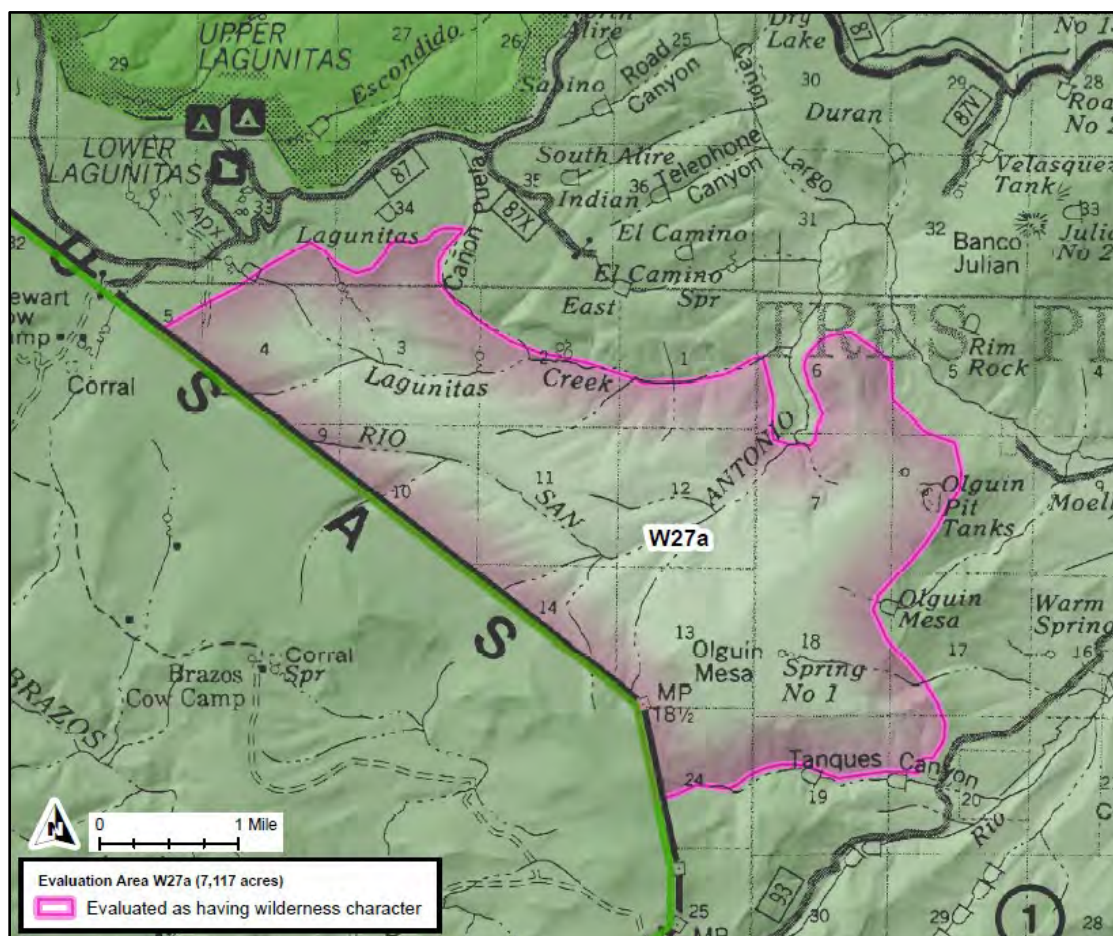


Figure 71. Tres Piedras North W27a evaluated as having wilderness characteristics

Within Tres Piedras North W27a, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and does not detract from apparent naturalness. There are high quality opportunities to engage in primitive and unconfined recreation including: hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon during some times of year providing opportunities to feel alone. Outstanding values include the Continental Divide Trail.

Tres Piedras North (W29c)

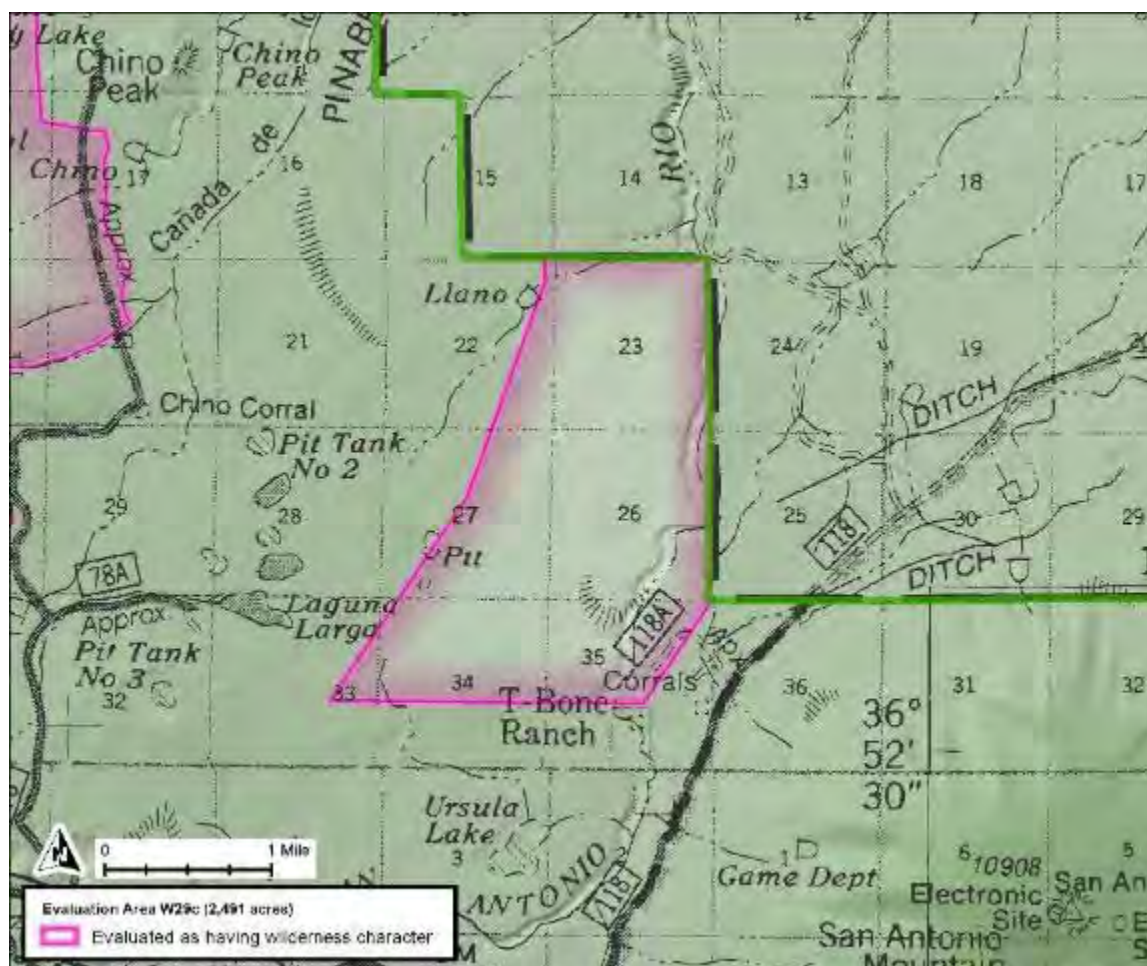


Figure 72. Tres Piedras North W29c evaluated as having wilderness characteristics

Within Tres Piedras North W29c, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. An exception are fence line impacts, which concentrate wildlife and livestock impacts and movements. At certain times of year evidence of trailing and different utilization levels may be apparent. Infrastructure other than fencing is rare inside the area and does not significantly detract from apparent naturalness. Opportunities exist to engage in primitive recreation including hiking, viewing natural landscapes, and wildlife viewing. Human activities are rare at some times during the year, providing opportunities to feel alone in parts of the area. Outstanding values include the Rio San Antonio Canyon geology.

Tres Piedras North (W29e)

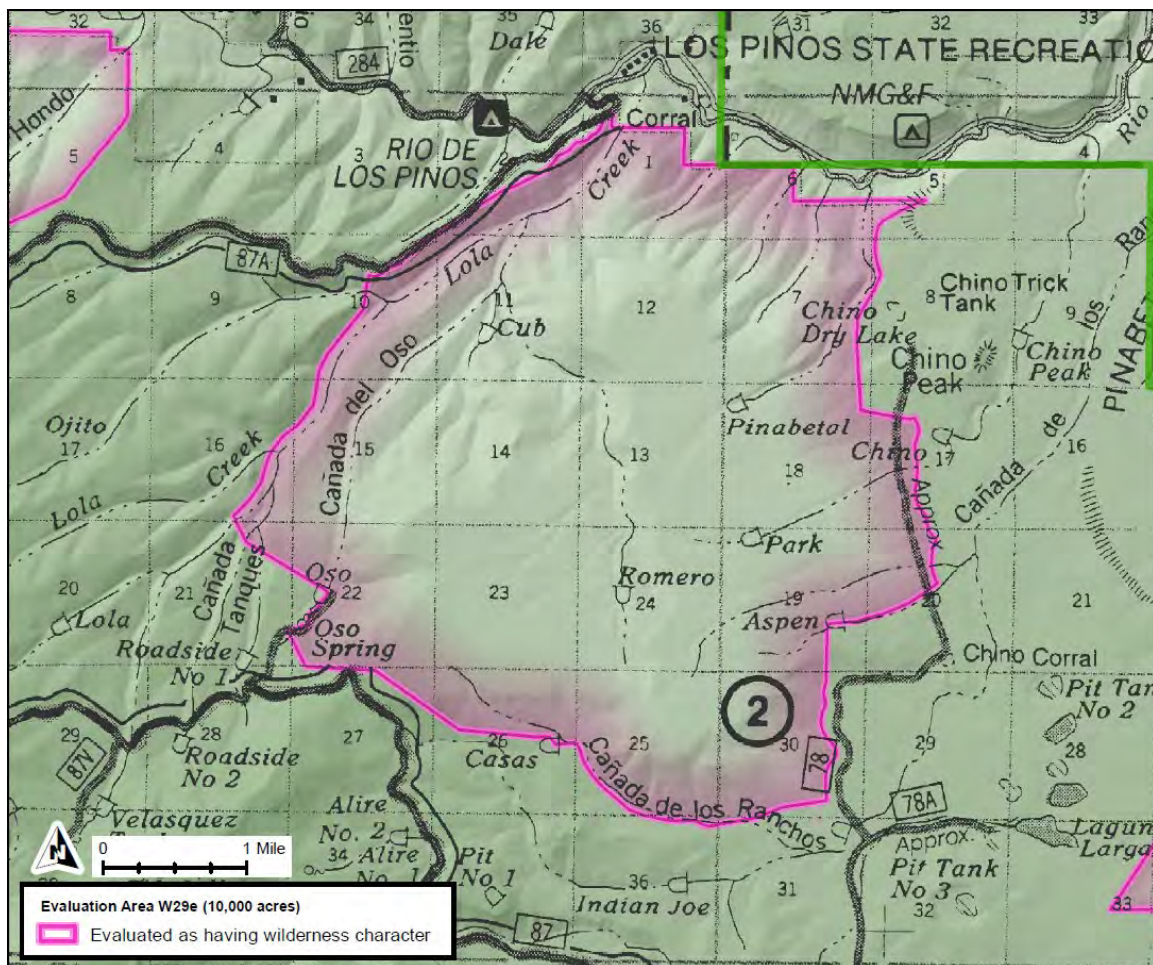


Figure 73. Tres Piedras North W29e evaluated as having wilderness characteristics

With Tres Piedras North W29e, plant and animal communities appear natural and appear to reflect ecological conditions that would normally be associated with the area in the absence of human intervention. Infrastructure in the area is rare and only detracts from apparent naturalness in confined, surrounding areas. There are opportunities to engage in primitive and unconfined recreation including: hiking, horseback riding, viewing natural landscapes, and wildlife viewing. Human activities are uncommon at some times of year, providing opportunities to feel alone. Other outstanding values have been identified.

Analysis

As required by the 2012 National Forest System Land Management Planning Regulations (planning rule) the Carson National Forest has completed both the [inventory and evaluation](#) of lands to determine if they have wilderness characteristics. The result is 13 areas, totaling 67,996 acres, which were evaluated as having wilderness characteristics. That is approximately 8 percent of inventoried lands and 5 percent of the entire Carson National Forest. These lands have characteristics that could make them appropriate to include in the National Wilderness Preservation System. The third step, prior to recommending any lands for inclusion in the National Wilderness Preservation System is to analyze the effects that any wilderness recommendation would have on the ecological, social, and economic landscape (Forest Service's Land Management Planning Handbook (FSH 1909.12, Chapter 70)).

Based on the evaluation and input from the public, the Responsible Official determined that the 13 areas on the Carson National Forest with wilderness characteristics would be carried forward for analysis in one or more of the alternatives in the draft environmental impact statement. In this document and for the remainder of the Wilderness Recommendation Process (FSH 1909.12, Chapter 70) these 13 areas are referred to as areas evaluated as having wilderness characteristics. Areas evaluated as having wilderness characteristics are not recommended wilderness, as no wilderness would be recommended until a record of decision has been made for the revised forest plan.

The following section will discuss how each of the 13 areas evaluated as having wilderness characteristics are incorporated into alternatives as recommended wilderness management areas. For each area evaluated as having wilderness characteristics that are included in one or more alternatives, the following criteria will be identified for each area evaluated with wilderness characteristics by alternative:

1. Name of the area and number of acres in the area to be considered for recommendation.
2. Location and a summarized description of a recommended boundary for each area. To identify a clearly defined boundary for each area, how well the location of the boundary will support management of the area for wilderness and other adjacent uses is evaluated. Where possible, boundaries should be easy to identify and to locate on the ground. Potential boundaries may be identified as follows, listed in descending order of desirability:
 - a. Use of natural features that are locatable both on the map and on the ground. Examples include, but are not limited to perennial streams, well-defined ridges, mountain peaks, and well-defined natural lake shorelines. If a stream is used, note whether the thread (centerline of a stream) or either bank (to mean high water line) has been used as the boundary.
 - b. Use of human-made features that are locatable on the map and on the ground. Examples include, but are not limited to roads, trails, dams, powerlines, pipelines, and bridges. Where a human-made feature is used, note whether the feature itself forms the boundary or whether the boundary has been set back from the feature, and by what distance. Setbacks should be used only where necessary for future maintenance of the human-made feature.
 - c. Use of previously surveyed lines or legally determined lines such as section and township lines, section subdivision lines, metes and bounds property lines, county or State boundaries, or National Park or Indian Reservation boundaries.
 - d. Use of a straight line from one locatable point to another. These points should normally be high points in the landscape as they must be visible to be effective.

- e. Use of a series of bearings and distances between locatable points as in a metes and bounds survey. Use this technique when other methods are not available or practicable.
- 3. A brief description of the general geography, topography, and vegetation of the recommended area.
- 4. A brief description of the current uses and management of the area.
- 5. A description of the area's wilderness characteristics and the ability to protect and manage the area so as to preserve its wilderness characteristics.
- 6. A brief summary of the factors considered, and the process used in evaluating the area and developing the alternative(s).
- 7. A brief summary of the ecological and social characteristics that would provide the basis for the area's suitability for inclusion in the National Wilderness Preservation System.

The identification of above criteria and effects any recommended wilderness would have on the ecological, social, and economic landscape are discussed by alternative in the environmental impact statement and are not discussed within this appendix.

Areas Evaluated as having Wilderness Characteristics Alternative Development

What follows is a discussion of each alternative being analyzed in the environmental impact statement and how each of the 13 areas with wilderness characteristics fit within each alternative (table 57). The planning team, with involvement from the 19 cooperating agencies assisting in the revision of the forest plan and input from the Carson National Forest leadership team, proposed to the responsible official which of the alternatives each area best fit within.

Table 57. Areas evaluated as having wilderness characteristics acres by alternative

Name and ID (total acres)	Alternative 1 acres (percent)	Alternative 2 acres (percent)	Alternative 3 acres (percent)	Alternative 4 acres (percent)	Alternative 5 acres (percent)
Valle Vidal Q4g (9,261 acres)	0 (0%)	5314 (57%)	0 (0%)	9,361 (100%)	9,361 (100%)
Midnight Meadow and Mallette Canyon Q5n (1,165 acres)	0 (0%)	1,165 (100%)	0 (0%)	0(0%)	1,165 (100%)
Camino Real South C14v: (12,602 acres)	0 (0%)	0 (0%)	0 (0%)	5,057 (40%)	12,597 (100%)
Camino Real South C14x (2,340 acres)	0 (0%)	0 (0%)	0 (0%)	0(0%)	2,340 (100%)
Tres Piedras North W17f (1,675 acres)	0 (0%)	0 (0%)	0 (0%)	1,675 (100%)	1,675 (100%)
Tres Piedras North W17k (2,670 acres)	0 (0%)	1,038 (39%)	0 (0%)	2,670 (100%)	2,670 (100%)
Tres Piedras North W27a (7,117 acres)	0 (0%)	0 (0%)	0 (0%)	7,117 (100%)	7,117 (100%)
Tres Piedras North W29c (2,488 acres)	0 (0%)	1,569 (76%)	0 (0%)	2,491 (100%)	2491 (100%)
Tres Piedras North W29e (10,048 acres)	0 (0%)	0 (0%)	0 (0%)	10,000 (100%)	10,000 (100%)
Rio Chama CrW5b (77 acres)	0 (0%)	82 (100%)	0 (0%)	82 (100%)	82 (100%)
Rio Chama CrW6c (21 acres)	0 (0%)	21 (100%)	0 (0%)	21 (100%)	21 (100%)
Ghost Ranch W31d (11,479 acres)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	11,479 (100%)
Sierrita de Canjilon W32a (6, 998 acres)	0 (0%)	0 (0%)	0 (0%)	6,998 (100%)	6,998 (100%)
Total Acres	0 (0%)	9,189 (14%)	0 (0%)	45,473 (67%)	67,996 (100%)

Alternative 1 - No Action – Current Forest Plan (1986)

This alternative would continue existing forest plan direction and management. Under the current forest plan, many ecological resources (vegetation, riparian areas, grasses, and soils) are currently departed from historical conditions and are in need of restoration. Fire-dependent ecosystems are departed and prone to uncharacteristic, stand-replacing wildfire; grass communities and understories are less productive than

they were historically; soil function is reduced on much of the forest; and aquatic and riparian ecosystems are functioning, but many are impaired. The forest's ability to contribute to social, cultural, and economic resources is impaired, due to a loss of available forage for livestock and wildlife; sustainable recreation opportunities that do not meet the needs of forest users; and departure of vegetation and water resources that has reduced our ability to provide for traditional uses. The current forest plan includes only those areas currently designated as wilderness; and did not include recommended wilderness.

Areas evaluated as having wilderness characteristics were not included in this alternative.

Alternative 2 - Proposed – Draft Proposed Forest Plan

This alternative would provide management that balances restoration of ecological resources with providing ecosystem services. The draft proposed forest plan defines desired characteristics for forested ecosystems, including species composition; structural elements, such as tree spacing, density, and grouping; and disturbance regimes, including frequency, severity, intensity, and extent, through a balanced approach of mechanical thinning and fire. Wildlife habitat and connectivity for maintaining at-risk species is emphasized. The draft proposed forest plan defines desired conditions and includes objectives and strategies for restoring and protecting springs, wetlands, and other natural waters that maintain function, habitat, and water quality. The draft proposed forest plan defines desired conditions to increase grass production and availability and maintain or improve soil condition and function. There is an increased focus on riparian management and stream restoration; the draft plan works to decommission or eliminate old forest roads and routes, while maintaining appropriate access for the public. Recreation opportunities and improvements in recreation infrastructure are emphasized. Lastly, the draft proposed plan puts a greater emphasis on traditional communities and uses, recognizing the importance of forest management to contributing to cultural, social, and economic needs.

A total of 9,189 acres of area evaluated as having wilderness characteristics (14 percent of areas evaluated as having wilderness characteristics) are included in this alternative. The areas evaluated as having wilderness characteristics included in this alternative are those areas where the protection of wilderness characteristics: (1) would not limit management activities for restoration of fire-dependent ecosystems (ponderosa pine forests and dry mixed conifer) and water resources; (2) would not limit the important ecosystem services (e.g., mountain biking tourism, and fuelwood gathering) that this area provides for local communities; and (3) the area boundary is easily identifiable based on existing natural features, locatable human-made features, or existing surveyed lines.

Areas evaluated as having wilderness characteristics included in this alternative (figure 74) for analysis as potential wilderness are:

- Midnight Meadow and Mallette Canyon Q5n (1,165 acres) – This area evaluated as having wilderness characteristics is not a highly-departed, fire-dependent ecosystem or an important area for providing ecosystem services and is adjacent to the Latir Wilderness.
- Tres Piedras North W17k partial (1,038 acres) – This area evaluated as having wilderness characteristics is not a highly-departed, fire-dependent ecosystem or an important area for providing ecosystem services. The Continental Divide Trail runs through 24 acres and were excluded. The area boundary is now easily identifiable based on existing natural features, locatable human-made features, or existing surveyed lines.
- Valle Vidal Q4g partial (5,314 acres) – This partial area evaluated as having wilderness characteristics is not a highly-departed, fire-dependent ecosystem or an important area for providing ecosystem services. There are 3,986 acres that are highly-departed, fire-dependent ecosystems and are excluded. The area boundary is now easily identifiable based on existing natural features, locatable human-made features, or existing surveyed lines.

- Tres Piedras North W29c (1,569 acres) – The area boundary is now easily identifiable based on existing natural features, locatable human-made features, or existing surveyed lines. This area evaluated as having wilderness characteristics is not a highly-departed, fire-dependent ecosystem or an important area for providing ecosystem services.
- Rio Chama CcW5b (82ac) and Rio Chama CrW6c (21 acres) – These areas evaluated as having wilderness characteristics are not highly departed, fire-dependent ecosystems or important areas for providing ecosystem services.

The areas evaluated as having wilderness characteristics not included in this alternative are:

- Camino Real South C14x, Camino Real South C14v, Tres Piedras North W17F, Tres Piedras North W27a, Tres Piedras North W29e, Ghost Ranch W31d, and Sierrita de Canjilon W32a were not included as areas evaluated as having wilderness characteristics in this alternative as these areas are mostly highly-departed, fire-dependent ecosystems or important areas for providing ecosystem services such as fuelwood gathering, mountain biking on the Continental Divide trail, etc.

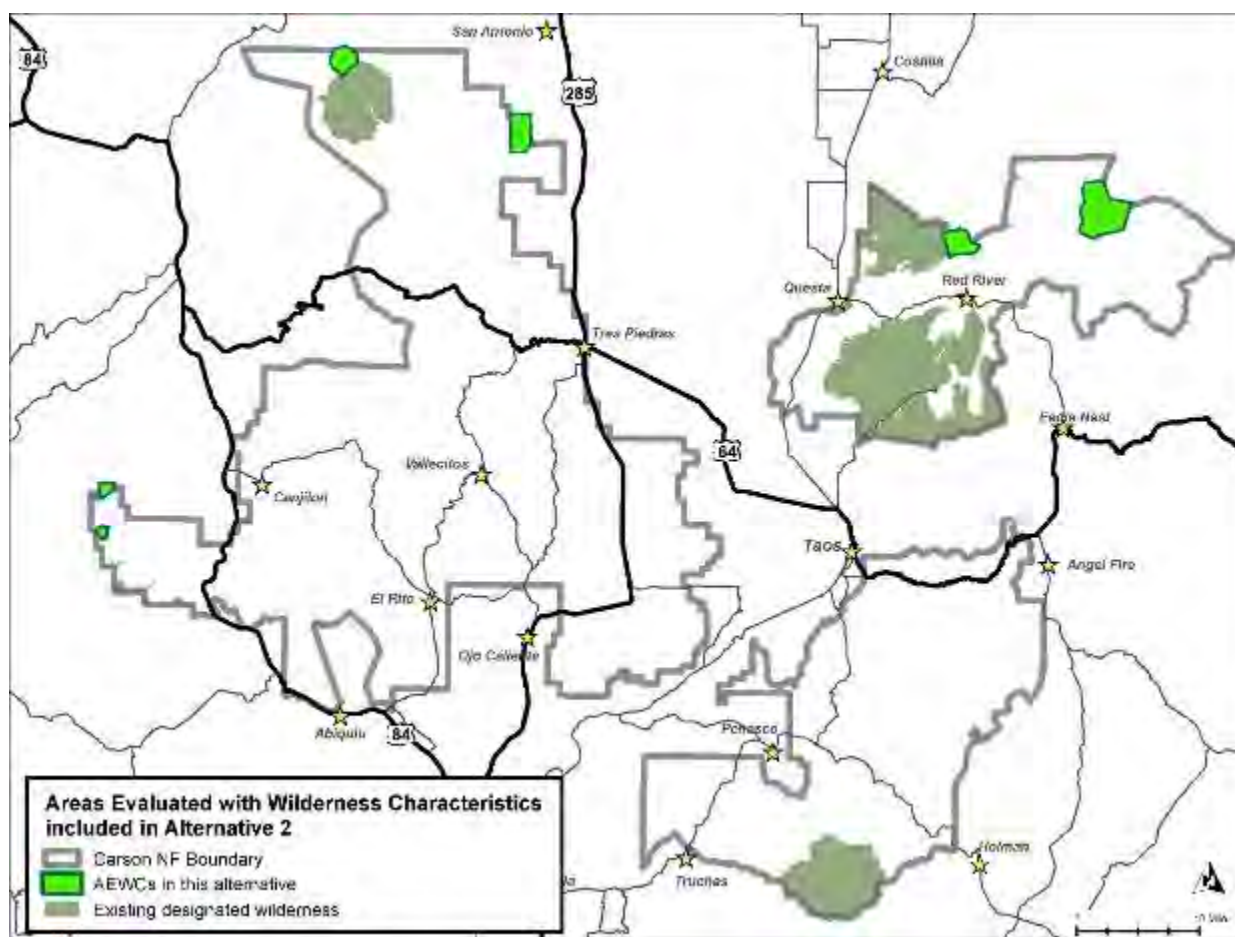


Figure 74. Alternative 2 areas evaluated with wilderness characteristics

Alternative 3 – Emphasizes Utilization of Forest Resources

This alternative would emphasize recreation opportunities; motorized access for forest users; and increased opportunities for access and use for traditional users and for commercial timber harvesting for local businesses. Habitat and connectivity for at-risk species, watershed restoration and riparian rehabilitation, and vegetation treatments to decrease the risk of fire and improve forest and watershed health are still important but are not the emphasis of this alternative. The emphasis is on utilization, which

may result in less decommissioning of roads, trails, and routes, a greater emphasis on road and trail maintenance, an increased trail system, and more opportunities for motorized recreation. This alternative has an increased emphasis on mechanical thinning and timber harvest to support local economies and uses less fire as a management tool. Forest product removal would require more temporary roads.

Utilization of forestlands is the intent of this alternate, and protection of wilderness characteristics would limit management activities proposed under this alternative. As such, no areas evaluated as having wilderness characteristics are included in this alternative.

Alternative 4 – Emphasizes Natural Processes

This alternative places a greater emphasis on preserving the ecological integrity of forest lands. It allows for natural fires to burn, emphasizes prescribed fire as a restoration management tool, and decreases the amount of mechanized thinning. The management areas in this alternative have all been removed as suitable for timber, decreasing opportunities for fuelwood and timber harvesting. It provides greater protections for water resources, specifically key wetlands, and protections for wildlife movement, specifically wildlife migration routes for big game, and protection areas for Rio Grande Cutthroat Trout. It recognizes the value of, and has protections for, the Valle Vidal area. This alternative provides for greater effort to decommission both forest and non-system roads, reduce or eliminate temporary roads, and reduce the number of forest service system and non-system roads as well as temporary roads. There is a decreased emphasis on motorized use, both winter cross-country and motor vehicle use.

Recommended wilderness is generally compatible with this alternative. A total of 45,473 acres of areas evaluated as having wilderness characteristics (67 percent of areas evaluated as having wilderness characteristics) are included in this alternative. Partial or whole areas evaluated as having wilderness characteristics included in this alternative are those areas where protection of wilderness characteristics would limit commercial timber harvest or motorized use that could otherwise occur. Areas evaluated as having wilderness characteristics were included in this alternative if the area was: 1) outside an inventoried roadless area, or 2) within an inventoried roadless area where motorized trail or snowmobile use is allowed. The areas evaluated as having wilderness characteristics included in this alternative (figure 75) for analysis as recommended wilderness are:

- Valle Vidal Q4g (9,361 acres) is not within inventoried roadless area, therefore protection of wilderness characteristics would limit commercial timber harvest or motorized use.
- Tres Piedras North W27a (7,117 acres) is not within inventoried roadless area, therefore protection of wilderness characteristics would limit commercial timber harvest or motorized use.
- Tres Piedras North W29c (2,491 acres) is not within inventoried roadless area, therefore protection of wilderness characteristics would limit commercial timber harvest or motorized use.
- Tres Piedras North W29e (10,000 acres) is not within inventoried roadless area, therefore protection of wilderness characteristics would limit commercial timber harvest or motorized use.
- Rio Chama CrW5b (82 acres) is not within inventoried roadless area, therefore protection of wilderness characteristics would limit commercial timber harvest or motorized use.
- Rio Chama CrW6c (21 acres) is not within inventoried roadless area, therefore protection of wilderness characteristics would limit commercial timber harvest or motorized use.
- Tres Piedras North W17f (1,675 acres) is within inventoried roadless area, but motorized snowmobile use occurs within the roadless area.
- Tres Piedras North W17k (2,670 acres) is within inventoried roadless area, but motorized snowmobile use occurs within the roadless area.

- Sierrita de Canjilon W32a (6,998 acres) is within inventoried roadless area, but motorized snowmobile use occurs within the roadless area.
- Camino Real South C14v partial (5,057 acres) is not within inventoried roadless area, therefore protection of wilderness characteristics would limit commercial timber harvest or motorized use.

The areas evaluated as having wilderness characteristics not included in this alternative are:

- Camino Real South C14 v partial (7,540 acres or 60 percent), Ghost Ranch W31d, Midnight Meadow and Mallette Canyon Q5n, and Camino Real South C14x are within inventoried roadless areas, which limits timber harvest and these inventoried roadless areas contain no motorized use (no motorized trails or snowmobile use). These areas do provide traditional and cultural uses (e.g., grazing, hunting, and herb gathering) and are watersheds for downstream communities. These are not areas where fire is likely to be used as a management tool.

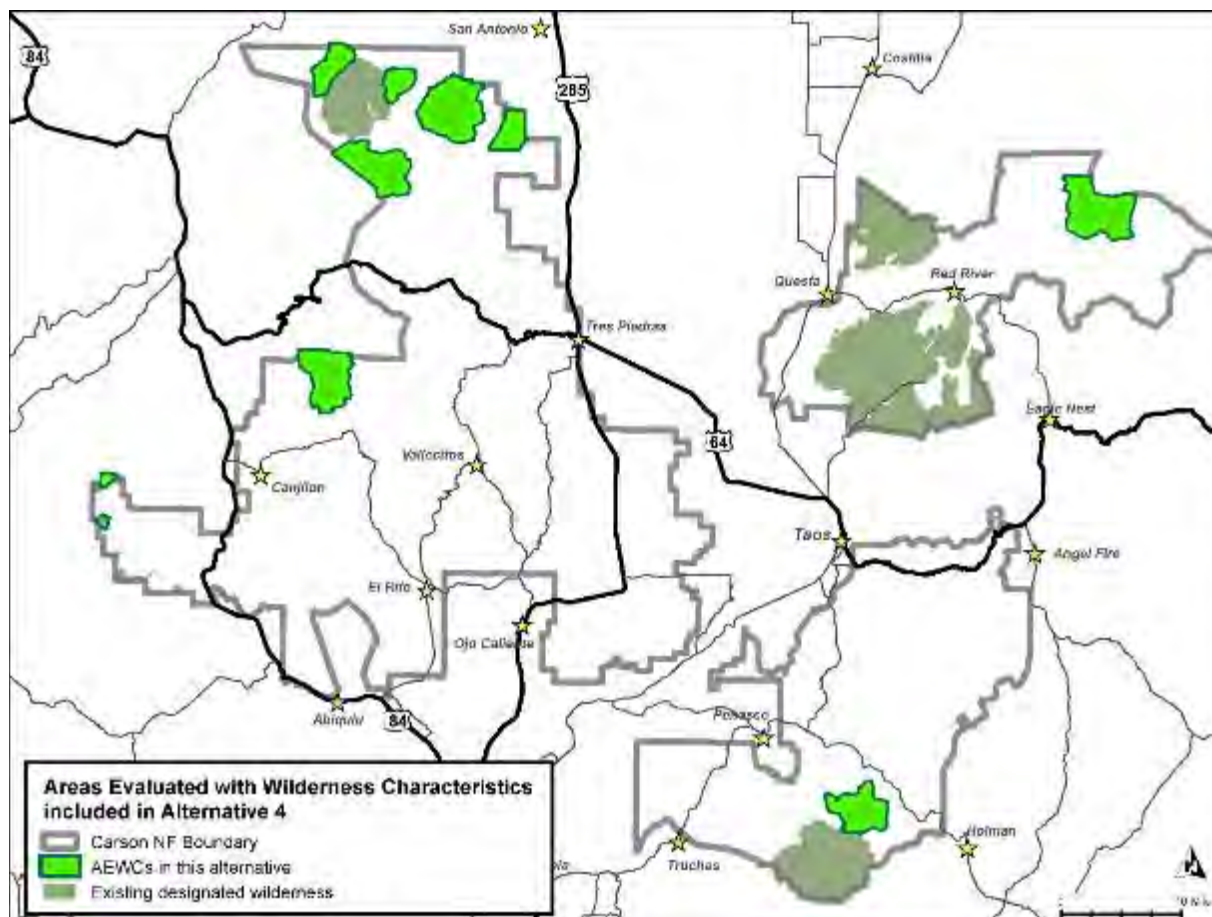


Figure 75. Alternative 4 areas evaluated with wilderness characteristics

Alternative 5 – Emphasizes Increased Wilderness Opportunities

This alternative would emphasize maximum wilderness opportunities. As such, all areas evaluated as having wilderness characteristics were included in this alternative for a total of 67,996 acres (figure 76).

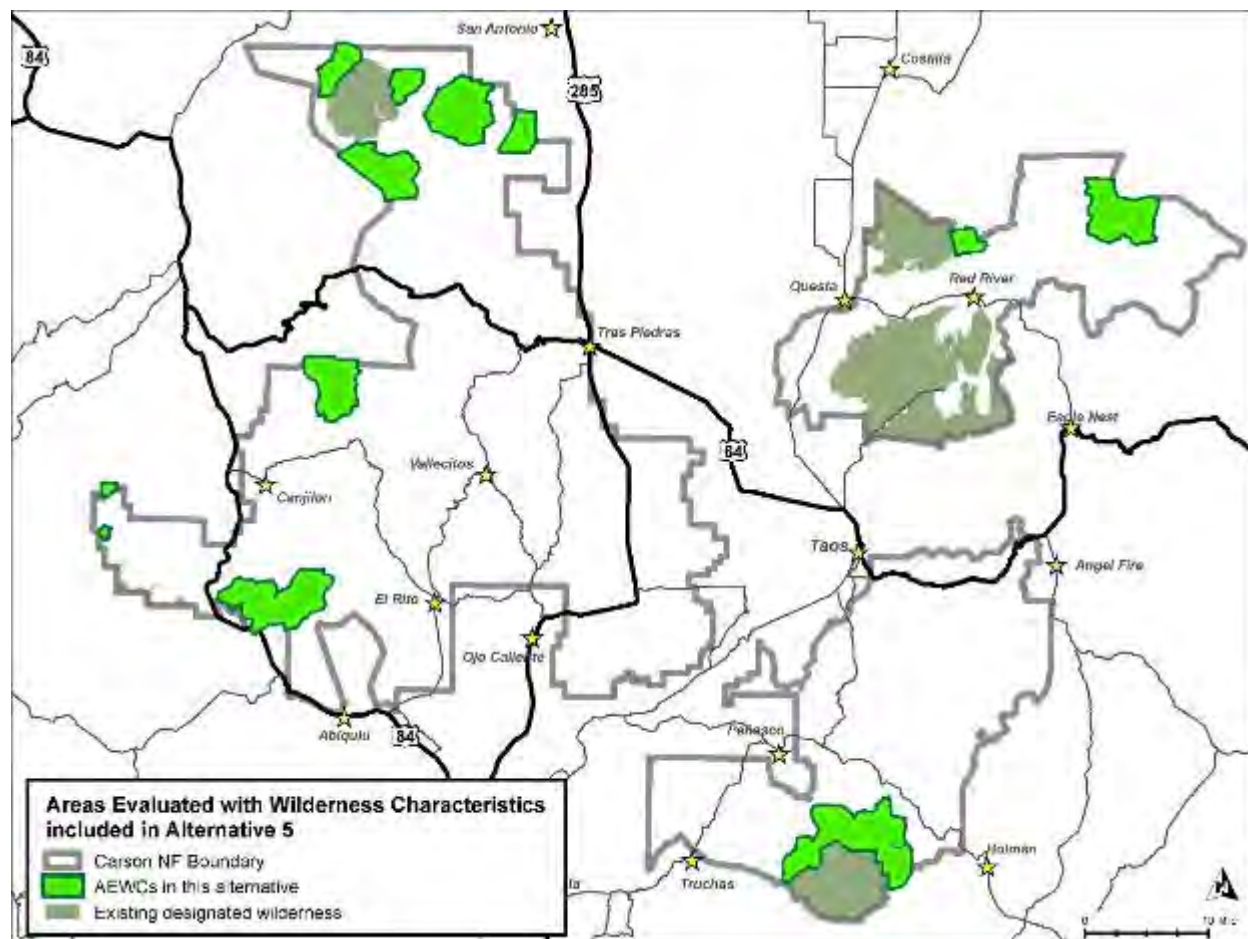


Figure 76. Alternative 5 areas evaluated with wilderness characteristics

Refer to volume 1 of this FEIS for the analysis of these areas evaluated as having wilderness characteristics as recommended wilderness by alternative.

Appendix G – Wild and Scenic River Eligibility

Wild and Scenic Rivers Act Background

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 for the enjoyment of present and future generations. Designated wild and scenic rivers “must be administered in such a way as to protect and enhance the values that made [them] eligible for the National System, but not to limit other uses that do not substantially interfere with public use and enjoyment of these values.” (IWSRCC 1998, p. 3). To be designated under the National Wild and Scenic Rivers Act¹⁰ a river segment must meet two fundamental requirements: (1) the river segment must be “free-flowing” as defined by Section 16(b) of the Wild and Scenic Rivers Act, and (2) the river segment must have one or more outstandingly remarkable values (Section 1(b)).

Rivers may be designated by Congress or, if certain requirements are met, the Secretaries of the Interior or Agriculture, as appropriate. Once designated under the Wild and Scenic Rivers Act, rivers receive special management direction that ensures the maintenance of the free-flowing nature and the outstanding natural, cultural, and recreational values of the river segment. Under the Wild and Scenic Rivers Act Section 2(b), river segments are required to be classified as wild, scenic, or recreational:

Wild river areas – Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic river areas – Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational river areas – Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The Wild and Scenic Rivers Act Section 5(d)(1) requires that, “consideration shall be given by all Federal agencies involved to potential national wild, scenic and recreational river areas” during land management planning. To meet this requirement, the Carson National Forest is conducting a systematic evaluation of all river segments to determine if they are eligible for designation under the Wild and Scenic Rivers Act. Prior to being recommended to Congress as potential additions to the National System, eligible rivers must also be found to be suitable for designation. Both eligible and suitable segments are managed to maintain their free-flowing nature and outstandingly remarkable values, until such time as they are designated under the Wild and Scenic Rivers Act or released from consideration.

Eligibility Evaluation Process

Wild and scenic river eligibility is being conducted as part of forest plan revision, consistent with the 2012 planning rule final directives at Forest Service Handbook (FSH) 1909.12, section 82.2, which state:

Unless a systematic inventory of study rivers has been completed and eligible rivers identified, the Interdisciplinary Team shall develop and conduct a comprehensive inventory and evaluation to determine which rivers are eligible for inclusion in the National System....The rivers to be

¹⁰ 16 U.S. Code Chapter 28

studied for eligibility include all rivers named on a standard U.S. Geological Survey 7.5 minute USGS quadrangle map.

A total of 217 rivers on the Carson National Forest are being evaluated for eligibility.¹¹ There are 192 rivers that must be included for evaluation, since they are named on a quadrangle map. Of those, 125 were evaluated for eligibility by the Carson between 1994 and 2001. In 2002 the 1986 plan was amended to include language for managing the eligible rivers and river segments. No eligibility determinations have been made since. The previous eligibility evaluation processes did not fulfill the evaluation requirements under the 2012 planning rule directives (FSH 1909.12, chapter 80). For example, (1) the previous evaluation did not involve the public in the evaluation of rivers; (2) the region of comparison was not explicitly defined; (3) some outstandingly remarkable values and eligibilities were identified on private lands; (4) some descriptions of outstandingly remarkable values were not specific; and (5) and the effect of existing diversions such as acequias and community water supplies on free flow was not adequately considered. Since not all rivers have been evaluated and previous evaluations were insufficient under the 2012 planning rule, the Carson is reevaluating all 192 named rivers for eligibility during the current plan revision process. Compared to the previous evaluation, this consistent and complete evaluation is better aligned with the intent of the Wild and Scenic Rivers Act, provides clearer management direction, and better protects the values that provide the basis for eligibility.

The previous Carson eligibility evaluations considered an additional 41 rivers that are unnamed; therefore, they are not required to be reconsidered. Of those, 25 were previously determined to be eligible and are being reevaluated under this process. The 16 unnamed, intermittent streams that were previously evaluated and found not eligible were not reevaluated. The current evaluation includes 192 named streams and 25 unnamed streams that were previously eligible, for a total of 217.

The determination of eligibility is based on the river's "free-flowing" character and outstandingly remarkable values that are regionally or nationally conspicuous examples that are among the best representatives of a feature (FSH 1909.12, sec. 82.71 and 82.73).

Free-Flowing Determination

The overarching intent of the Wild and Scenic Rivers Act is to preserve free-flowing rivers in their natural condition. To be eligible, a river must be free-flowing as defined in the Wild and Scenic Rivers Act Section 16(b):

"Free flowing" as applied to any river or section of a river means existing or flowing in a natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway. The existence, however, of low dams, diversion works, or other minor structures at the time any river is proposed for inclusion in the [National System] shall not automatically bar its consideration for such inclusion.

Impoundment is defined as, "A body of water formed by any manmade structure." (947 FR 39456 (Sept 7, 1982)) Modification of the waterway may include any project that involves "a measurable alteration of the bed and banks of the river" (*Sierra Club North Star Chapter v. Pena*, 1 F. Supp. 2d 971 (D. Minn. 1998)), however, there is no clear threshold for when a project may adversely affect a river's free-flowing characteristics (Wild and Scenic Rivers Act sec. 7, p 37) and Congress has "implicitly

¹¹ Some of those rivers are broken into multiple segments (smaller sections of one named river) with different eligibility or classification. For example, a road may parallel the bottom half (section 1) of a river, but not the top half (section 2). Both sections may be found eligible, but the classification of section 1 may be recreational while the classification for section 2 may be wild. Thus, one river was evaluated and found eligible. Two river sections were evaluated separately, and both were found eligible, but assigned different classifications. There are 255 river segments being evaluated. 180 of those segments were previously evaluated. There are 8 segments that have been added to this evaluation that were not previously evaluated, despite the rest of the river having been previously evaluated.

delegated the task of deciding what constitutes a ‘water resources project’ to the [agency]” (*Sierra Club North Star Chapter v. Pena*, 1 F. Supp. 2d 971 (D. Minn. 1998)).

For this evaluation, any damming, diversion, channelization, or other confinement or rerouting of the channel was considered in the context of the river system as a whole. To be considered free-flowing, a river needed to maintain its natural stream functions, including a natural flood regime, natural sinuosity and channel shifting, natural bank erosion, and natural bed load and debris movement. Modifications of the stream channel (such as a fish barrier) may adversely affect a river’s free-flowing characteristics to the extent that the river is no longer free-flowing, or they may affect free-flowing characteristics while overall the river remains free-flowing. In this evaluation a distinction is made as to whether modifications of the stream channel alter or restrict the natural function of the river (i.e., bank erosion, channel shifting, bed-load or debris movement). Those modifications that mimic natural river processes, restore more natural river function, and are otherwise consistent with the river’s eligibility are acceptable in a free-flowing river. Throughout this evaluation modifications that affect free-flow but do not cause a river to be not free-flowing are noted because of their influence on the appropriate classification of eligible rivers.

There is no requirement for a minimum flow or temporal or spatial continuity of flow. Flow must only be sufficient to sustain or compliment the outstandingly remarkable values for which the river would be recommended.

Outstandingly Remarkable Value Determination

According to the Wild and Scenic Rivers Act, for a river to be eligible the river and its adjacent land area must have one or more outstandingly remarkable scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar value.

To be identified as outstandingly remarkable, a river-related value must be a unique, rare, or exemplary feature that is significant when compared with similar values from other rivers at a regional or national scale. Unique, rare, or exemplary features are those that are conspicuous examples of these values, among the best representatives of these features, within a region or the nation.

While the spectrum of resources that may be considered is broad, all features considered should be directly river-related [and] should meet at least one of the following criteria:

1. Be located in the river or its corridor,
2. Contribute substantially to the functioning of the river ecosystem, or
3. Be river dependent and owe their location and existence to the presence of the river. (FSH 1909.12, sec. 82.73)

The determination that a river area does or does not contain one or more outstandingly remarkable values is a professional judgement on the part of the Responsible Official, as informed by the Interdisciplinary Team, best available scientific information, and public participation (FSH 1909.12, sec. 82.73).

Because a feature is rare or unique does not alone make it outstandingly remarkable. It must also be conspicuously dissimilar from the class of feature to which it belongs. That is, just being an example of a type of feature that is remarkable is insufficient, the feature must be an outstandingly remarkable example of the type. For example, river-based recreation opportunities are rare in the arid Southwest. To be outstandingly remarkable, the recreational opportunity must be an unusually exemplary example among arid rivers. Every archeological site is inherently unique and irreplaceable. To be outstandingly remarkable, an archeological site must be of a quality or extent such that it is among the best examples of a historical resource.

River values must be judged in comparison with the characteristics of other similar regional rivers. These similar regional rivers define the “region of comparison.” The region of comparison may vary for different categories of outstandingly remarkable values and thus, multiple regions of comparison may be used to evaluate a single river. The appropriate region of comparison is determined by the Interdisciplinary Team with input from the public and ultimately approved by the Responsible Official.

The region of comparison was not explicitly defined for previous Carson National Forest eligibility determinations; therefore, when those determinations are used as reference for this evaluation the outstandingly remarkable values must be reinterpreted in light of the region of comparison defined here. The Carson National Forest defines two regions of comparison, depending on outstandingly remarkable value category:

Scenery – Public Lands in Northern New Mexico and Southern Colorado

The region of comparison for scenery includes all federal and state public lands in New Mexico and Colorado within 100 miles of the Carson National Forest.¹² Rivers within the proposed region of comparison have similar landscape elements of landform, vegetation, water, color, and related factors. Public lands also provide similar access for the public.

Recreation – Public Lands in Northern New Mexico and Southern Colorado

Rivers within the region of comparison have similar recreational user groups and uses. Recreational uses primarily include hiking, fishing, camping, hunting, wildlife viewing, nature study, and boating. The similarity of recreational uses of rivers in the region of comparison is due to similarities in landscape setting, flow regimes, stream sizes, biological characteristics, vegetation types, and accessibility of rivers and their corridors.

Geology – Intersecting Physiographic Provinces

The geology within the region of comparison has similar origin and physiography. The majority of the Carson National Forest is in the Southern Rocky Mountains or Colorado Plateaus physiographic provinces. The far eastern portion of Valle Vidal is in the Great Plains physiographic province, which extends from Mexico to Canada. The region of comparison includes the Southern Rocky Mountains and Colorado Plateaus physiographic provinces and the Raton section of the Great Plains province which intersects the Valle Vidal.

Fish – Intersecting Watersheds

The 4 drainage subregions (HUC 4) that intersect the Carson National Forest make up the region of comparison for fish values. Fish populations within this proposed region of comparison are similar in terms of species composition and aquatic habitat characteristics.

Wildlife – Intersecting Ecoregional Provinces

The four ecoregional provinces that intersect the Carson National Forest define the region of comparison for wildlife values. The wildlife within this proposed region of comparison are similar in terms of species composition and habitat characteristics.

Historic and Cultural – New Mexico and Colorado

The region of comparison has similar history and cultural influences, encompassing ancestral Puebloan, Spanish, and American settlement influences. The prehistoric archeological record has strong ties to the Four Corners region, as well as the plains in eastern New Mexico and Colorado. Spanish influence is

¹² This includes national parks, national forests and national grasslands, Bureau of Land Management lands, state parks, and state wildlife areas.

most evident throughout New Mexico and into southern Colorado. Trapping, mining, railroad expansion and American settlement were influences throughout the region.

Other Values – The Four Corners States (Arizona, New Mexico, Colorado, Utah)

Based on the regions of comparison for the values listed above the Four Corners states provide a broad enough region of comparison for other values that may be considered for their outstanding remarkableness.

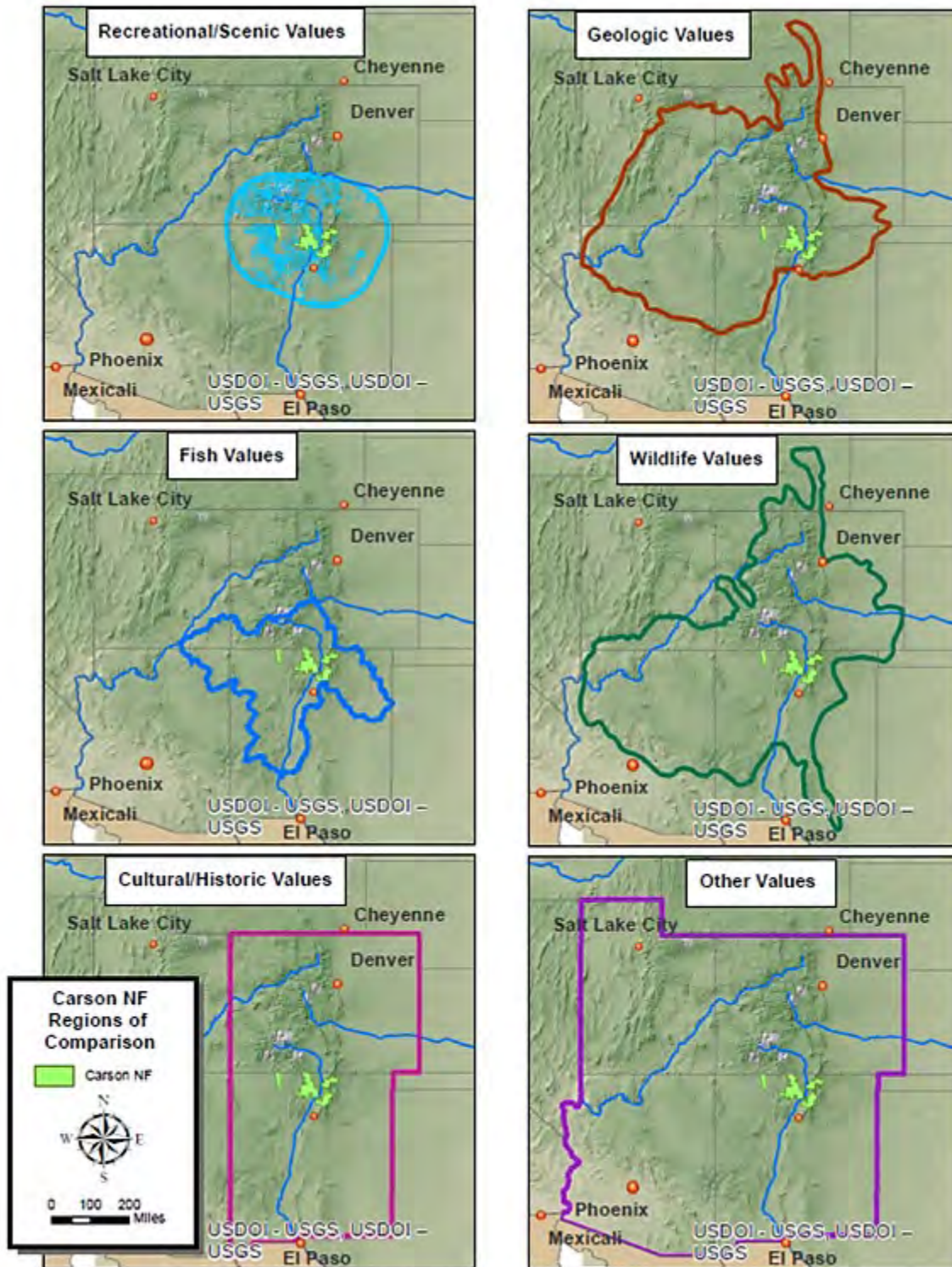


Figure 77. Carson National Forest regions of comparison for each outstandingly remarkable value

Outstandingly Remarkable Value Criteria

The Forest Service directives establish a baseline set of criteria as minimum thresholds to establish outstandingly remarkable values (FSH 1909.12, sec. 82.73a). The Carson has made some minor adjustments to the baseline criteria, in order to clarify their application and make them more meaningful in the specific circumstances encountered in northern New Mexico (see table 58). Together, the Forest Service directives and the more specific Carson National Forest criteria describe the approach that the interdisciplinary team took when assessing values. Ultimately, the determination that a resource value is outstandingly remarkable is a professional judgement by the responsible official that it meets the definition as described in the 2012 planning rule (FSH 1909.12, sec. 82.37). The value should be directly river-related and be either located in the river or its corridor, contribute substantially to the functioning of the river ecosystem, or be river-dependent and owe its location or existence to the presence of the river (FSH 1909.12, sec. 82.73). In addition, a value must be “a unique, rare, or exemplary feature that is significant when compared with similar values from other rivers at a regional or national scale. Unique, rare, or exemplary features are those that are conspicuous examples of the values, among the best representatives of these features, within a region or the nation.” (FSH 1909.12, sec 82.73)

Table 58. Outstandingly remarkable value evaluation criteria

Resource	Recommendations for Eligibility Evaluation Criteria (FSH 1909.12)	Carson Wild and Scenic River Eligibility Evaluation Criteria
Scenic	The landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features or attractions. Additional factors, such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed, may be considered. Scenery and visual attractions may be highly diverse over different parts of the river or river segment. Outstandingly remarkable scenic features may occupy only a small portion of a river corridor.	The landscape elements of landform, vegetation, water, color, and related factors result in extraordinary or exemplary visual features and attractions that provide river users with scenery that is spectacular and not common to other rivers in the region. Consider the following: -Additional factors such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed. -Scenery and visual attractions may be highly diverse over the majority of the river or river segment.
Recreation	Recreational opportunities are high quality and attract or have the potential to attract visitors from throughout or beyond the region of comparison; or the recreational opportunities are unique or rare within the region. River-related opportunities include, but are not limited to, sightseeing, interpretation, wildlife observation, camping, photography, hiking, fishing, hunting, and boating. The river may provide settings for national or regional use or competitive events.	Unique, rare, or exemplary recreation opportunities are available in the river corridor. These features include the following: -Exceptional fishing, hunting, hiking, camping, sightseeing, wildlife viewing (e.g., birding), rock climbing, or photography opportunities; -Exceptional opportunities for solitude and to experience unaltered aquatic and riparian habitats; -Exceptional opportunities for rafting or kayaking (even if on only a seasonal basis).
Geologic	The river corridor contains one or more examples of a geologic feature, process, or phenomenon that is unique, rare or exemplary within the region of comparison. The feature(s) may be in an unusually active stage of development, represent a “textbook” example, and/or represent a unique or rare combination of geologic features (erosional, volcanic, glacial, or other geologic structures).	The river, or the area within the river corridor, contains one or more examples of a geologic feature, process, or phenomenon that is unique or exceedingly rare within the region of comparison. The feature(s) may be in an unusually active stage of development, represent a “textbook” example, or represent a unique or rare combination of geologic features (erosional, volcanic, glacial, or other geologic structures).

Resource	Recommendations for Eligibility Evaluation Criteria (FSH 1909.12)	Carson Wild and Scenic River Eligibility Evaluation Criteria
Fisheries	Fish values may be judged on the relative merits of either fish populations or habitat, or a combination of these river-related conditions. <u>Populations.</u> The river is nationally or regionally an important producer of resident and/or anadromous fish species. Of particular significance are a diversity of fish species or the presence of wild stocks and/or Federal or State listed or candidate threatened, endangered, or species of conservation concern. <u>Habitat.</u> The river provides uniquely diverse or high quality habitat for fish species indigenous to the region of comparison. Of particular significance is exemplary habitat for wild stocks and/or Federal or State listed or candidate threatened, endangered, or species of conservation. Consider also rare and unique habitats within the corridor.	Fish values may be judged on the relative merits of either fish populations or habitat, or a combination of these river-related conditions. <u>Populations:</u> The river is nationally or regionally an important producer of resident fish species. An extraordinary diversity of native fish species or the presence of genetically pure Rio Grande cutthroat trout and absence of non-native hybridizing species¹³ would be of particular significance. <u>Habitat:</u> The river provides uniquely diverse or high quality habitat for fish species indigenous to the region of comparison.
Wildlife	Wildlife values may be judged on the relative merits of either terrestrial or aquatic wildlife populations or habitat, or a combination of these conditions. <u>Habitat.</u> The river, or area within the river corridor, provides uniquely diverse or high quality habitat for wildlife of national or regional significance, and/or may provide unique habitat or a critical link in habitat conditions for Federal or State listed or candidate threatened, endangered species, or species of conservation concern. Contiguous habitat conditions are such that the biological needs of the species are met. <u>Populations.</u> The river, or area within the river corridor, contains nationally or regionally important populations of indigenous wildlife species. Of particular significance are species diversity, species considered to be unique, and/or populations of Federal or State listed or candidate threatened or endangered species, or species of conservation concern.	Wildlife values may be judged on the relative merits of either terrestrial or aquatic wildlife populations or habitat, or a combination of these conditions: <u>Habitat:</u> The river or river corridor provides uniquely diverse or uniquely high quality habitat for wildlife of national or regional significance (e.g. federal or state listed or candidate threatened or endangered species or species of conservation concern), particularly where such habitats meet the year-round or important seasonal biological needs of the species. <u>Populations:</u> The river or river corridor contains nationally or regionally important metapopulations necessary for providing diversity, resiliency, or redundancy. Consider the following species: <u>At risk riparian-dependent species:</u> Other indigenous wildlife species, particularly federal or state listed or candidate threatened or endangered species, or species of conservation concern.

¹³ Rio Grande cutthroat trout are native only to the Rio Grande, Pecos, and Canadian River drainages and thus are considered rare regionally and nationally. However, they occur in many streams in the four drainage-subregion region of comparison. Most of these streams also contain non-native trout species (i.e., brown and rainbow trout) that interbreed and compete with Rio Grande cutthroat trout. On the Carson National Forest, Rio Grande cutthroat trout populations are only considered an outstandingly remarkable value where non-native species are not present, a full barrier is in place (prevents all upstream movement by non-native species), Rio Grande cutthroat trout genetics are unaltered (no more than 10 percent introgression) or are suspected to be unaltered according to NM Department of Game and Fish data, and the stream is not isolated (i.e., connected to a large multi-stream network that provides redundant, high-quality Rio Grande cutthroat trout habitat). Together these criteria identify rivers where both the current fish population and the current condition of the habitat are uniquely high quality in the region of comparison because the genetics are pure, and the habitat is redundant and not accessible by non-native species.

Resource	Recommendations for Eligibility Evaluation Criteria (FSH 1909.12)	Carson Wild and Scenic River Eligibility Evaluation Criteria
Historical	The river, or area within the river corridor, contains important evidence of occupation or use by humans. Sites may have national or regional importance for interpreting history or prehistory. <u>History</u> . Site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare or one-of-a-kind in the region. A historic site or feature, in most cases, is 50 years old or older. <u>Pre-history</u> . Sites may have unique or rare characteristics or exemplary human interest value; represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups or may have been used for rare sacred purposes.	The river, or area within the river corridor, contains important evidence of historic or pre-historic occupation or use by humans. Sites may have regional or national importance for interpreting history or prehistory and are exemplary or unusually intact. Many such sites are listed on the National Register of Historic Places. <u>History</u> : Site(s) or feature(s) are associated with a significant event, an important person, or a cultural activity of the past that is now rare or unique in the region. Historic sites or features date to AD 1539 or later, and in most cases, are 50 years old or older. <u>Prehistory</u> : Site(s) or feature(s) associated with prehistoric human use or occupation may have unique or rare characteristics or exemplary anthropological value such as evidence of prehistoric human practices and modes of living dating prior to contact with European cultures (AD 1539).
Cultural	Cultural values are combined with historical values in the recommended criteria.	As opposed to historical values, cultural values have current, ongoing religious, spiritual, or community importance, including traditional uses. Outstandingly remarkable cultural values in this context are those that are widely held in the local area, are uniquely tied to a particular river, and depend on the river's free-flowing, unaltered condition.
Other Similar Values	Not applicable	Riparian: The river or river corridor contains nationally or regionally important or unique riparian systems necessary for providing extraordinarily high biodiversity, species resiliency, or species redundancy. Consider the following species: -At risk riparian-dependent species -Other indigenous species, particularly Federal or State listed or candidate threatened or endangered species or species of conservation concern.

Classification of Eligible Rivers

Wild and scenic rivers are classified as either wild, scenic, or recreational (Wild and Scenic Rivers Act sec. 2(b)). River segments may have differing classifications when levels of human use and activity create different degrees of development given that each segment is of sufficient length to warrant unique management. See table 59 for criteria used for classifications. The preliminary classification of eligible rivers is based on the existing level of development in the river and surrounding area.

Each river found to be eligible must be assigned a preliminary classification. The preliminary classification of a river found to be eligible is based on the condition of the river and the development level of adjacent lands as they exist at the time of the study (FSH 1909.12 sec. 82.73).

Rivers with wild or scenic classifications are free of impoundments. Roads are absent in wild river corridors, rare in scenic river corridors, and acceptable in recreational river corridors. Wild rivers have a primitive character. Scenic rivers are undeveloped. Recreational rivers may have some development. Water quality in wild rivers must be high but may be poor under the other two classifications.

Table 59. Criteria for wild, scenic, and recreational classifications

Attribute	Wild	Scenic	Recreational
Water Resource Development	Free of impoundment.	Free of impoundment.	Some existing impoundment or diversion. The existence of low dams, diversions, or other modifications of the waterway is acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline Development	Essentially primitive. Little or no evidence of human activity. The presence of a few inconspicuous structures, particularly those of historic or cultural value, is acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production, or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Accessibility	Generally inaccessible except by trail. No roads, railroads, or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the area are acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable.
Water Quality	Meets, or exceeds criteria, or federally approved State standards for aesthetics, for propagation of fish, and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming) except where exceeded by natural conditions.	No criteria are prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States are made fishable and swimmable. Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists, or is being developed in compliance with applicable Federal and State laws.	No criteria are prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States are made fishable and swimmable. Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists, or is being developed in compliance with applicable Federal and State laws.

The intent of the Act, to protect a river's free-flowing condition and protect and enhance the river's outstandingly remarkable values, applies equally to all wild and scenic rivers regardless of classification. Management of an eligible river must maintain the river's classification as evaluated, unless a suitability study recommends management at a less restrictive classification. Otherwise, all eligible rivers are managed with the same intent, regardless of classification.

Interim Management of Eligible Rivers

Certain protections are applied to eligible rivers until a decision is made on the future use of the river and adjacent lands through an Act of Congress or a change in eligibility or suitability status from a future study (FSH 1909.12, sec 84.3).

The responsible official may authorize site-specific projects and activities on National Forest System lands within eligible or suitable river corridors only where the project and activities are consistent with all of the following:

- The free-flowing character of the identified river is not adversely modified by the construction or development of stream impoundments, diversions, or other water resources projects.
- Outstandingly remarkable values of the identified river area are protected.
- For all Forest Service-identified study rivers, classification of an eligible river must be maintained as inventoried unless a suitability study is completed that recommends management at a less restrictive classification (such as from wild to scenic or scenic to recreational) (FSH 1909.12, sec. 84.2).

Forest plan components must be developed to protect the values for which a river is eligible or suitable. Plan components developed for various resource sections of the plan may provide for outcomes consistent with these required protections. Collectively, plan components must ensure that projects and activities are consistent with the following interim protection measures (FSH 1909.15, sec. 84.3):

1. **Water Resources Projects.** A water resources project is defined in 36 Code of Federal Regulations (CFR) part 297 as the construction or development of water supply dams, diversions, flood control works, and other water resources projects that affect the river's free-flowing characteristics.

Wild, Scenic, and Recreational Rivers. For Forest Service-identified (sec. 5(d)(1)) eligible or suitable rivers, water resources projects proposed on these segments are not subject to section 7(b) of the Act; however, these projects shall be analyzed as to their effect on a river's free-flow, water quality, and outstandingly remarkable values, with adverse effects to be prevented to the extent of existing agency authorities (such as special-use authority).

2. **Hydroelectric Power Facilities**

Wild, Scenic, and Recreational Rivers. Forest Service-identified eligible rivers are to be protected pending a suitability determination. Forest Service-identified suitable rivers are to be protected for their free-flowing condition, water quality, and outstandingly remarkable values pending a designation by Congress.

3. **Minerals**

a. Wild Rivers.

- i. Locatable Minerals. Existing or new mining activity on a Forest Service-identified eligible or suitable river are subject to regulations in 36 CFR part 228 and must be

conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual impairment.

- ii. Leasable Minerals. For all eligible or suitable rivers, leases, licenses, and permits under mineral leasing laws must include conditions necessary to protect the values of the river corridor that make it eligible or suitable for inclusion in the National System.
 - iii. Saleable Minerals. For all eligible or suitable rivers, disposal of saleable mineral material is prohibited.
- b. Scenic and Recreational Rivers.
- i. Locatable Minerals. Existing or new mining activity on a Forest Service-identified eligible or suitable river are subject to regulations in 36 CFR part 228 and must be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual impairment.
 - ii. Leasable Minerals. For all eligible or suitable rivers, leases, licenses, and permits under mineral leasing laws must include conditions necessary to protect the values of the river corridor that make it eligible or suitable for inclusion in the National System.
 - iii. Saleable Minerals. For all eligible or suitable rivers, saleable mineral material disposal is allowed if the values for which the river may be included in the National System are protected.

4. Transportation System

- a. Wild Rivers. Roads and railroads are generally not compatible with a wild river classification. Prevent actions related to the road system that would preclude protection of the river as wild. Do not plan roads outside of the corridor that would adversely affect the wild classification. New trail construction should generally be designed for non-motorized uses. However, limited motorized uses that are compatible with identified values and unobtrusive trail bridges may be allowed. New airfields may not be developed.
- b. Scenic Rivers. New roads and railroads are permitted to parallel the river for short segments or bridge the river if such construction fully protects river values (including the river's free-flowing character). Bridge crossings and river access are allowed. New trail construction or airfields must be compatible with and fully protect identified values.
- c. Recreational Rivers. New roads and railroads are permitted to parallel the river if such construction fully protects river values (including the river's free-flowing character). Bridge crossings and river access are allowed. New trail construction or airfields must be compatible with and fully protect identified values.

5. Utility Proposals

- a. Wild, Scenic, and Recreational Rivers. New transmission lines such as gas lines, water lines, and similar linear facilities are not compatible and are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way would be necessary for a utility line, the proposed project must be evaluated as to its effect on the river's outstandingly remarkable values and classification. Any portion of a utility proposal that has the potential to affect the river's free-flowing character must be evaluated as a water resources project.

6. Recreation Development

- a. Wild Rivers. As stated in the USDA-USDI Guidelines, major public-use areas such as large campgrounds, interpretive centers, or administrative headquarters must be located outside the

river corridor. Minimum facilities, such as toilets and refuse containers, may be provided if necessary, to protect and enhance water quality and other identified river values, while also providing for public recreation uses that do not adversely impact or degrade those values. All facilities must be located and designed to harmonize with the primitive character, natural, and cultural settings of the river corridor. The facilities must protect identified river values including water quality and be screened from view from the river to the extent possible.

- b. Scenic Rivers. Public-use facilities such as moderate-size campgrounds, simple sanitation and convenience facilities, public information centers, administrative sites, or river access developments, and so forth are allowed within the river corridor. All facilities must be located and designed to harmonize with their natural and cultural settings, protect identified river values including water quality, and be screened from view from the river to the extent possible.
- c. Recreational Rivers. Recreation, administrative, and river access facilities may be located in close proximity to the river. However, recreational classification does not require extensive recreation development. All facilities must be located and designed to harmonize with their natural and cultural settings, protect identified river values including water quality, and be screened from view from the river to the extent possible.

7. Motorized Travel

- a. Wild Rivers. Motorized travel on land or water may be permitted but is generally not compatible with this classification. Where motorized travel options are deemed to be necessary, such uses should be carefully defined and impacts mitigated.
- b. Scenic and Recreational Rivers. Motorized travel on land or water may be permitted, prohibited, or restricted to protect the river values.

8. Wildlife and Fish Projects

- a. Wild Rivers. Construction of minor structures and vegetation management to protect and enhance wildlife and fish habitat should harmonize with the area's essentially primitive character and fully protect identified river values. Any portion of a proposed wildlife or fisheries restoration or enhancement project that has the potential to affect the river's free-flowing character must be evaluated as a water resources project.
- b. Scenic Rivers. Construction of structures and vegetation management designed to protect and enhance wildlife and fish habitat should harmonize with the area's largely undeveloped character and fully protect identified river values. Any portion of a wildlife or fisheries restoration or enhancement project that has the potential to affect the free-flowing character must be evaluated as a water resources project.
- c. Recreational Rivers. Construction of structures and vegetation management to protect and enhance wildlife and fish habitat should fully protect identified river values. Any portion of a wildlife or fisheries restoration or enhancement project that has the potential to affect the river's free-flowing character must be evaluated as a water resources project.

9. Vegetation Management

- a. Wild Rivers. Cutting of trees and other vegetation is not permitted except when needed in association with a primitive recreation experience, to protect users, or to protect identified outstandingly remarkable values. Examples of such exceptions include activities to maintain trails or suppress wildfires. Prescribed fire and wildfires managed to meet resource objectives may be used to restore or maintain habitat for threatened, endangered, or sensitive species or restore the natural range of variability.

- b. Scenic and Recreational Rivers. A range of vegetation management and timber harvest practices are allowed, if these practices are designed to protect users, or protect, restore, or enhance the river environment, including the long-term scenic character.

10. Domestic Livestock Grazing

- a. Wild Rivers. Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which a river was found eligible or suitable, including the area's essentially primitive character.
- b. Scenic Rivers. Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which a river was found eligible or suitable, including the area's largely undeveloped character.
- c. Recreational Rivers. Domestic livestock grazing should be managed to protect identified river values. Existing structures may be maintained. New facilities may be developed to facilitate livestock management so long as they maintain the values for which a river was found eligible or suitable.

Evaluating Suitability of Eligible Rivers

Following a determination of eligibility, a river must also be found suitable prior to designation as a Wild and Scenic River. No suitability evaluations are being conducted as part of this current process. A suitability study provides the basis for determining which eligible rivers or river segments should be recommended to Congress as potential additions to the National System. Any eligible river may be studied for its suitability for inclusion in the National System at any time. If a proposed project has the potential to adversely affect the free-flow or outstandingly remarkable values of any river that has previously been determined to be eligible, the Responsible Official should study the suitability of that river for inclusion in the National System before approving the project. If the river is found suitable, then the proposed project must maintain free-flow and protect the outstandingly remarkable values.

Suitability studies address these questions (FSH 1909.12, sec. 83.2):

1. Should the river's free-flowing character, water quality, and outstandingly remarkable values be protected, or are one or more other uses important enough to warrant doing otherwise?
 - a. Will the river's free-flowing character, water quality, and outstandingly remarkable values be protected through designation?
 - b. Will the benefits of designation exceed the benefits of non-designation?
 - c. Is designation the best method for protecting the river corridor?
 - d. Is there a demonstrated commitment to protect the river by any non-Federal entities that may be partially responsible for implementing protective management?

Wild and Scenic River Eligibility

The evaluation identified 51 river segments as eligible for inclusion in the National System of Wild and Scenic Rivers based on their free-flowing nature and associated outstanding remarkable values. These eligible rivers are shown in figure 78 and listed in table 60. River segments are listed by ranger district and identification number, and each has a description of the segment location, the segment classification, the outstandingly remarkable values for which it is eligible, the length of the segment in miles, and a narrative describing the outstandingly remarkable value and classification determination. Identification numbers are unique to each district and correspond to the river location on the eligible rivers map above (figure 78) and the district maps of all evaluated rivers (figure 79 through figure 82). An asterisk (*) signifies rivers that are not named on a USGS 7.5 minute quad but are being evaluated because they were previously determined to be eligible.

Table 60. Eligible river segments and their associated classification and outstandingly remarkable values (ORVs)

Ranger District	ID	River Segment Name	River Segment Location	Classification (ORV)	Length (miles)	Narrative Description of Outstandingly Remarkable Values
Camino Real	3	Alamitos Creek	From headwaters to FR 161D	Wild (fish)	3.4	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Together Alamitos Creek and the North Fork of Alamitos Creek are a stream network that provides redundant, high-quality habitat.
Camino Real	4	North Fork Alamitos Creek	Headwaters to Alamitos Creek	Wild (fish)	2.6	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Together Alamitos Creek and the North Fork of Alamitos Creek are a stream network that provides redundant, high-quality habitat.
Camino Real	6	Arroyo Hondo	From Forest boundary to Forest boundary	Scenic (geologic)	2.2	The lower Bureau of Land Management segment of Arroyo Hondo has been listed as eligible for outstandingly remarkable “geologic” values. “Staurolites,” unique geologic features, are found along this upper segment of the Arroyo Hondo. It is determined to be eligible for outstandingly remarkable “geologic” values. Scenic classification is appropriate due to a (closed) two-track road that parallels the entire segment, crossing it in several places.
Camino Real	31	Rio Santa Barbara (all three forks)	From headwaters to Jicarita Creek confluence	Wild (scenic, recreational)	1.9 6.9 3.5 5.7 (18.0 total)	All three forks of the Rio Santa Barbara offer outstanding scenic and recreational opportunities, because of the solitude and high alpine, primitive experience. The main stem drains into a narrow canyon, densely populated with tall trees that opens into three headwater tributaries with views of the entire basin and its expansive aspen stands. There is a long history of reliance by local communities on this watershed and a fight for access to, and control over resources. The upper watershed remains critical to downstream communities as a source of water for acequias, medicinal herb collection, and other traditional activities. There is an old water system above the campground that impacts primitive character in that area. Above that point, wild classification is appropriate.

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Ranger District	ID	River Segment Name	River Segment Location	Classification (ORV)	Length (miles)	Narrative Description of Outstandingly Remarkable Values
Camino Real	49	Rio Grande del Rancho	From private land to Forest boundary	Recreational (wildlife, other)	3.5	The willow riparian vegetation is critical habitat for Southwestern willow flycatcher, though none have been recorded here since 2014. The habitat is degraded but has potential to be high quality. Equally intact and functional riparian systems may be found in the region of comparison, but it is outstandingly remarkable at least on the forest and in northern New Mexico and is considered an outstandingly remarkable value. Recreational classification is appropriate due to the highway that parallels this segment, and other development.
Camino Real	67*	Agua Caliente Canyon	From headwaters to Forest boundary	Scenic (historic, cultural)	1.5	Warm springs flows into Agua Caliente Canyon. The 1854 Battle of Cieneguilla in this canyon is historically significant, and the site is important for its historical interpretive value among battle sites in the Apache Wars of the late 1800s. The battlefield is eligible for the National Register of Historic Sites. The area around warm springs is also culturally important to many area tribes. There is unique traditional tribal importance tied to the springs, the creek, and the surrounding area. A classification of scenic is appropriate because the upper portion of the river has evidence of past timber harvest and there are many closed, inconspicuous roads that cross the river in places. The creek is confined in culverts in several locations.
Canjilon	2	Arroyo del Yeso	FR 138 to private land	Wild (scenic, recreational, geologic)	5.5	Arroyo del Yeso is the largest and most dramatic canyon in this area of the El Rito Ranger District. Steep drainages have sliced through the sandstone cliffs revealing many shades of yellow, pink, red, purple and blue-gray. The area above Ghost Ranch attracts visitors from all over the world. They come to gaze, to photograph, to paint, and to hike into the canyons. Wild classification is appropriate.
Canjilon	5	Canjilon Creek	From private land to Forest boundary	Recreational (scenic, recreational, geologic)	5.0	The scenic and recreational opportunities in this segment are outstandingly remarkable regionally. The canyon with dramatic sandstone cliffs is wider than the ¼ mile river corridor but is dramatic and unique. The side canyons are popular for hunting and Echo Amphitheater is a unique recreational site. The Recreational classification is appropriate.
Canjilon	6	Canjilon Creek	From headwaters to the edge of the Continental Divide Trail visible foreground, above Canjilon Creek Campground (closed)	Scenic (recreational)	4.4	Fishing for Rio Grande cutthroat trout contributes to the outstandingly remarkable recreational value. The Continental Divide Trail parallels the river for most of this segment, though it is actually old two-track road in many places. Canjilon Lakes developed campground is in the river corridor, and there is significant evidence of recent timber harvest. Below the Canjilon Lakes Campground the Continental Divide Trail turns away from the river to the east as Canjilon Creek enters a small, steep canyon. Below this point as the river passes the now closed Canjilon Creek Campground, it becomes braided and intermittent, and it offers less remarkable recreation opportunities. Scenic classification is appropriate.

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Ranger District	ID	River Segment Name	River Segment Location	Classification (ORV)	Length (miles)	Narrative Description of Outstandingly Remarkable Values
El Rito	3	Arroyo del Chamiso	Headwaters to Forest boundary	Recreational (scenic)	6.3	Among the intermittent Rio Chama tributaries on the El Rito Ranger District, Arroyo del Chamiso was judged to be the most outstandingly remarkable for its sandstone cliffs and steep drainages. Most visitors would only view the canyon from Highway 84, as it is not accessible from the bottom. There are no designated trails or open roads. Arroyo del Yeso and Arroyo del Chamiso are much larger and more dramatic than the other intermittent tributaries and are the only two that are judged to be outstandingly remarkable. There is a closed road used by grazing permittees to access pit tanks that parallels most of this segment. There is an adjacent area that has been chained to remove piñon and juniper woodlands and create grasslands that are maintained with fire or thinning. There are 4 pit tanks in this river segment that impound water and impact the free-flowing nature of the river, therefore a recreational classification is appropriate
El Rito	11	Cañada de Chacon	From headwaters to El Rito Creek	Wild (fish)	2.3	Provides some Rio Grande cutthroat trout habitat. Populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
El Rito	32	El Rito Creek	From headwaters to fish barrier	Wild (fish)	6.1	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
El Rito	33*	Hachita Canyon	From headwaters to El Rito Creek	Wild (fish)	2.4	Provides some Rio Grande cutthroat trout habitat. Populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
El Rito	42	Rio Vallecitos	From Jarosa Creek to FR 274	Wild (scenic, recreational)	5.9	The sport fishing opportunity contributes to the recreational value. The canyon rock formations and opportunities for solitude are regionally remarkable scenic and recreational values. The Continental Divide trail crosses this segment. The center portion crosses through the private El Vallecito Ranch, which is developed, but Wild classification is appropriate on national forest lands.
Jicarilla	3*	Carracas Canyon	From Forest boundary to Forest boundary	Recreational (historic)	2.6	The "wagon road" is a portion of the Northern Route of the Old Spanish Trail. There is physical evidence of constructed trail for mule trains including evidence at drainage crossings of modifications to allow for crossing by small carts or wagons. The boiler at Boiler Springs was important locally for its use to prepare for sheep dipping in the 1870s. Recreational classification is appropriate due to parallel road and mineral development.
Jicarilla	4*	La Jara Canyon	From Forest boundary to Vaqueros Canyon	Recreational (historic)	5.3	La Jara Canyon contains three Navajo Pueblito sites that are listed on the National Register of Historic Places. The canyon is also the location of a battle between the Navajo and the Spanish in 1705, during which the Spanish burned the Navajo homes and destroyed their milpas (corn fields). Recreational classification is appropriate due to parallel road and mineral development.

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Ranger District	ID	River Segment Name	River Segment Location	Classification (ORV)	Length (miles)	Narrative Description of Outstandingly Remarkable Values
Questa	2	Bitter Creek	From headwaters to private land (section 21)	Recreational (recreational, historic)	5.1	Bitter Creek has a long history of human use and modification. It was previously dammed and there are still dams on private land below this section. The stream channel has been altered by mining and mills and subsequent remediation. It is rerouted, and, while no longer impounded, its free flow is affected. The Anchor and Midnight mine sites are historically significant, and outstandingly remarkable. The valley is remarkable for its historic value and interpretive and educational values based on the number of old mine sites. The recreational classification is appropriate.
Questa	4	Bull Creek	From headwaters to Lagunitas Fork	Wild (fish)	1.4	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	7*	Chuck-wagon Creek	From headwaters to Comanche Creek	Scenic (fish)	0.7	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. There is a culvert where FR 1950 crosses this segment. An old road (old Midnight-Chuckwagon Trail) that parallels this segment has been mostly obliterated. This segment is less than 1 mile long and almost half of it is within ¼ mile of FR 1950. Scenic classification is appropriate.
Questa	8	Columbine Creek	From headwaters to Deer Creek	Wild (fish)	3.6	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	9	Columbine Creek	From Deer Creek to Columbine trailhead	Wild (recreational)	1.3	The Columbine-Twining National Recreation Trail parallels this segment. Almost all of this segment is in the Columbine-Hondo Wilderness and wild classification is appropriate.
Questa	10	Comanche Creek	From headwaters to Costilla Creek	Recreational (scenic, recreational, geologic, fish, other)	11.6	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Geologically, Comanche Point is outstandingly remarkable. It is an example of impact melt with columnar jointing (proterozoic biotite) believed to have formed at the center of an impact crater. The wetland component is remarkable compared to other similar systems. The large valley meadows on the west side of the Valle Vidal are unusual in the region for their scenic and primitive recreational value. Recreational classification is appropriate.
Questa	11	Costilla Creek	From Forest boundary to fish barrier	Recreational (scenic, recreational, fish)	5.8	At the time of this evaluation this segment is being treated with piscicide to remove non-native fish and restore native fish habitat. Once this multi-year process is complete, the separation of native fish from non-native fish will be maintained via the recently constructed fish barrier. Rio Grande cutthroat trout populations will be genetically pure, no non-native species will be present, and there is a full barrier that separates this section. The large valley meadows on the west side of the Valle Vidal are unusual in the region for their scenic and primitive recreational value. Recreational classification is appropriate.

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Ranger District	ID	River Segment Name	River Segment Location	Classification (ORV)	Length (miles)	Narrative Description of Outstandingly Remarkable Values
Questa	64	Costilla Creek	From fish barrier to forest boundary	Recreational (scenic, recreational)	0.5	Non-native species are present below the fish barrier. The deep narrow canyon was judged to be outstandingly remarkable for scenery. This is a very popular fly-fishing stream. Recreational classification is appropriate.
Questa	12	Deer Creek	From headwaters to Columbine Creek	Wild (fish)	2.9	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. The Columbine-Twining National Recreation Trail parallels the lower portion of this segment. Wild classification is appropriate.
Questa	13	East Fork	From headwaters to trailhead	Wild (scenic, historic)	4.0	Elizabethtown ditch no longer diverts water, but historically started on the Middle Fork, collected water from the East Fork and Sawmill Creek, and carried it to the east slopes of the Sangre de Cristo mountains. Wild classification is appropriate.
Questa	14	Foreman Creek	From private property boundary to Comanche Creek	Recreational (fish)	1.3	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Recreational classification is appropriate due to existing culverts, closed roads.
Questa	17	Gold Creek	From private land boundary to Comanche Creek	Scenic (fish)	1.2	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate due to old, administrative roads that are used by Vermejo Park to access the La Belle property which detract from the primitive character.
Questa	19	Grassy Creek	From headwaters to Comanche Creek	Scenic (fish)	3.2	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate.
Questa	20	Holman Creek	From headwaters to Comanche Creek	Recreational (fish)	3.2	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Recreational classification is appropriate.
Questa	22	La Belle Creek	From private property boundary to Comanche Creek	Recreational (fish)	1.0	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Recreational classification is appropriate.
Questa	23*	La Cueva Canyon	From headwaters to Costilla Creek	Scenic (fish)	2.2	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate due to closed (administrative) road.
Questa	24	Lagunitas Fork	From headwaters to Lake Fork	Wild (fish)	1.7	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	25	Lake Fork	From headwaters to Cabresto Lake	Wild (fish)	4.0	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.

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Ranger District	ID	River Segment Name	River Segment Location	Classification (ORV)	Length (miles)	Narrative Description of Outstandingly Remarkable Values
Questa	29	Little Costilla Creek	From headwaters to Comanche Creek	Scenic (fish)	5.0	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate due to closed (administrative) road that parallels this segment.
Questa	34	Middle Fork	From below Middle Fork lake to private land	Scenic (scenic, historic)	2.3	Middle Fork Lake is altered (dammed). Below the lake the river is free flowing. Elizabethtown ditch no longer diverts water, but historically started on the Middle Fork, collected water from the East Fork and Sawmill Creek, and carried it to the east slopes of the Sangre de Cristo mountains. Scenic classification is appropriate due to an old road/ATV trail that parallels this river segment and the day use site at the lake.
Questa	41	Placer Fork	From headwaters to Columbine Creek	Wild (fish)	4.0	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	42*	Powder-house Canyon	From headwaters to Forest boundary	Recreational (fish)	4.2	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. There are many closed roads in this area that detract from the primitive character. There is an existing fish barrier in the middle of this segment that impacts free flow and impounds water, therefore a recreational classification is appropriate.
Questa	45	Red River	From canyon mouth below Hwy 522 to fish hatchery	Recreational (recreational)	1.7	The recreational fishing opportunities are outstandingly remarkable due to the accessible and well stocked fishery. There is a road that parallels much of this segment. The lower portion is diverted which effects the river's free-flowing nature. There are power lines in the corridor, and substantial development around the fish hatchery. Recreational classification is appropriate.
Questa	49	Rito Claro	From headwaters to Cabresto Creek	Wild (other)	0.9	The stand age along this river segment is outstandingly remarkable, with some of the oldest Douglas-fir trees documented in the Southwest. Innermost pith dates from tree-ring records range between the early and late 1200s: ten trees date to the mid- to late-1200s, four trees to before 1230, and the innermost pith of the oldest tree at the Rito Claro site to 1210. Located on a gradual, south-facing slope of rocky soils, the stand comprises mainly small-diameter Douglas-fir trees (> 30 cm dbh). As Swetnam and Brown (1992) ¹⁴ note, "[a]t first glance, it is not at all obvious that the Rito Claro stand is ancient." The authors attribute the low growth rate to conditions like the shallow, rocky soils found in Rito Claro and, in the case of other old-growth sites in the Southwest, also steep slopes. Wild classification is appropriate.

¹⁴ Swetnam, T.W. and P. M. Brown. 1992. *Oldest Known Conifers in the Southwestern United States: Temporal and Spatial Patterns of Maximum Age*, Paper Presented at Workshop on Old-Growth Forests in the Rocky Mountains and Southwest: The Status of Our Knowledge, Portal, AZ.

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Ranger District	ID	River Segment Name	River Segment Location	Classification (ORV)	Length (miles)	Narrative Description of Outstandingly Remarkable Values
Questa	53	Sawmill Creek	From headwaters to East Fork	Wild (scenic, historic)	3.3	Elizabethtown ditch no longer diverts water, but historically started on the Middle Fork, collected water from the East Fork and Sawmill Creek, and carried it to the east slopes of the Sangre de Cristo mountains. Wild classification is appropriate
Questa	57	Vidal Creek	From headwaters to Comanche Creek	Wild (fish)	5.6	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. The large valley meadows on the west side of the Valle Vidal are unusual in the region for their scenic and primitive recreational value. Wild classification is appropriate.
Questa	60	Willow Fork	From headwaters to Placer Fork	Wild (fish)	2.1	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Tres Piedras	36	Rio de los Pinos	From Colorado border to private land boundary	Recreational (scenic, recreational, geologic)	2.4	Rock outcrops and the gorge are outstandingly remarkable scenic and geologic values. The Proterozoic rocks in the Rio de Los Pinos valley are gneiss, schist, and amphibolite intruded by granite and dikes of aplite and pegmatite. Fishing opportunities and the Cumbres-Toltec railroad are outstanding recreational values. Wildlife viewing opportunities, brown trout habitat, riparian corridor, and wildlife diversity are not outstandingly remarkable regionally. Recreational classification is appropriate due to the parallel railroad.
Tres Piedras	37	Rio de los Pinos	From private land boundary to private land boundary	Recreational (scenic, recreational)	2.6	There are irrigation diversions on private land above and below this segment which is free-flowing. Fishing and camping are popular in this segment in the scenic gorge. Recreational classification is appropriate due to parallel FR 284 and developed campgrounds.
Tres Piedras	39	Rio San Antonio	From Stewart Meadows to Forest boundary	Scenic (scenic)	6.9	The steep canyon and surrounding plains are outstandingly remarkable scenic values. Scenic classification is appropriate due to FR 87 and FR 118 which parallel most of this segment. There is also a small inholding in the middle of this segment with some development, and range improvements (fences, tanks) in the river corridor.
Tres Piedras	43	Rio Tusas	From headwaters to section 16 tank	Wild (recreational)	3.7	This river segment is crossed by Trail 41, and the Continental Divide Trail. In combination with sport fishing opportunities these recreational values are outstandingly remarkable. There is a tank in section 16 that impounds water and affects free flow but a wild classification is appropriate upstream.
Tres Piedras	50	Toltec Creek	Forest Boundary to private land	Wild (scenic, recreational, geologic)	1.0	The headwaters in Colorado are eligible for their scenic, recreational, and historic values. The Cumbres and Toltec railroad is not within the ¼ mile corridor on the Carson National Forest, and there are no other outstandingly remarkable historic values on the New Mexico side. Toltec canyon is a remote, steep, and narrow canyon that is outstandingly remarkable for its scenic and recreational values. Wild classification is appropriate as the surroundings are generally primitive.

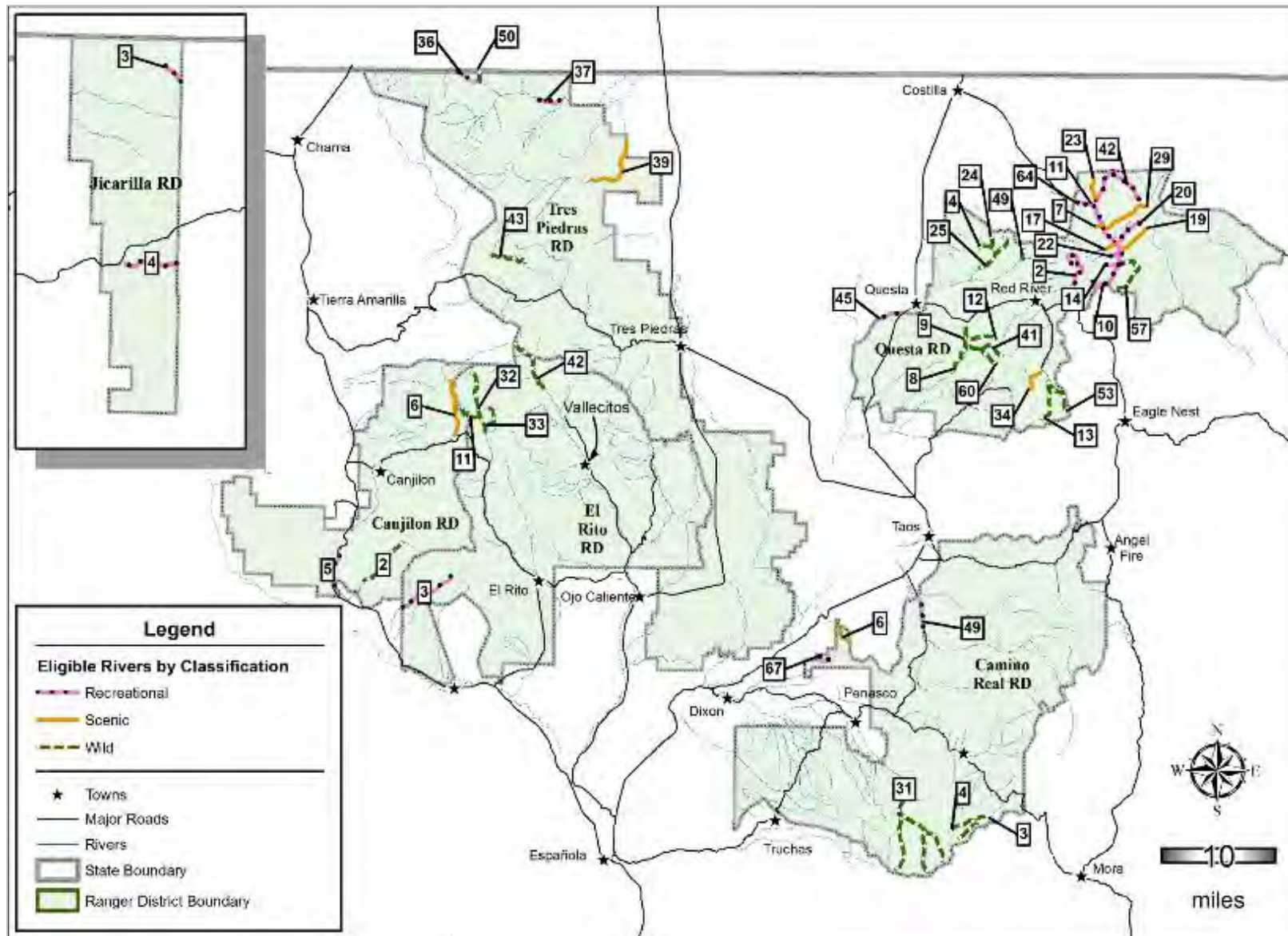


Figure 78. Eligible river segments by classification

Note: Ranger districts are abbreviated as follows: Camino Real (Cr), Canjilon (Ca), El Rito (Er), Jicarilla (Ji), Tres Piedras (Tp), and Questa (Qu).

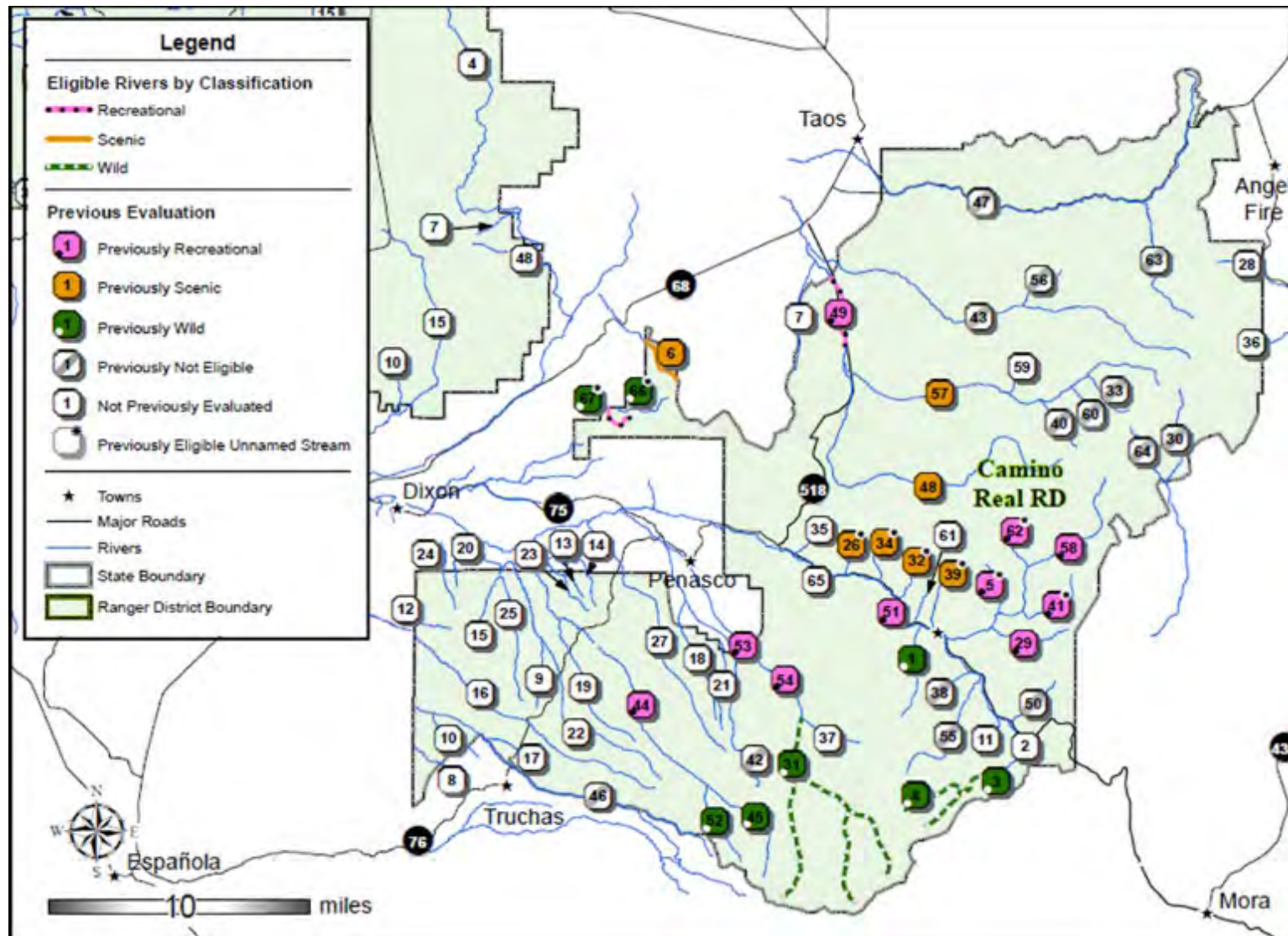


Figure 79. Camino Real Ranger District eligible wild and scenic rivers

Note: Eligible rivers are indicated by a thicker line.

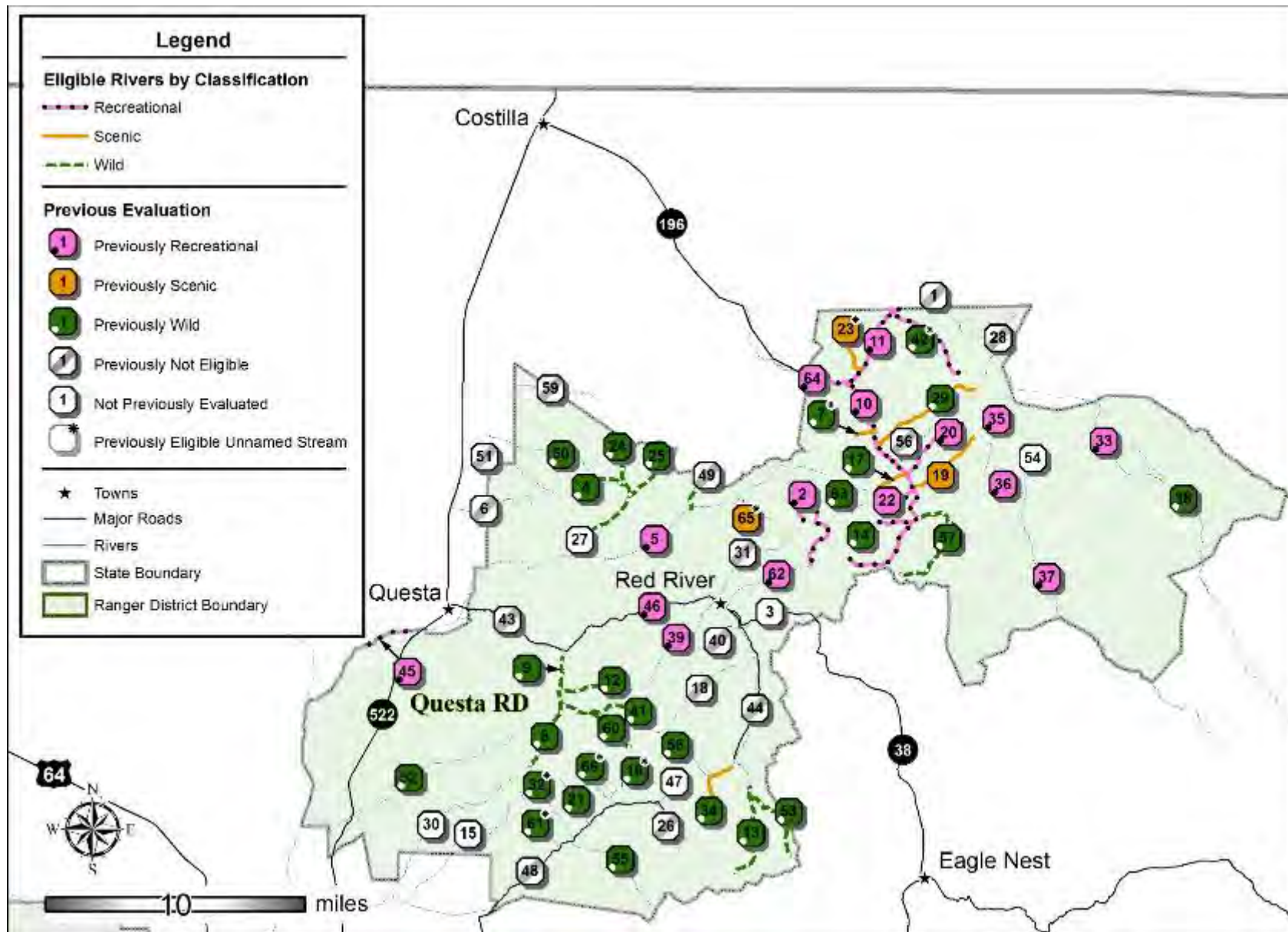


Figure 80. Questa Ranger District eligible wild and scenic rivers

Note: Eligible rivers are indicated by a thicker line.

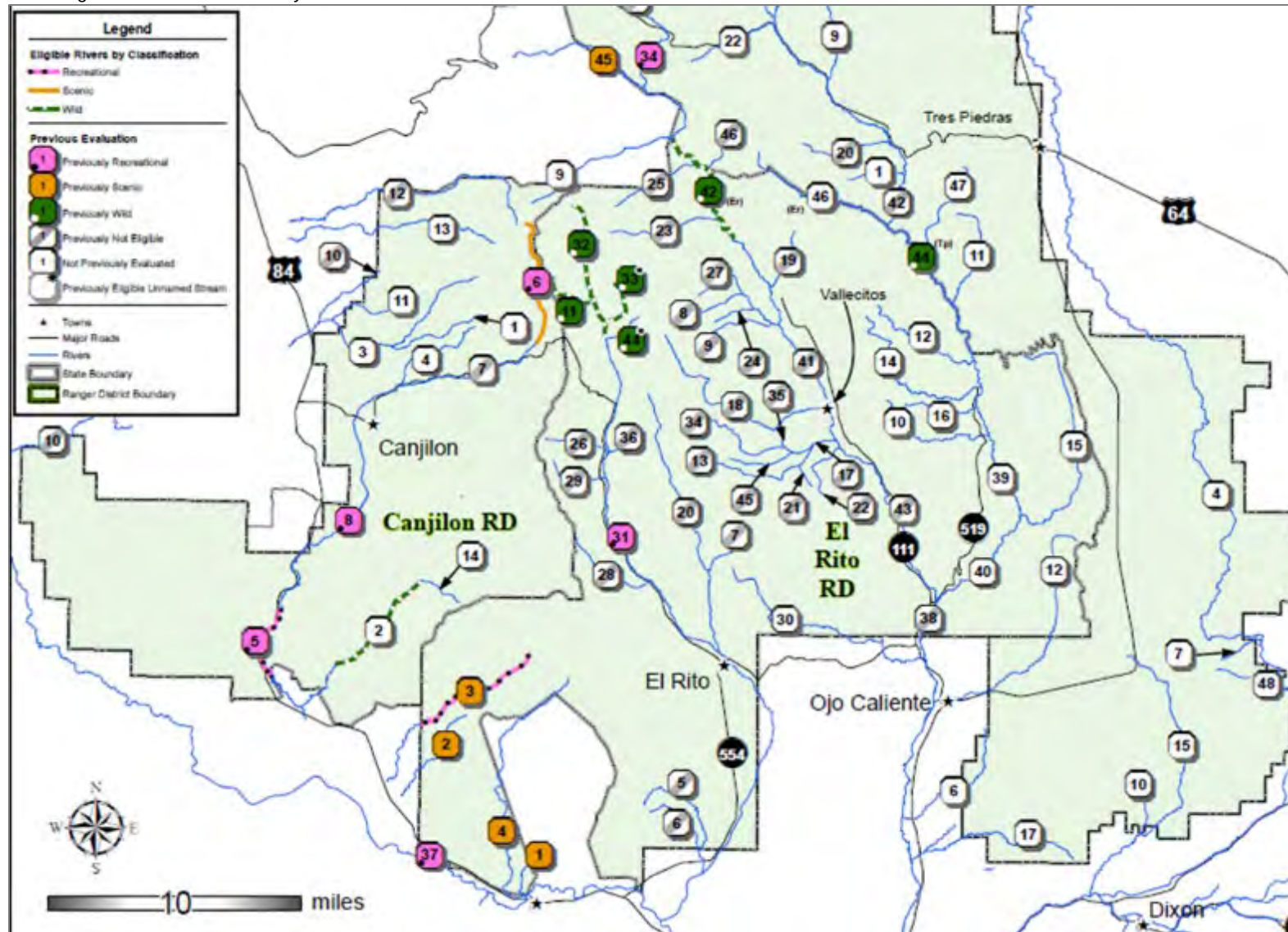


Figure 81. El Rito and Canjilon Ranger Districts eligible wild and scenic rivers

Note: Eligible rivers are indicated by a thicker line.

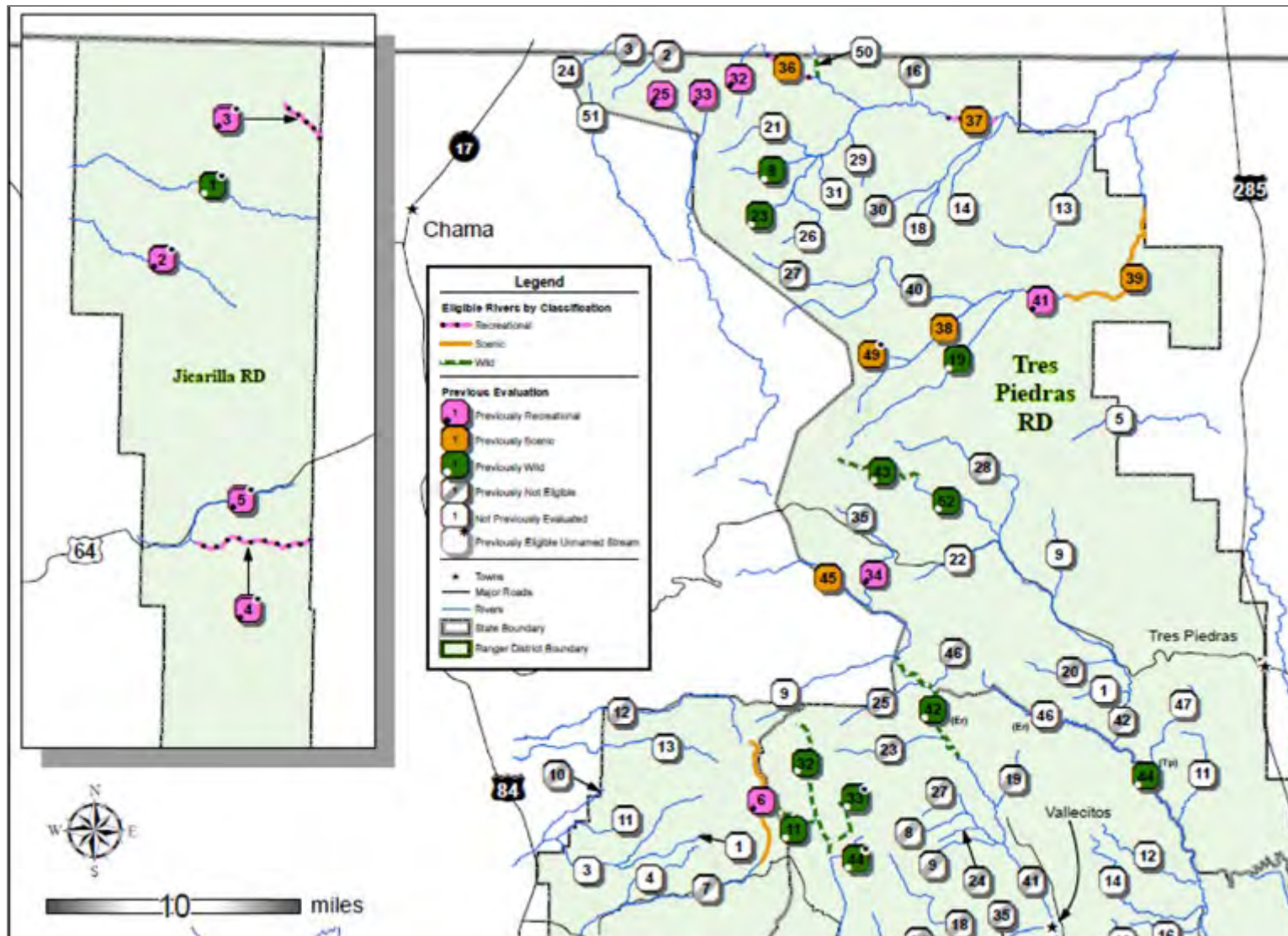


Figure 82. Tres Piedras and Jicarilla Ranger Districts eligible wild and scenic rivers

Note: Eligible rivers are indicated by a thicker line.

All Evaluated River Segments

A total of 217 rivers on the Carson National Forest were evaluated for eligibility. Some of those rivers are broken into multiple segments (smaller sections of one named river) with different eligibility or classification. For example, a road may parallel the bottom half (section 1) of a river, but not the top half (section 2). Both sections may be found eligible, but the classification of section 1 may be recreational while the classification for section 2 may be wild. Thus, one river was evaluated and found eligible. Two river sections were evaluated separately, and both were found eligible, but assigned different classifications. There are 255 river segments being evaluated. 180 of those segments were previously evaluated. 75 of those segments were not previously evaluated. 8 of those segments that were not previously evaluated are connected to a river that was previously partially evaluated.

There are 6 segments that share identification numbers with another segment. Cañada Taques (Tp18) has two forks (treated as two segments but evaluated together). The Rio Santa Barbara (Cr31) has three forks that converge to a mainstem (4 segments that were evaluated together). Alamos Creek (Cr2a and Cr2b) was initially evaluated as a single segment but was split into two because of the acequia diversion that occurs in the middle of that segment and was not assigned a new number (the new segments are labeled a and b). There are a total of 14 evaluated segments in the Canjilon Ranger District, 71 evaluated segments in the Camino Real Ranger District (4 segments labeled with the same identification number), 46 evaluated segments in the El Rito Ranger District, 5 evaluated segments in the Jicarilla Ranger District, 66 evaluated segments in the Questa Ranger District, and 53 evaluated segments in the Tres Piedras Ranger District (2 segments labeled with the same identification number).

Those 255 river segments are listed in table 61, including their identifier (ranger district and identification number), name, location, and the result of the evaluation. Eligible rivers are assigned a classification (scenic, recreational, or wild) and the outstandingly remarkable values for which they are determined to be eligible are listed. The narrative describes the rationale for the evaluation. Identification numbers locate the river on the corresponding ranger district map. An asterisk (*) signifies rivers that are not named on a USGS 7.5 minute quad but are being evaluated because they were previously determined to be eligible.

Table 61. Eligibility evaluations of river segments on the Carson National Forest with a narrative description of outstandingly remarkable values (ORVs)

Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Canjilon	1	Amador Creek	Headwaters to Cañada del Baño	Not Eligible	No outstandingly remarkable values identified.
Canjilon	2	Arroyo del Yeso	FR 138 to private land	Wild (scenic, recreational, geologic)	It seems that the previous evaluation misidentified this as a tributary of the Rio Chama and grouped it in with eligible rivers assigned a wild classification. Among the intermittent Rio Chama tributaries on the El Rito Ranger District, Arroyo del Chamiso was judged to be the most outstandingly remarkable for its sandstone cliffs and steep drainages. However, the previous evaluation of outstandingly remarkable values is more applicable to Arroyo del Yeso which was previously unevaluated and drains into Canjilon Creek, not the Rio Chama. Arroyo del Yeso is the largest and most dramatic of these river canyons. Steep drainages have sliced through the sandstone cliffs revealing many shades of yellow, pink, red, purple and blue-gray. The area above Ghost Ranch attracts visitors from all over the world. They come to gaze, to photograph, to paint, and to hike into the canyons. Wild classification is appropriate.
Canjilon	3	Cañada del Baño	Headwaters to forest boundary	Not Eligible	There are 3 pit tanks on this segment that affect free-flow. No outstandingly remarkable values identified.
Canjilon	4	Cañada Fuertes	Headwaters to Canjilon Creek	Not Eligible	There are 2 pit tanks on this segment that affect free-flow. No outstandingly remarkable values identified.
Canjilon	5	Canjilon Creek	From private land boundary to Forest boundary	Recreational (scenic, recreational, geologic)	The scenic and recreational opportunities in this segment are outstandingly remarkable regionally. The canyon with dramatic sandstone cliffs is wider than the ¼ mile river corridor but is dramatic and unique. The side canyons are popular for hunting and Echo Amphitheater is a unique recreational site. Fossil beds of similar quality and from similar time periods are found throughout the southwestern US (Utah and Arizona). These particular fossil beds are not outstandingly remarkable regionally. The wildlife diversity found here is not outstandingly remarkable regionally. The oldest known Douglas fir in New Mexico is no longer thought to be in this area, but instead on the northern edge of the district. The Recreational classification is appropriate.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Canjilon	6	Canjilon Creek	From headwaters to the edge of the Continental Divide Trail visible foreground, above Canjilon Creek Campground (closed)	Scenic (recreational)	The riparian and scenic values are not outstandingly remarkable regionally. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section, but this is an isolated segment and does not qualify as an outstandingly remarkable fishery. The opportunity to fish for Rio Grande cutthroat trout contributes to the outstandingly remarkable recreational value. The Continental Divide Trail parallels the river for most of this segment, though it is actually old two-track road in many places. Canjilon Lakes developed campground is in the river corridor, and there is significant evidence of recent timber harvest. Below the Canjilon Lakes Campground the Continental Divide Trail turns away from the river to the east as Canjilon Creek enters a small, steep canyon. Below this point as the river passes the now closed Canjilon Creek Campground, it becomes braided and intermittent, and it offers less remarkable recreation opportunities. Scenic classification is appropriate.
Canjilon	7	Canjilon Creek	From private land boundary to private land boundary of Canjilon	Not Eligible	There is a buttressed bridge on FR 599 that effects free-flow. No outstandingly remarkable values identified.
Canjilon	8	Canjilon Creek	From private land boundary below Canjilon to private land near Martinez Canyon	Not Eligible	The scenic and recreational opportunities in this segment are not outstandingly remarkable regionally. Echo amphitheater and the fossil beds are further downstream. The wildlife value is not outstandingly remarkable regionally. The oldest known Douglas fir in New Mexico is no longer thought to be in this area, but instead on the northern edge of the district.
Canjilon	9	Jaroso Creek	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Canjilon	10	Rio Cebolla	From Forest boundary to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Canjilon	11	Rio del Medio	Headwaters to forest boundary	Not Eligible	There is a pit tank that effects free-flow. No outstandingly remarkable values identified.
Canjilon	12	Rio Nutrias	From headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Canjilon	13	Terrero Creek	Headwaters to forest boundary	Not Eligible	No outstandingly remarkable values identified.
Canjilon	14	Arroyo del Yeso	Headwaters to FR 138	Not Eligible	No outstandingly remarkable values identified.
Camino Real	1	Agua Piedra Creek	From headwaters to Rio Pueblo	Not Eligible	Most of this river is confined by trails 19 and 19A (motorized) which effect its free-flowing nature. Rio Grande cutthroat trout populations are not genetically pure, and there is no fish barrier on this segment. Agua Piedra is the only named stream, tributaries are unnamed.
Camino Real	2a	Alamitos Creek	From headwaters to Rio Pueblo	Not Eligible	No outstandingly remarkable values identified.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Camino Real	2b	Alamitos Creek	La Sierra ditch diversion to Rio Pueblo	Not Eligible	No outstandingly remarkable values identified. Alamitos Creek is partially diverted into La Sierra ditch at the top of this segment. Most of the segment runs through private land.
Camino Real	3	Alamitos Creek	From headwaters to FR 161D	Wild (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Together Alamitos Creek and the North Fork of Alamitos Creek are a stream network that provides redundant, high-quality habitat. Wild classification is appropriate above FR161D. Below that point FR161 parallels the river, the setting is not primitive, and there is much more evidence of human activity.
Camino Real	4	North Fork Alamitos Creek	Headwaters to Alamitos Creek	Wild (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Together Alamitos Creek and the North Fork of Alamitos Creek are a stream network that provides redundant, high-quality habitat. Wild classification is appropriate.
Camino Real	5*	Arellano Canyon	Headwaters to Rito de la Presa	Not Eligible	Recreational opportunities are not outstandingly remarkable, the original outstandingly remarkable value of potential for supporting Rio Grande cutthroat trout is not outstandingly remarkable.
Camino Real	6	Arroyo Hondo	From Forest boundary to Forest boundary	Scenic (geologic)	The lower Bureau of Land Management segment of Arroyo Hondo has been listed as eligible for outstandingly remarkable “geologic” values. Staurolites, unique geologic features, are found along this upper segment of the Arroyo Hondo. It is determined to be eligible for outstandingly remarkable “geologic” values. Scenic classification is appropriate due to a (closed) two-track road that parallels the entire segment, crossing it in several places.
Camino Real	7	Arroyo Miranda	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	8	Cañada Ancha	Forest boundary to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	9	Cañada Ancha	Headwaters to private land	Not Eligible	No outstandingly remarkable values identified.
Camino Real	10	Cañada de Abeyta	Forest boundary to Rio de Truchas	Not Eligible	No outstandingly remarkable values identified.
Camino Real	11	Cañada de Don Samuel	Headwaters to Rio Pueblo	Not Eligible	No outstandingly remarkable values identified.
Camino Real	12	Cañada de Jacinto	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	13	Cañada de la Madera	Headwaters to Cañada del Agua	Not Eligible	No outstandingly remarkable values identified. This area is heavily roaded with old roads (closed), and free-flow is being impacted by effects of illegal use and stream crossings.

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Camino Real	14	Cañada de la Marias	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. This area is heavily roaded with old roads (closed), and free-flow is being impacted by effects of illegal use and stream crossings.
Camino Real	15	Cañada de la Orilla	Headwaters to Cañada del Oso	Not Eligible	No outstandingly remarkable values identified.
Camino Real	16	Cañada de las Entrañas	Headwaters to Forest boundary	Not Eligible	There is a pit tank in this segment that effects free-flow. No outstandingly remarkable values identified.
Camino Real	17	Cañada de las Ruedas	Headwaters to Rio de Truchas	Not Eligible	No outstandingly remarkable values identified.
Camino Real	18	Cañada de los Alamos	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. This area is heavily roaded with old logging roads (closed), and free-flow is being impacted by effects of a pit tank, illegal use and stream crossings.
Camino Real	19	Cañada de los Alamos	Headwaters to Rio de las Trampas	Not Eligible	No outstandingly remarkable values identified. The lower portion of this segment passes through private land, and free flow is influenced by acequia diversion.
Camino Real	20	Cañada de los Pinos Reales	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	21	Cañada de Ojo del Agua	Headwaters to private land	Not Eligible	No outstandingly remarkable values identified. This area is heavily roaded with old logging roads (closed), and free flow is being impacted by effects of a pit tank, illegal use and stream crossings.
Camino Real	22	Cañada de Ojo Sarco	Headwaters to private land	Not Eligible	There is a pit tank in this segment that effects free-flow. No outstandingly remarkable values identified.
Camino Real	23	Cañada del Agua	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. This area is heavily roaded with old roads (closed), and free-flow is being impacted by effects of illegal use and stream crossings.
Camino Real	24	Cañada del Montecito	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	25	Cañada del Oso	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	26*	Cañon Tio Maes	From headwaters to Rio Pueblo	Not Eligible	The motorized trail recreational opportunity is not outstandingly remarkable regionally.
Camino Real	27	Chamisal Creek	Headwaters to private land	Not Eligible	No outstandingly remarkable values identified.
Camino Real	28	Coyote Creek	Headwaters to private land	Not Eligible	No outstandingly remarkable values identified.

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Camino Real	29	Duran Creek	Headwaters to Rito de la Presa	Not Eligible	Recreational opportunities are not outstandingly remarkable, the original outstandingly remarkable value of potential for supporting Rio Grande cutthroat trout is not outstandingly remarkable.
Camino Real	30	East Fork Luna Creek	From headwaters to Forest Boundary	Not Eligible	No outstandingly remarkable values identified. Bull Canyon does not contain a named river.
Camino Real	31	Rio Santa Barbara (all three forks)	From headwaters to Jicarita Creek confluence	Wild (scenic, recreational)	All three forks of the Rio Santa Barbara offer outstanding scenic and recreational opportunities, because of the solitude and high alpine, primitive experience. The main stem drains into a narrow canyon, densely populated with tall trees that opens into three headwater tributaries with views of the entire basin and its expansive aspen stands. There is a long history of reliance by local communities on this watershed and a fight for access to, and control over resources. The upper watershed remains critical to downstream communities as a source of water for acequias, medicinal herb collection, and other traditional activities. Rio Grande cutthroat trout populations are genetically pure but non-native species are present. There is not a full barrier that separates this section. The geologic and wildlife values in these rivers are not outstandingly remarkable regionally. The geologic and wildlife values of these rivers are similar to those found in rivers in the Wheeler Peak, Columbine-Hondo, and Latir Wilderness areas on the Carson, on the Santa Fe National Forest side of the Pecos Wilderness as well as other areas in the region of comparison. There is an old water system above the campground that impacts primitive character in that area. Above that point wild classification is appropriate.
Camino Real	32*	Flechado Canyon	From headwaters to Rio Pueblo	Not Eligible	The non-motorized trail recreational opportunity is not outstandingly remarkable regionally.
Camino Real	33	Frijoles Creek	Headwaters to Rito de la Olla	Not Eligible	No outstandingly remarkable values identified.
Camino Real	34*	Gallegos Canyon	From headwaters to Rio Pueblo	Not Eligible	The motorized trail recreational opportunity is not outstandingly remarkable regionally.
Camino Real	35	Indian Creek	Headwaters to Rio Pueblo	Not Eligible	No outstandingly remarkable values identified.
Camino Real	36	Jarosa Creek	Headwaters to forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	37	Jicarita Creek	Headwaters to Rio Santa Barbara	Not Eligible	No outstandingly remarkable values identified. This segment is outside of the Pecos Wilderness. The Rio Grande cutthroat trout populations in this segment are not hybridized as they are in the Rio Santa Barbara, but there is not a complete barrier separating this segment.
Camino Real	38	Knob Creek	From headwaters to Rito Angostura	Not Eligible	No outstandingly remarkable values identified.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Camino Real	39*	La Cueva Canyon	From headwaters to Rio Pueblo	Not Eligible	The motorized trail recreational opportunity is not outstandingly remarkable regionally.
Camino Real	40	Palociento Creek	Headwaters to Rito de la Olla	Not Eligible	No outstandingly remarkable values identified.
Camino Real	41*	Policarpio Canyon	From private land boundary to fish barrier	Not Eligible	Rio Grande cutthroat trout populations in Policarpio Canyon are genetically pure, no non-native species are present, and there is a full barrier that separates this section, but this is an isolated segment. Recreational opportunities are not outstandingly remarkable in the region.
Camino Real	42	Rio Chiquito	From headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. Dinner Canyon does not contain a named river.
Camino Real	43	Rio Chiquito	From headwaters to Rio Grande del Rancho	Not Eligible	No outstandingly remarkable values identified.
Camino Real	44	Rio de las Trampas	From San Leonardo to Forest boundary	Not Eligible	This segment passes through the small communities of Diamante, El Valle, Los Trampas, and Vallecitos, and is highly developed and altered. The acequia diversions detract from the free-flowing characteristics of the river. Acequia diversion is a common practice across Northern New Mexico and the examples here are not historically outstandingly remarkable. The Rio Embudo confluence is about 1 mile beyond the national forest boundary. The private inholding of Vallecitos is just upstream of the eligible Bureau of Land Management section, right near the national forest boundary.
Camino Real	45	Rio de las Trampas	From headwaters to Rio San Leonardo	Not Eligible	There are many examples of high elevation headwater systems cutting through glacial terrain in the region. The scenic, recreational, and geologic values are not outstandingly remarkable regionally.
Camino Real	46	Rio de Truchas	From Truchas Land Grant boundary to Forest boundary	Not Eligible	There is a fish barrier, three acequia diversions, and a pit tank that effect free-flow. Rio Grande cutthroat trout are hybridized, and non-native species are present. No outstandingly remarkable values identified.
Camino Real	47	Rio Fernando de Taos	From Forest boundary to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	48	Rio Grande del Rancho	From headwaters to Rito de la Olla	Not Eligible	The recreational and scenic opportunities are relatively common and are not outstandingly remarkable regionally. There are other rivers on the forest alone that are more popular for recreationists (Rio Pueblo, Red River, Cabresto Creek). Cottonwood and riparian vegetation that is potential Southwestern willow flycatcher habitat is relatively common and not outstandingly remarkable regionally. Rio Grande cutthroat trout are present, but so are non-native trout. Much of the middle and upper portion of this river is confined by FR 439.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Camino Real	49	Rio Grande del Rancho	From private land to Forest boundary	Recreational (wildlife, other)	The historical site is across Highway 518 from the river on private land, and not directly river related. The small reconstructed site on national forest land is also not directly river related and not outstandingly remarkable among similar pueblo sites in the region. There are no cultural values that are regionally outstandingly remarkable. The willow riparian vegetation is critical habitat for Southwestern willow flycatcher, though none have been recorded here since 2014. The habitat is degraded but has potential to be high quality. Equally intact and functional riparian systems may be found in the region of comparison, but it is outstandingly remarkable at least on the forest and in northern New Mexico and is considered an outstandingly remarkable value.
Camino Real	50	Upper Rio Pueblo	From headwaters to Rito Angostura	Not Eligible	No outstandingly remarkable values identified.
Camino Real	51	Middle Rio Pueblo	From Rito Angostura to Osha diversion (near Camp Summerlife)	Not Eligible	The middle Rio Pueblo has been altered substantially by past use and is not free-flowing. There are diversions and impoundments in the Tres Ritos and Sipapu areas. There are structures in the river throughout this section for bridges, abandoned bridges, crossings, and bank hardening and reinforcement that all effect free-flowing character. The abandoned railroad and sawmills in and of themselves are not outstandingly remarkable regionally. The evidence of splash dams detracts from the free-flowing characteristics of the river. The practice of flume logging was common across the West, and is not outstandingly remarkable regionally. However, the history of logging and the Santa Barbara Pole and Tie Company and its effect on the local communities is remarkable. The 1930's ski area warming hut and the history of the first New Mexico ski area is unique and significant, though the structure itself is not outstandingly remarkable regionally. There are other canyons that are at least as popular for recreation on the forest (Rio Chiquito Canyon, Taos Canyon, Rio Hondo Canyon, Red River Canyon, Cabresto Creek Canyon, Costilla Creek Canyon), and in the region (Cimarron Canyon, Jemez River Canyon, others). The level of development and accessibility for fishing, camping, picnicking, and sightseeing are unique to the forest, but not outstandingly remarkable within the region of comparison.
Camino Real	52	Rio San Leonardo	From headwaters to Rio de las Trampas	Not Eligible	There are many examples of high elevation headwater systems cutting through glacial terrain in the region. The scenic, recreational, and geologic values are not outstandingly remarkable regionally.
Camino Real	53	Rio Santa Barbara	From concrete bridge on FR 116 to Forest boundary	Not Eligible	The Hodges Logging Camp is not outstandingly remarkable regionally. The abandoned railroads are not outstandingly remarkable regionally. The splash dam and acequia diversions detract from the free-flowing characteristics of the river. The practice of flume logging was common across the West, and is not outstandingly remarkable regionally. Acequia diversion is a common practice across northern New Mexico and the examples here are not outstandingly remarkable.

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Camino Real	54	Rio Santa Barbara	From Jicarita Creek confluence to concrete bridge on FR 116	Not Eligible	The aspen in particular, and the scenic and recreational values of this area generally are not outstandingly remarkable regionally. The riparian value of this segment is not outstandingly remarkable regionally.
Camino Real	55	Rito Angostura	Headwaters to Rio Pueblo	Not Eligible	The upper portion of the Rito Angostua is not free flowing. The entirety of the overland flow is diverted in the headwaters into the La Sierra ditch. Eligibility below the diversion would have no impact the water supply to those communities that rely on the acequia. Groundwater resupplies the stream and there is some flow lower down that supports Rio Grande Cutthroat Trout (Rio Grande cutthroat trout) populations that are genetically pure. No non-native species are present, and there is a full barrier that separates this section; however, this is an isolated segment.
Camino Real	56	Rito Bonito	Headwaters to Rio Chiquito	Not Eligible	Rito Bonito is the only named tributary. No outstandingly remarkable values identified.
Camino Real	57	Rito de la Olla	From headwaters to Rio Grande del Rancho	Not Eligible	There is a full barrier in the middle of this segment that effects free-flow. Rio Grande cutthroat trout are present, but so are non-native trout. There are no cultural values that are outstandingly remarkable regionally. The cultural site is mainly on private land, and where a portion of the cultural site is on national forest land the river is on private land. The lower portion of the river is confined by FR 438, effecting its free-flowing nature.
Camino Real	58	Rito de la Presa	Headwaters to Rio Pueblo	Not Eligible	Fish barrier is only partial and toward the headwaters of the stream, near Little Korea. The two developed campgrounds and most of the dispersed camping in this area are along this river. The recreational opportunities are not outstandingly remarkable in the region. The flow of this river has been altered to protect the adjacent forest road and campsites. There are several bridges with hardened, buttressed sides, culverts, low water crossings, and bank hardening to route the river around campsites that all degrade its free-flowing nature.
Camino Real	59	Rito Osha	Headwaters to Rito de la Olla	Not Eligible	No outstandingly remarkable values identified.
Camino Real	60	Rito Quien Sabe	Headwaters to Rito de la Olla	Not Eligible	No outstandingly remarkable values identified.
Camino Real	61	Rito Sandoval	Headwaters to Rio Pueblo	Not Eligible	No outstandingly remarkable values identified.
Camino Real	62*	Sardinas Canyon	Headwaters to Rito de la Presa	Not Eligible	Recreational opportunities are not outstandingly remarkable, the original outstandingly remarkable value of potential for supporting Rio Grande cutthroat trout is not outstandingly remarkable.
Camino Real	63	Tienditas Creek	Headwaters to Rio Don Fernando	Not Eligible	Capulin Canyon is not a named river. No outstandingly remarkable values were identified for Tienditas Creek.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Camino Real	64	West Fork Luna Creek	From headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. Bull Canyon does not contain a named river.
Camino Real	65	Lower Rio Pueblo	From fish barrier to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Camino Real	66*	Tierra Amarilla Canyon	From headwaters to Forest boundary	Not Eligible	There is a small scenic rock outcrop, but it is not remarkable, similar outcrops found in the Latir area of the Questa Ranger District and in the Rio Frijoles canyon on the Santa Fe National Forest. More remarkable scenic rocky cliffs can be found in the Cruses Basin area and in the Costilla Creek canyon on the Carson National Forest, as well as other places in the region. The scenic and geologic values are not outstandingly remarkable regionally. No outstandingly remarkable wildlife values were identified.
Camino Real	67*	Agua Caliente Canyon	From headwaters to Forest boundary	Scenic (historic, cultural)	Warm springs flows into Agua Caliente Canyon, not Tierra Amarilla Canyon, and it doesn't seem that this canyon was part of the previous evaluation. The scenery and geologic values here are less remarkable than in Tierra Amarilla Canyon. No outstandingly remarkable wildlife values were identified. The 1854 Battle of Cieneguilla is historically significant, and the site is important for its historical interpretive value among battle sites in the Apache Wars of the late 1800s. The battlefield is eligible for the National Register of Historic Sites. The area around warm springs is also culturally important to many area tribes. There is unique traditional tribal importance tied to the springs, the creek, and the surrounding area. A classification of scenic is appropriate because the upper portion of the river has evidence of past timber harvest and there are many closed, inconspicuous roads that cross the river in places. The creek is confined in culverts in several locations.
El Rito	1	Arroyo Blanco	Forest boundary to Forest boundary	Not Eligible	This river is not free flowing. The canyon bottom is a designated forest road (84T2). Any ephemeral flows are contained within the road. This area does not have the outstandingly remarkable values identified for canyons further north.
El Rito	2	Arroyo de Comales	Headwaters to Forest boundary	Not Eligible	Arroyo de Comales is much smaller and its cliffs and scenery are less dramatic than either Chamiso or Yeso. No outstandingly remarkable values.

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El Rito	3	Arroyo del Chamiso	Headwaters to Forest boundary	Recreational (scenic)	Among the intermittent Rio Chama tributaries on the El Rito Ranger District, Arroyo del Chamiso was judged to be the most outstandingly remarkable for its sandstone cliffs and steep drainages. Most visitors would only view the canyon from Highway 84, as it is not accessible from the bottom. There are no designated trails or open roads. The previous discussion of outstandingly remarkable values is more applicable to Arroyo del Yeso which was previously unevaluated and drains into Canjilon Creek, not the Rio Chama. Arroyo del Yeso and Arroyo del Chamiso are much larger and more dramatic than the other intermittent tributaries, and are the only two that are judged to be outstandingly remarkable. There is a closed road used by grazing permittees to access pit tanks that parallels most of this segment. There is an adjacent area that has been chained to remove piñon and juniper woodlands and create grasslands that are maintained with fire or thinning. There are 4 pit tanks in this river segment that impound water and impact the free-flowing nature of the river, therefore a recreational classification is appropriate
El Rito	4	Arroyo del Cobre	Forest boundary to Forest boundary	Not Eligible	This river is not free flowing. The canyon bottom is a designated forest road (84A). Any ephemeral flows are contained within the road. This area does not have the same outstandingly remarkable values as the canyons further north.
El Rito	5	Arroyo del Perro	From headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
El Rito	6	Arroyo del Perro del Oeste	From headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
El Rito	7	Arroyo Seco	From headwaters to El Rito Creek	Not Eligible	No outstandingly remarkable values identified.
El Rito	8	Cañada Alamosa	Headwaters to Rio Vallecitos	Not Eligible	No outstandingly remarkable values identified.
El Rito	9	Cañada Burro	Headwaters to Cañada Alamosa	Not Eligible	No outstandingly remarkable values identified.
El Rito	10	Cañada de Abrevadero	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
El Rito	11	Cañada de Chacon	From headwaters to El Rito Creek	Wild (fish)	Provides some Rio Grande cutthroat trout habitat. Populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
El Rito	12	Cañada de la Jarita	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
El Rito	13	Cañada de la Jarita	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.

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El Rito	14	Cañada de los Apaches	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
El Rito	15	Cañada de los Comanches	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
El Rito	16	Cañada de los Tanques	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
El Rito	17	Cañada del Agua	Confluence of Middle and North Forks to Rio Vallecitos	Not Eligible	No outstandingly remarkable values identified.
El Rito	18	Cañada del Borracho	Headwaters to Rio Vallecitos	Not Eligible	No outstandingly remarkable values identified.
El Rito	19	Cañada del Oso	Headwaters to Rio Vallecitos	Not Eligible	No outstandingly remarkable values identified.
El Rito	20	Cañada del Protrero	From headwaters to Arroyo Seco	Not Eligible	No outstandingly remarkable values identified.
El Rito	21	Cañada del Puertecito	Headwaters to Cañada de la Jarita	Not Eligible	No outstandingly remarkable values identified.
El Rito	22	Cañada del Rancho	Headwaters to Rio Vallecitos	Not Eligible	No outstandingly remarkable values identified.
El Rito	23	Cañada Escondida	Headwaters to Rio Vallecitos	Not Eligible	No outstandingly remarkable values identified.
El Rito	24	Cañada Gallina	Headwaters to Cañada Alamosa	Not Eligible	No outstandingly remarkable values identified.
El Rito	25	Cañada Jarosita	Headwaters to Rio Vallecitos	Not Eligible	No outstandingly remarkable values identified.
El Rito	26	Cañada Jose Maria	From headwaters to El Rito Creek	Not Eligible	No outstandingly remarkable values identified.
El Rito	27	Cañada Llaves	Headwaters to Cañada Alamosa	Not Eligible	No outstandingly remarkable values identified.
El Rito	28	Cañada Piedra Amarilla	From headwaters to El Rito Creek	Not Eligible	No outstandingly remarkable values identified.
El Rito	29	Cañada Sierra	From headwaters to El Rito Creek	Not Eligible	No outstandingly remarkable values identified.
El Rito	30	Desague Aguita	Headwaters to forest boundary	Not Eligible	No outstandingly remarkable values identified.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
El Rito	31	El Rito Creek	From fish barrier to Forest boundary	Not Eligible	This segment runs through multiple private inholdings and is highly developed and altered. The Sapawe Pueblo ruins are off the forest. The historic values on the forest (agricultural features) are not outstandingly remarkable. There are no cultural values that are regionally outstandingly remarkable.
El Rito	32	El Rito Creek	From headwaters to fish barrier	Wild (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
El Rito	33*	Hachita Canyon	From headwaters to El Rito Creek	Wild (fish)	Provides some Rio Grande cutthroat trout habitat. Populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
El Rito	34	Middle Fork Cañada del Agua	Headwaters to Cañada del Agua	Not Eligible	No outstandingly remarkable values identified.
El Rito	35	North Fork Cañada del Agua	Headwaters to Cañada del Agua	Not Eligible	No outstandingly remarkable values identified.
El Rito	36	Ojito Chico	From headwaters to El Rito Creek	Not Eligible	No outstandingly remarkable values identified.
El Rito	37	Rio Chama	From private land boundary to private land boundary	Not Eligible	Only a very short segment of the river between Abiquiu Dam and El Rito Creek is managed by the Forest Service. The Rio Chama in this area is mostly privately owned. The only segment that touches the Carson National Forest is less than a mile long where the river defines the boundary between the Carson and Santa Fe NFs. There are two low dams and one diversion in this section that effect its free flow. There is no recreational access to this section of the river from the Carson National Forest, and much better recreational opportunities are available just upstream, above Abiquiu Reservoir, as well as in other areas of the region. The Poshuouingue Pueblo archeological site does not meet the criteria of a Cultural outstandingly remarkable value. It is located on the Santa Fe National Forest downstream from this river segment. While it may have some historical value as an outstandingly remarkable value that value is not directly related to this river segment.
El Rito	38	Rio Ojo Caliente	From Rio Vallecitos/Tusas confluence to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
El Rito	39	Rio Tusas	From Las Tablas to Cañada de los Comanches	Not Eligible	No outstandingly remarkable values identified.

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El Rito	40	Rio Tusas	Cañada de los Comanches to Rio Ojo Caliente	Not Eligible	Acequia diversions affect free flow. No outstandingly remarkable values identified.
El Rito	41	Rio Vallecitos	From FR 274 to Cañada del Rancho	Not Eligible	Acequia diversions affect free flow. No outstandingly remarkable values identified.
El Rito	42	Rio Vallecitos	From Jarosa Creek to FR 274	Wild (scenic, recreational)	The sport fishing opportunity contributes to the recreational value. The canyon rock formations and opportunities for solitude are regionally remarkable scenic and recreational values. The Continental Divide trail crosses this segment. The center portion crosses through the private El Vallecito Ranch, which is developed, but Wild classification is appropriate on national forest lands.
El Rito	43	Rio Vallecitos	From Cañada del Rancho to Rio Ojo Caliente	Not Eligible	No outstandingly remarkable values identified.
El Rito	44*	Salvador Canyon	From headwaters to El Rito Creek	Not Eligible	Providing runoff to an eligible river is not itself an outstandingly remarkable value. Salvador Canyon is below the fish barrier on El Rito Creek, and likely has non-native fish species.
El Rito	45	South Fork Cañada del Agua	Headwaters to Cañada del Agua	Not Eligible	No outstandingly remarkable values identified.
El Rito	46	Spring Creek	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.

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Jicarilla	1*	Bancos Canyon	From Forest boundary to Forest boundary	Not Eligible	There are two pit tanks in the upper section near open FR 310 and one near Rincon Quemado in the lower section that effect free flow. The river corridor is developed with a closed road that parallels this entire segment and several decommissioned natural gas wells within 100 yards of the river. FR 309B6 on the west end is a permit road to an active well pad that is near the river. The section in between is popular for hunting, primarily deer hunters. No data is available to indicate if this canyon gets many more hunters than the rest of the district, however it is believed to get no more or no less. Carracas Mesa seems to be the magnet area for deer hunters during rifle seasons while other hunts are more widespread. Bottom lands such as this provide very little hiding cover for wildlife. There are other hunting opportunities on adjacent Bureau of Land Management lands that are as good, and there are better opportunities in the region of comparison (particularly Colorado). There have been bald eagle roost tree identified in the past, however those can be found throughout the region of comparison and are unremarkable. The canyon has a high density of archeological sites, but there are other canyons on the district with higher site density. Also, the site density within the canyon is comparable to the larger region and is not unique. The presence of primarily Anasazi sites with a few Navajo sites is also typical of the archeology of the four corners region.
Jicarilla	2*	Cabresto Canyon	From Forest boundary to Forest boundary	Not Eligible	There are three springs in close proximity in the east end of Cabresto Canyon which provide wildlife habitat. There is at least as dense a concentration of springs in other areas on the district (Carracas Canyon, lower Vaqueros Canyon, Valencia Canyon). There are other similar and higher quality wintering areas in the surrounding area, and certainly in the region of comparison. Cabresto Canyon has a high density of archeological sites, but does not have the highest density on the District. The site density is comparable to the archeology of the four corners region. The "major petroglyph area" is a single panel that is unique in terms of what has been recorded on the district, but not to the four corners region. The one unique archeological value for Cabresto Canyon is that the northeastern most known/recorded Navajo Pueblito site (a site type unique to the four corners) is located on Bancos Mesa (over a mile away) overlooking the Cabresto Canyon area, but this feature is not directly river related.

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Jicarilla	3*	Carracas Canyon	From Forest boundary to Forest boundary	Recreational (historic)	While this may be one of the few places on the district that supports riparian plants, and while at the district level it may provide important habitat for deer and eagles, it is not unique in the region of comparison (Four Corners states). Even considering only the Carson National Forest, this canyon does not have unique riparian values. It is unremarkable even in comparison to streams within just 10 miles, including Turkey Canyon, Tio Quinto Canyon, Devil's Canyon, Cottonwood Canyon, Bancos Canyon, Amargo Creek, Navajo River, Piedra River, and the San Juan River. The "wagon road" is a portion of the Northern Route of the Old Spanish Trail. There is physical evidence of constructed trail for mule trains including evidence at drainage crossings of modifications to allow for crossing by small carts or wagons. The boiler at Boiler Springs was important locally for its use to prepare for sheep dipping in the 1870s.
Jicarilla	4*	La Jara Canyon	From Forest boundary to Vaqueros Canyon	Recreational (historic)	While this may be one of the few places on the district that supports riparian plants, and while at the district level it may provide important habitat for deer and birds, it is not unique in the region of comparison (four corners states). Even considering only the Carson National Forest, this canyon does not have unique riparian values. It is unremarkable even in comparison to streams within just 10 miles, including Vaqueros Canyon, Frances Creek, Gobernador Canyon, and Munoz Creek. La Jara Canyon contains three Navajo Pueblito sites that are listed on the National Register of Historic Places. The canyon is also the location of a battle between the Navajo and the Spanish in 1705, during which the Spanish burned the Navajo homes and destroyed their milpas (corn fields).
Jicarilla	5*	Vaqueros Canyon	From Forest boundary to Forest boundary	Not Eligible	While this may be one of the few places on the district that supports riparian plants, and while at the district level it may provide important habitat for elk, it is not unique in the region of comparison (four corners states). Even considering only the Carson National Forest, this canyon does not have unique riparian values. It is unremarkable even in comparison to streams within just 10 miles, including La Jara Wash, Dulce Creek, Frances Creek, Gobemador Canyon, and Munoz Creek. The fall colors may be notable on the district, but not when compared to the region or even the Carson National Forest. The historic Vaqueros Ranger Station is significant to the District, but not significant in the context of the four corners. It is one of many known previous locations for the Jicarilla Ranger District headquarters.
Questa	1	Allen Creek	From headwaters to Forest boundary	Not Eligible	Rio Grande Cutthroat Trout (Rio Grande cutthroat trout) populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section, but this is an isolated segment.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Questa	2	Bitter Creek	From headwaters to private land (section 21)	Recreational (recreational, historic)	Bitter Creek has a long history of human use and modification. It was previously dammed and there are still dams on private land below this section. The stream channel has been altered by mining and mills and subsequent remediation. It is rerouted, and, while no longer impounded, its free flow is affected. Rio Grande cutthroat trout populations are genetically pure but there is not a complete barrier. The geothermal head scar geologic features occur throughout the Red River drainage. Those along Bitter Creek are not the largest, or otherwise conspicuous examples, and are not regionally outstandingly remarkable. The Anchor and Midnight mine sites are historically significant, and outstandingly remarkable. The valley is remarkable for its historic value and interpretive and educational values based on the number of old mine sites. The recreational classification is appropriate.
Questa	3	Bobcat Creek	From private land to Red River	Not Eligible	No outstandingly remarkable values identified.
Questa	4	Bull Creek	From headwaters to Lagunitas Fork	Wild (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	5	Cabresto Creek	From headwaters to Forest boundary	Not Eligible	Forest road 134 parallels and crosses this segment multiple times. There are multiple road crossings with bank hardening and other road related infrastructure, such as rip-rapping, that impact free-flow. The lower portion of this segment is not free flowing due to several major diversion structures. The Rio Grande cutthroat trout population is not outstandingly remarkable. Non-native fish species are present. Arizona willow is common regionally. The riparian vegetation here is not outstandingly remarkable.
Questa	6	Cañada Pinabete	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. Peñasquito and Jaracito Canyons do not contain a named stream.
Questa	7*	Chuckwagon Creek	From headwaters to Comanche Creek	Scenic (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. There is a culvert where FR 1950 crosses this segment. An old road (old Midnight-Chuckwagon Trail) that parallels this segment has been mostly obliterated. This segment is less than 1 mile long and almost half of it is within ¼ mile of FR 1950. Scenic classification is appropriate.
Questa	8	Columbine Creek	From headwaters to Deer Creek	Wild (fish, recreational)	RMBH are common in the region, and are not directly river related. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. The Columbine-Twining National Recreation Trail parallels this segment. Wild classification is appropriate.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Questa	9	Columbine Creek	From Deer Creek to Columbine trailhead	Scenic (recreational)	Below the barrier Rio Grande cutthroat trout populations are not genetically pure, non-native species are present, and there is not a full barrier that separates this section. The Columbine-Twining National Recreation Trail parallels this segment and the developed Columbine Campground is located along the river.
Questa	10	Comanche Creek	From headwaters to Costilla Creek	Recreational (scenic, recreational, geologic, fish, other)	The elk calving area is not outstandingly remarkable regionally, and not directly river related. There are prehistoric hunting blinds in the river corridor, but they are common regionally and not outstandingly remarkable. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Geologically, Comanche Point is outstandingly remarkable. It is an example of impact melt with columnar jointing (proterozoic biotite) believed to have formed at the center of an impact crater. The wetland component is remarkable compared to other similar systems. Recreational classification is appropriate.
Questa	11	Costilla Creek	From Forest boundary to fish barrier	Recreational (scenic, recreational, fish)	Riparian values are not outstandingly remarkable regionally. At the time of this evaluation this segment is being treated with piscicide in order to remove non-native fish and restore native fish habitat. Once this multi-year process is complete the separation of native fish from non-native fish will be maintained via the recently constructed fish barrier. Rio Grande cutthroat trout populations will be genetically pure, no non-native species will be present, and there is a full barrier that separates this section. Recreational classification is appropriate.
Questa	12	Deer Creek	From headwaters to Columbine Creek	Wild (fish, recreational)	RMBH are common in the region and are not directly river related. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. The Columbine-Twining National Recreation Trail parallels the lower portion of this segment. Wild classification is appropriate.
Questa	13	East Fork	From headwaters to trailhead	Wild (scenic, historic)	The Sangre de Cristo pea clam is only found in Middle Fork Lake. RMBH and boreal owls are not outstandingly remarkable regionally. Arizona willow is not outstandingly remarkable regionally. Elizabethtown ditch no longer diverts water, but historically started on the Middle Fork, collected water from the East Fork and Sawmill Creek, and carried it to the east slopes of the Sangre de Cristo mountains. Wild classification is appropriate.
Questa	14	Foreman Creek	From private property boundary to Comanche Creek	Recreational (fish)	There is an old log cabin, but no historic values that are outstandingly remarkable regionally. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Recreational classification is appropriate due to existing culverts, closed roads.
Questa	15	Gallina Creek	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Questa	16*	Gavilan Canyon	From headwaters to private land boundary	Not Eligible	RMBH population is not outstandingly remarkable regionally, and not directly river related. Rio Grande cutthroat trout populations are genetically pure, but non-native species are present, and there is no barrier that separates this section. The scenic and riparian values are not outstandingly remarkable compared to other similar regional rivers.
Questa	17	Gold Creek	From private land boundary to Comanche Creek	Scenic (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate due to old, administrative roads that are used by Vermejo Park to access the La Belle property which detract from the primitive character.
Questa	18	Goose Creek	From headwaters to Red River	Not Eligible	No outstandingly remarkable values identified.
Questa	19	Grassy Creek	From headwaters to Comanche Creek	Scenic (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate.
Questa	20	Holman Creek	From headwaters to Comanche Creek	Recreational (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Recreational classification is appropriate.
Questa	21	Italianos Canyon	From headwaters to private land boundary	Not Eligible	RMBH population is not outstandingly remarkable regionally, and not directly river related. The scenic and riparian values are not outstandingly remarkable compared to other similar regional rivers. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section, but this is an isolated segment.
Questa	22	La Belle Creek	From private property boundary to Comanche Creek	Recreational (fish)	The elk calving area is not outstandingly remarkable regionally, and not directly river related. There is no remaining evidence of the old town of La Belle. There is a newer building (c. 1970) built by Vermejo Park on private land. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Recreational classification is appropriate.
Questa	23*	La Cueva Canyon	From headwaters to Costilla Creek	Scenic (fish)	The elk calving area is not outstandingly remarkable regionally, and not directly river related. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate due to closed (administrative) road.
Questa	24	Lagunitas Fork	From headwaters to Lake Fork	Wild (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.

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Questa	25	Lake Fork	From headwaters to Cabresto Lake	Wild (fish)	Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	26	Lake Fork	From headwaters to Rio Hondo	Not Eligible	No outstandingly remarkable values identified.
Questa	27	Lake Fork (Cabresto Creek)	From Cabresto Lake to Cabresto Creek	Not Eligible	No outstandingly remarkable values identified.
Questa	28	Leandro Creek	From headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. Cutthroat genetics are pure, but Brook Trout are present.
Questa	29	Little Costilla Creek	From headwaters to Comanche Creek	Scenic (fish)	The elk calving area is not outstandingly remarkable regionally, and not directly river related. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Scenic classification is appropriate due to closed (administrative) road that parallels this segment.
Questa	30	Lobo Creek	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Questa	31	Mallette Creek	From headwaters to Red River	Not Eligible	No outstandingly remarkable values identified. There are no named tributaries.
Questa	32*	Manzanita Canyon	From headwaters to private land boundary	Not Eligible	RMBH population is not outstandingly remarkable regionally, and not directly river related. The scenic and riparian values are not outstandingly remarkable compared to other similar regional rivers. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section, but this is an isolated segment.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Questa	33	McCrystal Creek	From Forest boundary to just above McCrystal Campground	Not Eligible	The elk wintering area is not outstandingly remarkable regionally, and not directly river related. Rio Grande cutthroat trout populations are genetically pure and there is a complete barrier, but this is an isolated segment. The lower portion of McCrystal Creek, just above its confluence with North Ponil Creek is free flowing and does contain Rio Grande cutthroat trout that are genetically pure. However, together these two named segments constitute a single stream channel that provides fish habitat. From its headwaters, North Ponil Creek does not contain channelized flow that would provide fish habitat until it meets McCrystal Creek below McCrystal campground. Therefore, McCrystal Creek and North Ponil Creek do not form a network of streams, and do not therefore meet the criteria for an outstandingly remarkable fisheries value. The historic values are not outstandingly remarkable. McCrystal place is fallen down and not remarkable. The segment below McCrystal place is not free-flowing. A headgate completely diverts the flow, and there is a partially functional dam near McCrystal campground that impounds water. The short segment above McCrystal Place is free flowing but there are no outstandingly remarkable values.
Questa	34	Middle Fork	From below Middle Fork lake to private land	Scenic (scenic, historic)	Middle fork lake is altered (dammed). Below the lake the river is free flowing. The Sangre de Cristo pea clam is only found in Middle Fork Lake, not in the river below. RMBH and boreal owls are not outstandingly remarkable regionally. Arizona willow is not outstandingly remarkable regionally. Elizabethtown ditch no longer diverts water, but historically started on the Middle Fork, collected water from the East Fork and Sawmill Creek, and carried it to the east slopes of the Sangre de Cristo mountains. Scenic classification is appropriate due to an old road/ATV trail that parallels this river segment and the day use site at the lake.
Questa	35	Middle Ponil Creek	From headwaters to FR 1950	Not Eligible	Wildlife, historic, and ecological values are not outstandingly remarkable regionally. Rio Grande cutthroat trout population is not genetically pure.
Questa	36	Middle Ponil Creek	From FR 1950 to fish barrier	Not Eligible	Wildlife, historic, and ecological values are not outstandingly remarkable regionally. Rio Grande cutthroat trout population is not genetically pure.
Questa	37	Middle Ponil Creek	From barrier to Forest boundary	Not Eligible	Wildlife, historic, and ecological values are not outstandingly remarkable regionally. There is significant infestation by leafy spurge in this segment. Rio Grande cutthroat trout population is not genetically pure.

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Questa	38	North Ponil Creek	From headwaters to Forest boundary	Not Eligible	There are no historic values that are outstandingly remarkable regionally. The town of Ponil burned in the Ponil Fire and is not outstanding. Rio Grande cutthroat trout populations are genetically pure and there is a complete barrier, but this is an isolated segment. From its headwaters, North Ponil Creek does not contain channelized flow that would provide fish habitat until it meets McCrystal Creek below McCrystal campground. There is a single stream channel that provides fish habitat. The upper portion is called McCrystal Creek and the lower portion is called North Ponil Creek but together they do not form a network of streams, and do not therefore meet the criteria for an outstandingly remarkable fisheries value.
Questa	39	Pioneer Creek	From headwaters to Red River	Not Eligible	There are no Cultural outstandingly remarkable values. The mine and mill sites along the river are not outstandingly remarkable regionally.
Questa	40	Placer Creek	From headwaters to Red River	Not Eligible	No outstandingly remarkable values identified.
Questa	41	Placer Fork	From headwaters to Columbine Creek	Wild (fish)	RMBH are common in the region, and are not directly river related. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	42*	Powderhouse Canyon	From headwaters to Forest boundary	Recreational (fish)	The elk wintering and calving areas are not outstandingly remarkable regionally, and not directly river related. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. There are many closed roads in this area that detract from the primitive character. There is an existing fish barrier in the middle of this segment that impacts free flow and impounds water, therefore a recreational classification is appropriate.
Questa	43	Red River	From Fawn Lakes Campground to Eagle Rock diversion	Not Eligible	No outstandingly remarkable values identified.
Questa	44	Red River	East Fork/Middle Fork confluence to Goose Creek	Not Eligible	No outstandingly remarkable values identified. This segment flows mainly through private land.

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Questa	45	Red River	From canyon mouth below Hwy 522 to fish hatchery	Recreational (recreational)	The Red River is the only named, perennial river in this area (no tributaries are being considered). The identified scenic values are below the hatchery, in the existing designated area. The riparian values in this segment are not outstandingly remarkable regionally. The geologic values are less remarkable than those in the lower canyon. The recreational fishing opportunities are outstandingly remarkable due to the accessible and well stocked fishery. There is a road that parallels much of this segment. The lower portion is diverted which effects the river's free-flowing nature. There are power lines in the corridor, and substantial development around the fish hatchery. Recreational classification is appropriate.
Questa	46	Red River	From Goose Creek to canyon mouth below Hwy 522	Not Eligible	This segment is not free-flowing. It runs through the town of Red River and through multiple private inholdings. As alluded to by the previous evaluation, the free-flowing condition has been highly modified by construction of Highway 38, multiple stream crossings, and channelization. The same is true downstream through the canyon where there are additional impacts from the mine and the town of Questa.
Questa	47	Rio Hondo	Headwaters to Long Canyon	Not Eligible	No outstandingly remarkable values identified. Southern side is private land.
Questa	48	Rio Hondo	From headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Questa	50	Rito del Medio	Headwaters to Forest boundary	Not Eligible	White-tailed ptarmigan is rare, and its habitat is rare regionally. However, most high alpine streams provide potential habitat (willow), the same habitat is found outside of stream corridors, and white-tailed ptarmigan are not stream dependent (not directly river related). There is nothing about this segment of Rito del Medio that makes it more important to ptarmigan than any other high alpine stream. RMBH are common regionally, and their habitat is not directly river related.
Questa	51	Rito Primero	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified. Peñasquito and Jaracito Canyons do not contain a named stream.
Questa	52	San Cristobal Creek	From headwaters to Forest boundary	Not Eligible	There is a diversion for the community water supply and acequia system just below the wilderness boundary. The creek is not free flowing below this point. RMBH population is not outstandingly remarkable regionally, and not directly river related. There are Rio Grande cutthroat trout in the upper sections, but there is no barrier that separates this section. The riparian values are not outstandingly remarkable regionally.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Questa	53	Sawmill Creek	From headwaters to East Fork	Wild (scenic, historic)	The Sangre de Cristo pea clam is only found in Middle Fork Lake. RMBH and boreal owls are not outstandingly remarkable regionally. Arizona willow is not outstandingly remarkable regionally. Elizabethtown ditch no longer diverts water, but historically started on the Middle Fork, collected water from the East Fork and Sawmill Creek, and carried it to the east slopes of the Sangre de Cristo mountains. Wild classification is appropriate.
Questa	54	Shuree Creek	Headwaters to Middle Ponil Creek	Not Eligible	No outstandingly remarkable values identified. Free flow has been effected by Shuree Ponds.
Questa	55	South Fork	From headwaters to private land boundary	Not Eligible	RMBH population is not outstandingly remarkable regionally, and not directly river related. The scenic and riparian values are not outstandingly remarkable compared to other similar regional rivers. Rio Grande cutthroat trout populations are genetically pure, but non-native species are present, and there is not a full barrier that separates this section.
Questa	56	Springwagon Creek	From headwaters to Comanche Creek	Not Eligible	No outstandingly remarkable values identified. There is not usually enough flow to support Rio Grande cutthroat trout. To the extent that this river provides Rio Grande cutthroat trout habitat, it is being protected indirectly as a tributary to Comanche Creek which is eligible.
Questa	57	Vidal Creek	From headwaters to Comanche Creek	Wild (scenic, fish)	The elk calving areas are not outstandingly remarkable regionally, and not directly river related. Clayton camp has multiple intact historic structures but is not outstandingly remarkable regionally. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	58	West Fork	From headwaters to Middle Fork	Not Eligible	The Sangre de Cristo pea clam is only found in Middle Fork Lake. RMBH and boreal owls are not outstandingly remarkable regionally. Arizona willow is not outstandingly remarkable regionally. The Elizabethtown ditch did not connect the West Fork.
Questa	59	West Latir Creek	Forest boundary to forest boundary	Not Eligible	No outstandingly remarkable values identified. Peñasquito and Jaracito Canyons do not contain a named stream.
Questa	60	Willow Fork	From headwaters to Placer Fork	Wild (fish)	RMBH are common in the region and are not directly river related. Rio Grande cutthroat trout populations are genetically pure, no non-native species are present, and there is a full barrier that separates this section. Wild classification is appropriate.
Questa	61*	Yerba Canyon	From headwaters to private land boundary	Not Eligible	RMBH population is not outstandingly remarkable regionally, and not directly river related. The scenic and riparian values are not outstandingly remarkable compared to other similar regional rivers. Rio Grande cutthroat trout populations are genetically pure, but non-native species are present, and there is not a full barrier that separates this section.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Questa	62	Bitter Creek	From private land to Red River	Not Eligible	Bitter Creek has a long history of human use and modification. It was previously dammed and there are still dams on private land above this section. The stream channel has been altered by mining and mills and subsequent remediation. It is rerouted, though no longer impounded. Portions of this segment are incised in the old road. Rio Grande cutthroat trout populations are genetically pure but there is not a complete barrier. The geothermal head scar geologic features are above this section and are not regionally outstandingly remarkable. The Anchor and Midnight mine sites are also above this section. No other outstandingly remarkable historic values were found in this segment.
Questa	63	Gold Creek	From headwaters to private land boundary	Not Eligible	This segment is on the La Belle private property.
Questa	64	Costilla Creek	From fish barrier to Forest boundary	Recreational (scenic, recreational)	Riparian values are not outstandingly remarkable regionally. Non-native species are present below the fish barrier. The deep narrow canyon was judged to be outstandingly remarkable for scenery. This is a very popular fly-fishing stream. Recreational classification is appropriate.
Questa	65*	Jiron Canyon	From headwaters to Cabresto Creek	Not Eligible	Rio Grande cutthroat trout are present but there are also non-native trout species, and there is no barrier that separates this segment. No additional outstandingly remarkable values have been identified.
Questa	66*	Long Canyon	From headwaters to Rio Hondo	Not Eligible	RMBH population is not outstandingly remarkable regionally, and not directly river related. The scenic and riparian values are not outstandingly remarkable compared to other similar regional rivers. Rio Grande cutthroat trout presence is unknown and genetics have not been tested, but there is not a full barrier that separates this section.
Tres Piedras	1	American Creek	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	2	Apache Creek	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	3	Arkansas Creek	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	4	Arroyo Agua de la Petaca	Forest boundary to Forest boundary	Not Eligible	Carson reservoir and inholdings in the middle of this segment affect free flow. No outstandingly remarkable values identified.
Tres Piedras	5	Arroyo Agua de la Petaca	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	6	Arroyo Gavilan	Forest boundary to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	7	Ashbury Arroyo	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Tres Piedras	8	Beaver Creek	Headwaters to private land boundary	Not Eligible	None of the previously identified outstandingly remarkable values are outstandingly remarkable regionally. No additional outstandingly remarkable values have been identified.
Tres Piedras	9	Cañada Biscara	Headwaters to Rio Tusas	Not Eligible	Contains a pit tank which impounds water and effects free-flow. No outstandingly remarkable values identified.
Tres Piedras	10	Cañada Comanche	Headwaters to Forest boundary	Not Eligible	A pit tank impounds water and effects free-flow. No outstandingly remarkable values identified.
Tres Piedras	11	Cañada de la Agua	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	12	Cañada de los Comanches	Headwaters (in El Rito Ranger District) to Forest boundary	Not Eligible	Several pit tanks impound water and effect free-flow. No outstandingly remarkable values identified.
Tres Piedras	13	Cañada de los Ranchos	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	14	Cañada del Oso	Headwaters to Lola Creek	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	15	Cañada Embudo	Headwaters to Forest boundary	Not Eligible	This segment is not free-flowing. It contains 3 pit tanks that impound water. No outstandingly remarkable values identified.
Tres Piedras	16	Cañada Jarocita	From headwaters to Los Pinos	Not Eligible	No outstandingly remarkable values identified. Cañon Hondo, Atencio, and Florentino do not contain named streams.
Tres Piedras	17	Cañada las Lemitas	Headwaters to Forest boundary	Not Eligible	A pit tank impounds water and effects free-flow. No outstandingly remarkable values identified.
Tres Piedras	18	Cañada Tanques (both forks)	Headwaters to Lola Creek	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	19	Cañada Tio Grande	From headwaters to Rio San Antonio	Not Eligible	Non-native fish are present. No other outstandingly remarkable values were identified.
Tres Piedras	20	Cow Creek	From headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	21	Cruces Creek	Headwaters to Beaver Creek	Not Eligible	This is a tributary of Beaver Creek which was determined to possess no values that are outstandingly remarkable regionally. No additional outstandingly remarkable values have been identified in this tributary.
Tres Piedras	22	Deer Trail Creek	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	23	Diablo Creek	Headwaters to Beaver Creek	Not Eligible	None of the previously identified outstandingly remarkable values are outstandingly remarkable regionally. No additional outstandingly remarkable values have been identified.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Tres Piedras	24	Dixie Creek	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	25	East Fork Rio Brazos	Headwaters to Forest boundary	Not Eligible	This river was previously misidentified as a tributary of the Rio de los Pinos. None of the previously identified outstandingly remarkable values are outstandingly remarkable regionally.
Tres Piedras	26	Escondido Creek	Headwaters to Diablo Creek	Not Eligible	This is a tributary of Diablo and Beaver Creeks which were determined to possess no values that are outstandingly remarkable regionally. No additional outstandingly remarkable values have been identified in this tributary.
Tres Piedras	27	Lagunitas Creek	From headwaters to Rio San Antonio	Not Eligible	There are 2 pit tanks at the upper end near FR 87 that effect free flow. No outstandingly remarkable values identified.
Tres Piedras	28	Little Tusas Creek	From headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified. Much of this segment runs through private land.
Tres Piedras	29	Lobo Creek	Headwaters to Beaver Creek	Not Eligible	This is a tributary of Beaver Creek which was determined to possess no values that are outstandingly remarkable regionally. No additional outstandingly remarkable values have been identified in this tributary.
Tres Piedras	30	Lola Creek	From headwaters to Los Pinos	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	31	Osha Creek	Headwaters to Beaver Creek	Not Eligible	This is a tributary of Beaver Creek which was determined to possess no values that are outstandingly remarkable regionally. No additional outstandingly remarkable values have been identified in this tributary.
Tres Piedras	32	Osier Creek	Headwaters to Forest boundary	Not Eligible	This segment is not free flowing. It has become channelized in FR 74.
Tres Piedras	33	Osier Fork Rio Brazos	Headwaters to Forest boundary	Not Eligible	This river was previously misidentified as a tributary of the Rio de los Pinos. None of the previously identified outstandingly remarkable values are outstandingly remarkable regionally.
Tres Piedras	34	Placer Creek	From Hopewell Lake to Rio Vallecitos	Not Eligible	The geology in this segment is not outstandingly remarkable regionally. Rock formations are similar to what is found in the Rio Vallecitos canyon. The historic town of Hope is flooded beneath Hopewell Lake. There is other mining evidence in the form of dredging and diversion which effect the free-flowing nature of the river.
Tres Piedras	35	Placer Creek	From headwaters to Hopewell Lake	Not Eligible	No outstandingly remarkable values identified.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Tres Piedras	36	Rio de los Pinos	From Colorado border to private land boundary	Recreational (scenic, recreational, geologic)	Rock outcrops and the gorge are outstandingly remarkable scenic and geologic values. The Proterozoic rocks in the Rio de Los Pinos valley are gneiss, schist, and amphibolite intruded by granite and dikes of aplite and pegmatite. Fishing opportunities and the Cumbres-Toltec railroad are outstanding recreational values. Wildlife viewing opportunities, brown trout habitat, riparian corridor, and wildlife diversity are not outstandingly remarkable regionally. Recreational classification is appropriate due to the parallel railroad.
Tres Piedras	37	Rio de los Pinos	From private land boundary to private land boundary	Recreational (scenic, recreational)	The irrigation diversions are on private land above and below this segment which is free-flowing. Fishing and camping are popular in this segment in the scenic gorge. Recreational classification is appropriate due to parallel FR 284 and developed campgrounds.
Tres Piedras	38	Rio Nutrias	From headwaters to Rio San Antonio	Not Eligible	There are 3 tanks in this section that impound water. The river is not free-flowing. Non-native fish are present. There is no barrier on this section.
Tres Piedras	39	Rio San Antonio	From Stewart Meadows to Forest boundary	Scenic (scenic)	The steep canyon and surrounding plains are outstandingly remarkable scenic values. Geologic and wildlife values are not outstandingly remarkable regionally. The geology is part of a small extension of the Servilleta basalt that makes up the western side of the Taos volcanic field. Scenic classification is appropriate due to FR 87 and FR 118 which parallel most of this segment. There is also a small inholding in the middle of this segment with some development, and range improvements (fences, tanks) in the river corridor.
Tres Piedras	40	Rio San Antonio	From headwaters to Rio Nutrias	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	41	Rio San Antonio	From Rio Nutrias to Stewart Meadows	Not Eligible	The identified Historic outstandingly remarkable value is on private land, and is not outstandingly remarkable regionally. Potential southwestern willow flycatcher habitat is present throughout the region, there is nothing outstandingly remarkable about the habitat here. Stewart meadows are partially formed by low earthen dams that impede free flow. The bridge on FR 87 includes rip-rap and bank hardening that also effect free-flow.
Tres Piedras	42	Rio Tusas	From private land boundary to Tusas Box	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	43	Rio Tusas	From headwaters to section 16 tank	Wild (recreational)	Rio Grande cutthroat trout genetics are unknown, however there is no barrier on this section. This river segment is crossed by Trail 41, and the Continental Divide Trail. In combination with sport fishing opportunities these recreational values are outstandingly remarkable. There is a tank in section 16 that impounds water and affects free flow. This is a scenic area with small canyons, open meadows, and large aspen stands but it is not outstandingly remarkable. Rio Vallecitos just to the south or areas in the Cruces Basin, or Rio San Antonio just to the north on the district are at least as scenic. There are many more scenic areas in the region of comparison.

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Ranger District	ID	River Segment	River Segment Location	Classification (ORVs)	Narrative Description of Outstandingly Remarkable Values
Tres Piedras	44	Rio Tusas Box	From Spring Creek to Las Tablas	Not Eligible	The scenery and geology may be remarkable, however the river is not free flowing. Most of this section is private inholdings with irrigated agriculture diverted from the river.
Tres Piedras	45	Rio Vallecitos	From Forest boundary to private land (above Placer Creek)	Not Eligible	There is very little evidence of historic mining and it is not outstandingly remarkable regionally. A few hundred feet of this segment passes through a narrow rocky canyon which is pretty, but not geologically outstandingly remarkable. The rock formations are much less remarkable than the Brazos Cliffs just to the west, or the Tusas Box or Upper Rio de los Pinos canyons on the district. Other than the little narrow canyon the scenery is very unremarkable for Northern New Mexico. Similar scenery is found in many streams in the Rio San Antonio and Cruces Basin area on the district, more outstanding scenery is found in the Valle Vidal on the Carson or the Valles Caldera National Preserve.
Tres Piedras	46	Rock Creek	Headwaters to Rio Vallecitos	Not Eligible	This segment is not free-flowing. The lower portion contains multiple pit tanks. No outstandingly remarkable values identified.
Tres Piedras	47	Sawmill Creek	Headwaters to Rio Tusas	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	48	Scott Arroyo	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	49	Tanques Canyon	From headwaters to Rio Nutrias	Not Eligible	Tanques (tanks in English) Canyon contains 2 pit tanks which impound water. The river is not free-flowing. Non-native fish are present.
Tres Piedras	50	Toltec Creek	Forest Boundary to private land	Wild (scenic, recreational)	The headwaters in Colorado are eligible for their scenic, recreational, and historic values. The Cumbres and Toltec railroad is not within the ¼ mile corridor on the Carson National Forest, and there are no other outstandingly remarkable historic values on the New Mexico side. Toltec canyon is a remote, steep, and narrow canyon that is outstandingly remarkable for its scenic and recreational values. Wild classification is appropriate, as the surroundings are generally primitive.
Tres Piedras	51	West Fork Rio Brazos	Headwaters to Forest boundary	Not Eligible	No outstandingly remarkable values identified.
Tres Piedras	52	Rio Tusas	From section 16 tank to private land	Not Eligible	No outstandingly remarkable values identified.

References for Appendix G

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Appendix H – Species Crosswalk: Plan Components for At-Risk Wildlife Species and Other Wildlife

These crosswalks compile forest plan guidance intended to increase persistence 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 1). Plan components that address the issues and threats that are impacting at-risk species are also compiled ([Section 2](#)). Several comments and requests from the public were made concerning how lynx is covered in the Carson National Forest's draft proposed plan and that the Southern Rockies Management Direction be included in the Carson's draft proposed plan. The Southern Rockies Management Direction crosswalk ([Section 3](#)) demonstrates Carson National Forest's draft proposed plan components that correspond to this direction. Wildlife connectivity is addressed through a variety of coarse- and fine-filter plan components in multiple resource areas and compiled in [Section 4](#). Finally, in [Section 5](#) is a compilation of bighorn sheep plan components and management approaches that address ecological condition and threats for this species.

The Carson National Forest has identified 32 at-risk species, six of these species are federally listed threatened or endangered while 26 species have been identified as species of conservation concern (SCC) (Section 1). Through analysis of known data and scientific literature, eight (8) issues and six (6) threats have been identified as negatively impacting the persistence of at-risk species on the forest ([Section 2](#)).

If someone is interested in what the forest is doing for any particular at-risk species, it would be difficult to find that individual species in one place in the forest plan. Rather, the forest is managing the ecological conditions that may negatively be impacting each at-risk species. This, in turn, improves conditions not just for at-risk species, but for a myriad of other species dependent upon those same ecological conditions. In addition, since wildlife can be impacted by numerous resources and activities (ex. vegetation, water, roads, recreation, range, etc.) wildlife plan components are integrated throughout multiple resource sections within the forest plan and the full scope of plan components for any species is not evident in only the wildlife section. These crosswalks pull together all the plan components and management approaches in one location to better demonstrate how the forest will manage for the persistence of each at-risk species.

Section 1. At-Risk Species Crosswalk by Species

The Carson National Forest has identified 32 at-risk species, six of these species are federally listed threatened or endangered while 26 species have been identified as species of conservation concern (SCC).

Federally Listed Species

Mexican spotted owl

Strix occidentalis lucida is a federally threatened species and has designated critical habitat (22,954 acres) on the Jicarilla Ranger District. Numerous surveys throughout the forest have not confirmed breeding of this species on the Carson National Forest since the critical habitat designation. This species is non-migratory and feeds primarily on small mammals. The Mexican spotted owl requires a variety of mixed conifer habitats, proximity to riparian areas, standing snags for roosting and nesting, and typically rocky outcrops. Timber management activities negatively affected habitat before the Mexican spotted owl was listed as threatened in 1995. Timber harvest, prescribed burning, and other management activities are designed following the Mexican Spotted Owl Recovery Plan 2012 along with consultation with the USFWS. These management activities can still have disturbance affects to the Mexican spotted owl and its habitat. The plan components and management approaches (coarse and fine filter) that maintain or improve ecological condition and minimize threats for the Mexican spotted owl are listed in table 62.

Table 62. Plan Components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for Mexican spotted owl

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter)*
Mixed-conifer with frequent fire	Seral state departure	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-12, FW-VEG-VEG-DC 19-20, FW-VEG-MCW-DC 1-9, FW-MCW-DC 12, FW-VEG-MCD-DC 1-6, FW-VEG-MCD-DC 8-11, FW-VEG-MCD-DC 19-20, FW-VEG-PPF-DC 1-4, FW-VEG-PPF-DC 6-8, FW-VEG-PPF-DC 10, FW-VEG-PPF-DC 12, FW-VEG-PPF-DC 15-18, FW-WSW-DC 1-3, FW-WSW-RMZ-DC 1-5, FW-WSW-RMZ-DC 7, FW-WSW-RMZ-DC 9, FW-WSW-RMZ-WR-DC 1,FW-WSW-RMZ-WR-DC 3, FW-WSW-RMZ-FSR-DC1-3, FW-WSW-RMZ-FSR-DC 5-6, FW-CRF-DC 1-2, FW-WFP-DC 1-2, FW-WFP-DC 6, FW-FIRE-DC 1-2 FW-FIRE-DC 4-5, FW-FPP-DC 1, FW-FPP-DC 4, FW-FPP-DC 5,FW-TFA-DC 5, FW-MM-DC 1, DA-WILD-DC 2-4, MA-JICMA-DC 1, MA-RWMA-DC 1-4 MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 3, FW-VEG-MCD-O 1-2, FW-VEG-PPF-O 1-2, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-STM-G 2,FW-CRF-G 1, FW-WFP-O 1-2, FW-FFP-S 1-2, FW-FFP-S 5, FW-FFP-G 1, FW-TFA-O 1, FW-TFA-S 3, DA-WSR-S 1-2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-2, FW-VEG-PPF-G 1, FW-WSW-DC 5, FW-WSW-RMZ-FSR-G 3, FW-WFP-DC 1-3, FW-WFP-G 1-2, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6,
Mixed-conifer with Aspen	Snag density departure			
Ponderosa pine forests	Catastrophic fire			
Riparian areas	Specific ecological features			

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Southwestern willow flycatcher and western yellow-billed cuckoo

Southwestern willow flycatcher has designated critical habitat (148 acres) on the Camino Real Ranger District where it is federally listed as endangered. This species relies on dense riparian areas, usually dominated by willow species (forest and shrub riparian vegetation communities). Threats include degradation of riparian habitat through the loss willow and cottonwoods density and recruitment, reduction in in-stream flow, invasive species encroachment, and nest parasitism by the brown-headed cowbird.

Western yellow-billed cuckoo is federally listed as threatened west of the Rio Grande (distinct population segment), and no critical habitat has been designated on the Carson National Forest for this species. Western yellow-billed cuckoo inhabits dense riparian habitat greater than 200 acres (81 hectares) in size (Poole 2018) and below 7,000 elevational feet (Howe & Hanberg 2000) in the western United States Western yellow-billed cuckoo has not been documented on the Carson, and the dense riparian habitat it inhabits is extremely rare on the Carson National Forest. Ecosystems that could support western yellow-billed cuckoo is forest, shrub, and scrub riparian below 7,000 elevational feet, and include narrowleaf cottonwood-shrub and Rio Grande cottonwood-shrub habitat. It is possible that the species uses the Carson National Forest as migratory habitat. The major threat faced is degradation of riparian habitat through the loss of cottonwoods density and recruitment, reduction in in-stream flow, and invasive species encroachment. They are also susceptible to collisions with tower and turbine.

Table 63. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for southwestern willow flycatcher and western yellow-billed cuckoo

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter)*
Riparian areas Forest and Shrub Riparian	Seral state departure Catastrophic fire Invasive vegetative encroachment Disconnected floodplains Specific ecological features Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-WSW-DC 1-2, FW-WSW-DC 6, FW-WSW-RMZ-DC 1-8, FW-WSW-RMZ-FSR-DC 1-5, FW-WSW-RMZ-FSR-DC 8, FW-WFP-DC 4-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-WSW-O 1, FW-WSW-G 1-2, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-3, FW-WFP-O 1, FW-WFP-O 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-3, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-FSR-DC 12, FW-WSW-RMZ-FSR-G 1-3, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

*Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Black-footed ferret

Black-footed ferret is federally listed as endangered, and no critical habitat has been designated on the Carson National Forest. This species relies on montane subalpine grassland and sagebrush shrubland vegetation communities and is highly dependent on the presence of prairie dog colonies of at least 80 to 100 acres in size depending upon the prairie dog species (USDI FWS 2013). Currently, there are no prairie dog colonies of this magnitude on the Carson National Forest, and black-footed ferret are not currently known to occur on the Carson. Black-footed ferrets spend about 90 percent of their time underground, where they eat, sleep and raise their young in prairie dog burrows. Prairie dogs make up the majority of the black-footed ferret's diet. Threats include loss of habitat as prey base (prairie dogs) and are affected by sylvatic plague.

Table 64. Plan Components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for black-footed ferret

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, Guidelines and Management Approaches (Fine Filter) *
Montane Subalpine Grassland Sagebrush shrubland	Intrusive human disturbance Unnatural disease spread Human-made features	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-VEG-MSG-DC 1-4,FW-VEG-MSG-DC 10, FW-VEG-MSG-DC 14, FW-VEG-SAGE-DC 1-4, FW-NIS-DC 1, FW-GRZ-DC 4, FW-TFA-DC5, FW-SU-DC 7, MA-GMMA-DC 1-3	FW-VEG-G 1-3, FW-WFP-O 1, FW-WFP-O 4, FW-WFP-G 1-2, FW-WFP-G 6, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-3, FW-GRZ-S 3, FW-REC-G 3, FW-FAC-G 2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WFP-DC 1-3, FW-WFP-DC 7, FW-WFP-G 1-2, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6, WFP MANAGEMENT APPROACH 10

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Canada lynx

On March 24, 2000, the USFWS published the final rule listing the contiguous United States distinct population segment of Canada lynx as a threatened species (65 FR 16052). Lynx habitat was not ranked for core, secondary, or even peripheral for the Carson National Forest (USDI FWS 2005), critical habitat has not been designated on the Carson (USDI FWS 2018), and is currently not known to den or breed on the national forest. Occasionally an individual lynx may roam out of Colorado onto the national forest. In New Mexico, this species is a habitat specialist confined largely to mid- to high elevation boreal and subalpine spruce-fir forests at 9,800 to 12,000 feet in elevation (Koehler & Brittell 1990; Ruggiero et al. 1999) that can maintain the presence of deep snow. Lynx do not typically reside on the Carson National Forest because the forest lacks the aforementioned physical and biological features necessary to sustain a population (USDI FWS 2014a). Management threats include departure of seral state condition through loss of dense spruce-fir forest, loss of coarse woody debris per acre, and loss of snow depth and retention. Disturbance from motorized road construction, over-snow motorized travel, recreation are also threats. [Section C](#) of this appendix demonstrates how the Carson National Forest’s plan components correspond to the Southern Rockies Management Direction. Also [section D](#) of this appendix demonstrates how habitat connectivity for wildlife is addressed through Carson National Forest’s plan components.

Table 65. Plan Components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for Canada lynx

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Spruce fir forests Riparian areas Coarse woody debris	Seral state departure Coarse woody debris departure Catastrophic fire Intrusive human disturbance	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-12, FW-VEG-DC 20, FW-VEG-SFF-DC 1-4, FW-VEG-SFF-DC 7-10, FW-VEG-SFF-DC 12, FW-VEG-SFF-DC 15, FW-VEG-ASP-DC 2, FW-VEG-ASP-DC 4,FW-WSW-DC 1-3, FW-WSW-RMZ-DC 1-5, FW-WSW-RMZ-DC 7, FW-WSW-RMZ-DC 9, FW-WFP-DC 5, FW-WFP-DC 9, FW-FIRE-DC 1-2 FW-FIRE-DC 4-5, FW-FPP-DC 1, FW-FPP-DC 4, FW-FPP-DC 5,FW-TFA-DC 4-5, FW-SU-DC 7, FW-MM-DC 1, DA-WILD-DC 2-4, MA-RWMA-DC 1-4, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 3, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-3, FW-WFP-O 1-2, FW-VEG-ASP-G 1, FW-WFP-O 4, FW-WFP-O 5, FW-WFP-G 6, FW-WFP-G 8, FW-REC-S 1-2, FW-REC-G 2-3, FW-FFP-S 1-2, FW-FFP-S 5, FW-FFP-G 1, FW-TFA-O 1, FW-TFA-S 1-3, FW-TFA-G 1-2, FW-FIRE-S 1, FW-FIRE-G 1, FW-FIRE-G 7-8, DA-WSR-S 1-2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-2, FW- FW-WSW-DC 5, FW-WFP-DC 1-3, FW-WFP-DC 7, FW-WFP-G 1-2, WFP MANAGEMENT APPROACH 1-6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

New Mexico meadow jumping mouse

New Mexico meadow jumping mouse is federally listed as endangered, and no critical habitat has been designated on the Carson National Forest. This species occurs in dense mid-elevation riparian areas (Wetland and Forest and Shrub Riparian) with dense and tall grass key ecosystem characteristics in the Western U.S. It was historically documented on the Carson, but surveys on the forest were unable to detect this species (Frey 2006). The Carson National Forest currently has potential habitat for this species, but it is limited and highly fragmented. The major threats faced are the degradation of riparian habitat caused by actions such as legacy grazing, post-wildfire flooding events, and unmanaged recreation. Off the forest, agricultural uses and development of land have permanently changed historic locations.

Table 66. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for New Mexico meadow jumping mouse

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Riparian areas Wetland Riparian Forest and Shrub Riparian	Seral state departure Catastrophic fire Invasive vegetative encroachment Disconnected floodplains Specific ecological features Intrusive human activity	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-SL-DC 1, FW-WSW-DC 1-2, FW-WSW-DC 5, FW-WSW-RMZ-DC 1-8, FW-WSW-RMZ-DC 7-8, FW-WSW-RMZ-STM-DC 1, FW-WSW-RMZ-STM-DC 4, FW-WSW-RMZ-STM-DC 6, FW-WSW-RMZ-STM-DC 9, FW-WSW-RMZ-STM-DC 11, FW-WSW-RMZ-SNS-DC 1, FW-WSW-RMZ-WR-DC 1, FW-WSW-RMZ-WR-DC 3, FW-WSW-RMZ-FSR-DC 1-5, FW-WSW-RMZ-FSR-DC 8, FW-WSW-RMZ-FSR-DC 12, FW-WFP-DC 3-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-WSW-O 1, FW-WSW-G 1-2, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-STM-O 1, FW-WSW-RMZ-STM-S 1, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-SNS-G 1, FW-WSW-RMZ-FSSR-G 2 FW-WFP-O 1, FW-WFP-O 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-3, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-FSR-G 1-3, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Species of Conservation Concern

American peregrine falcon

American peregrine falcons (*Falco peregrinus anatum*) are breeding or permanent residents within the Carson National Forest. This species nests in cliffs and rock outcrops, a key ecosystem characteristic found within all vegetation communities of the national forest. Nesting habitat is created by geologic factors and has not changed significantly. Threats include disturbance from recreational rock climbing (Poole 2018), collection of young for falconry, eggshell thinning from accumulated pesticides, and illegal shooting. Disturbance near active nests can displace individuals and cause nest abandonment (Poole 2018) when reasonable precautions are not taken. Many of the activities that may be threats to peregrine falcons are not under the authority of the Forest Service or occur on other land ownerships.

Table 67. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for American peregrine falcon

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Mixed-conifer with frequent fire Mixed-conifer with aspen Ponderosa pine forest Cliff faces	Specific ecological features Intrusive human activity Human-made features Chemical applications	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-VEG-ALP-DC 1-3, FW-VEG-MSG-DC 1-2, FW-VEG-MSG-DC 10, FW-VEG-MCW-DC1-2, FW-VEG-MCW-DC 5, FW-VEG-MCD-DC 1-2, FW-VEG-PPF-DC 1-2, FW-VEG-PJO-DC 1-2, FW-VEG-PJS-DC 1-2, FW-SL-DC 6, FW-WSW-DC 1, FW-WSW-DC 5, FW-WSW-RMZ-DC 1-5, FW-CRF-DC 1-3, FW-WFP-DC 9, FW-AIR-DC 4, FW-TFA-DC 4-5, FW-SU-DC 7, FW-MM-DC 1	FW-VEG-G 3, FW-VEG-ALP-G 1, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WFP-O 1, FW-WFP-G 6, FW-REC-S 2, FW-REC-G 3-5, FW-TFA-O 1 FW-SU-S 2, FW-SU-G 1, FW-SU-G 4-5, DA-WSR-S 1-2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 18, FW-VEG-DC 21, FW-VEG-G 1-2, FW- FW-WSW-DC 5, FW-CRF-G 1-3, CRF MA 1-3, FW-WFP-DC 1-3, FW-WFP-DC 7, FW-WFP-G 1-3, WFP MANAGEMENT APPROACH 1- 2, WFP MANAGEMENT APPROACH 7

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Northern goshawk

The northern goshawk (*Accipiter gentilis*) is a forest habitat generalist that uses a wide variety of forest ages, structural conditions, and successional stages, most of which are departed from reference because of fire suppression activities and, in some cases, stand-replacing fire (Reynolds et al. 1992). Although the departure from reference in Ponderosa pine forests has created closed canopy conditions beneficial to northern goshawks, they remain extremely vulnerable to catastrophic fire, which can greatly alter/reduce optimal habitat. This species can be found within every district of the Carson National Forest, where post-fledging family areas are identified and managed. Several of these post-fledging family areas have been abandoned for unknown reasons, but several new post-fledging family areas have been established on the Carson National Forest (Cortez 2018). This species is primarily associated with mixed conifer with aspen, mixed conifer frequent fire, and ponderosa pine vegetation communities and aquatic ecosystems.

Table 68. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for northern goshawk

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Mixed-conifer with frequent fire Mixed-conifer with aspen Ponderosa pine forests Riparian areas	Seral state departure Catastrophic fire Specific ecological features	FW-VEG-DC 1-5, FW-VEG-DC 10-12, FW-VEG-DC 20, FW-VEG-SFF-DC 1-3, FW-VEG-SFF-DC 7-12, FW-VEG-MCW-DC 1-5, FW-MCW-DC 8-9, FW-MCW-DC 12, FW-VEG-MCD-DC 1-5, FW-VEG-MCD-DC 8-11, FW-VEG-MCD-DC 19-20, FW-VEG-PPF-DC 1-6, FW-VEG-PPF-DC 8, FW-VEG-PPF-DC 10, FW-VEG-PPF-DC 12, FW-VEG-PPF-DC 15-18, FW-WSW-DC 1-3, FW-WSW-RMZ-DC 1-5, FW-WSW-RMZ-DC 7, FW-WSW-RMZ-DC 9, FW-WSW-RMZ-WR-DC 1, FW-WSW-RMZ-WR-DC 3, FW-WSW-RMZ-FSR-DC 1-3, FW-WSW-RMZ-FSR-DC 5-6, FW-WFP-DC 1-2, FW-WFP-DC 6, FW-FIRE-DC 1-2 FW-FIRE-DC 4-5, FW-FPP-DC 1, FW-FPP-DC 4, FW-FPP-DC 5, FW-TFA-DC 5, FW-MM-DC 1, DA-WILD-DC 2-4, MA-JICMA-DC 1, MA-RWMA-DC 1-4 MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 3, FW-VEG-MCD-O 1-2, FW-VEG-PPF-O 1-2, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-STM-G 2, FW-WFP-O 1-2, FW-FFP-S 1-2, FW-FFP-S 5, FW-FFP-G 1, FW-TFA-O 1, FW-TFA-S 3, DA-WSR-S 1-2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-2, FW-VEG-SFF-DC 13, FW-VEG-SFF-G 2-5, FW-VEG-ASP-G 2-4, FW-VEG-MCW-DC 10, FW-VEG-MCW-G 3-6, FW-VEG-MCD-DC 12, FW-VEG-MCD-G 3-5, FW-VEG-PPF-DC 13, FW-VEG-PPF-G 1, FW-VEG-PPF-G 5-8, FW-WSW-DC 5, FW-WSW-RMZ-FSR-G 3, FW-WFP-DC 1-3, FW-WFP-DC 9, FW-WFP-G 1-3, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Pinyon jay

Pinyon jay (*Gymnorhinus cyanocephalus*) are primarily piñon-juniper woodland obligates but will use other habitat if piñon-juniper woodland does not exist (Wiggins 2005). They are found throughout piñon-juniper woodlands and piñon-juniper sagebrush on the Carson National Forest. Although predicted to remain in low departure from reference conditions piñon-juniper habitats are predicted to have the greatest variation within the forest when it comes to climate change vulnerability. Pinyon jay are synchronized, colonial nesters that commence breeding in the cold of winter in areas where pine-seed crops were abundant the previous autumn (Poole 2018). Currently, the primary threats to pinyon jay population persistence is a widespread die-off of piñon pine in the southwestern United States, together with departure in seral state conditions from loss of dense and old growth piñon-juniper woodlands, changes in fire regime, and from stand-replacing fire (Wiggins 2005).

Table 69. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for pinyon jay

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Piñon-juniper woodlands Piñon-juniper sagebrush	Seral state departure Catastrophic fire	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-12, FW-VEG-DC 20, FW-VEG-PJO-DC 1, FW-VEG-PJO-DC 3, FW-VEG-PJO-DC 6-7, FW-VEG-PJO-DC 9-10, FW-VEG-PJO-DC 12-13, FW-VEG-PJS-DC 1, FW-VEG-PJS-DC 6-7, FW-VEG-PJS-DC 15, FW-WFP-DC 1-2, FW-WFP-DC 6, FW-FIRE-DC 1-2 FW-FIRE-DC 4-5, FW-FPP-DC 1, FW-FPP-DC 4, FW-FPP-DC 5,FW-TFA-DC 5, FW-MM-DC 1, DA-WILD-DC 2-4, MA-JICMA-DC 1, MA-RWMA-DC 1-4 MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 3, FW-WFP-O 1-2, FW-FFP-S 1-2, FW-FFP-S 5, FW-FFP-G 1, FW-TFA-O 1, FW-TFA-S 3, DA-WSR-S 1-2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-2, FW-VEG-PJO-G 1-2, FW-WFP-DC 1-2, FW-WFP-G 1-2, WFP MANAGEMENT APPROACH 1-2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Western burrowing owl and Gunnison prairie dog

Burrowing owls (*Athene cunicularia hypugaea*) are known to use all lower elevation grassland ecological conditions of the Carson National Forest. They nest and roost in recently abandoned burrows dug by mammals, including ground squirrels, prairie dogs, and badgers (Green and Anthony 1989). For this reason, persistence of burrowing owls is inextricably linked to that of burrowing mammals, including prairie dogs. Threats to this species on the Carson National Forest include threats to burrowing mammals, such as Gunnison's prairie dogs, from sylvatic plague (Finch 1992).

Gunnison prairie dogs (*Cynomys gunnisoni*) are associated with meadow and grassland habitats where fine soil material is deep enough to allow for construction of burrows. Despite the extensive grasslands on Carson National Forest, prairie dogs were very uncommon (Frey 2003a). Threats include recreational shooting and sylvatic plague (Finch 1992, USFS 2013). Due to its decreased range on the Carson National Forest, sylvatic plague can be a limiting factor and eliminate colonies in one season preventing them from reaching a sustainable population and colonizing areas formerly occupied.

Table 70. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for western burrowing owl and Gunnison prairie dog

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, Guidelines and Management Approaches (Fine Filter) *
Montane subalpine grassland Sagebrush shrubland	Intrusive human disturbance Unnatural disease spread Human-made features	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-VEG-MSG-DC 1-4, FW-VEG-MSG-DC 10, FW-VEG-MSG-DC 14, FW-VEG-SAGE-DC 1-4, FW-WFP-DC 5, FW-WFP-DC 9, FW-NIS-DC 1, FW-GRZ-DC 4, FW-TFA-DC5, FW-SU-DC 7, MA-GMMA-DC 1-3	FW-VEG-G 1-3, FW-WFP-O 1, FW-WFP-O 4, FW-WFP-G 6, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-3, FW-GRZ-S 3, FW-REC-G 3, FW-FAC-G 2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 20, FW-VEG-G 1-3, FW-WFP-DC 1-3, FW-WFP-DC 7, FW-WFP-G 1-2, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6, WFP MANAGEMENT APPROACH 10

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

White-tailed ptarmigan

White-tailed ptarmigan (*Lagopus leucura*) inhabits moist vegetation near snowfields, streams, and willow-dominated (*Salix* spp.) plant communities within alpine and tundra habitat. Buds and twigs of various species of *Salix* provide the bulk of the food eaten by white-tailed ptarmigan. Rocky areas near late-lying snowfields or other moist sites become important from mid-summer to early fall. Rocks provide protection from the weather and hiding cover from avian predators (Hoffman 2006). In winter, according to work by Choate (1963), ptarmigan occupy rocky areas and patches of krummholz. According to Wolfe and others (2012), there are an estimated 100 to 200 individual white-tailed ptarmigan found within the alpine and tundra habitat of the Carson National Forest. Major threats to this species include departure of herbaceous understory vegetation through loss of willow and willow recruitment and human disturbance during breeding (NMDGF 2017).

Table 71. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for white-tailed ptarmigan

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, Guidelines and Management Approaches (Fine Filter) *
Alpine and tundra	Seral state departure Intrusive human disturbance Human-made features	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-VEG-ALP-DC4, FW-CRF-DC 1, FW-CRF-DC 3, FW-WFP-DC 5-6, FW-WFP-DC 9, FW-NIS-DC 1, FW-GRZ-DC 3-4, FW-TFA-DC 4-5, FW-SU-DC 7, DA-WILD-DC 2-4, MA-RWMA-DC 1-4 MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-WFP-O 1, FW-WFP-O 4, FW-WFP-G 6, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-3, FW-GRZ-S 1, FW-GRZ-G 1, FW-REC-G 1, FW-REC-G 5, FW-TFA-G 10, FW-FAC-G 2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-VEG-ALP-DC 6-7, FW-VEG-ALP-G 1-2, FW-WFP-DC 1-3, FW-WFP-DC 7, FW-WFP-G 1-2, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6, WFP MANAGEMENT APPROACH 10

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Wilson's warbler

Wilson's warbler (*Cardellina pusilla*) inhabit Rocky Mountain mesic shrub thickets consisting of willow, bog birch, and shrubby cinquefoil (Poole 2018). The Carson National Forest is the most southern distribution for this species (NMPIF 2018). They are associated with forest, shrub, and scrub riparian vegetation communities. Threats include degradation of riparian habitat through the loss willow density and recruitment, reduction of in-stream flow, and invasive species encroachment (Johnson & Anderson 2003).

Table 72. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for Wilson's warbler

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Riparian areas Forest and shrub riparian	Seral state departure Catastrophic fire Invasive vegetative encroachment Disconnected floodplains Specific ecological features Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-WSW-DC 1-2, FW-WSW-DC 6, FW-WSW-RMZ-DC 1-8, FW-WSW-RMZ-FSR-DC 1-5, FW-WSW-RMZ-FSR-DC 8, FW-WFP-DC 4-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-WSW-O 1, FW-WSW-G 1-2, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-3, FW-WFP-O 1, FW-WFP-O 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-3, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-FSR-DC 12, FW-WSW-RMZ-FSR-G 1-2, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Northern leopard frog and western boreal toad

Northern leopard frogs (*Lithobates pipiens*) are generally associated with slow-moving, permanent, or semi-permanent bodies of water (Christman 2010; Smith & Keinath 2007). However, this species is also dependent upon a multitude of ecological conditions and habitat connectivity to meet the requirements for all life stages, including wet, upland habitats during the summer (Christman 2010; Merrell 1970; Smith & Keinath 2007).

This species is associated with montane and subalpine grasslands, riparian vegetation communities, and aquatic ecosystems.

Western boreal toads (*Anaxyrus boreas*), within the Carson National Forest, is only confirmed at Lagunitas, Canjilon, and Trout Lakes (NMDGF 2006). Boreal toads breed in a wide variety of aquatic habitats, ranging from low-elevation beaver ponds, reservoirs, streams, marshes, lakeshores, potholes, wet meadows, and ditches to high-elevation ponds, fens, and tarns (high mountain lakes) at or near treeline (Livo & Lambert 2001; NMDGF 2006). This species is associated with riparian vegetation communities and aquatic ecosystems.

Threats for these species include degradation of habitat caused by grazing, chytrid fungus, depredation by bull frogs (NMDGF 2006; Smith & Keinath 2007), or siltation due to uncharacteristic wildlife and poor road management. Beneficial management includes the development of stock ponds, as northern leopard frogs use these sites for breeding ponds.

Table 73. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for northern leopard frog and western boreal toad

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Montane subalpine grassland	Seral state departure	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-SL-DC 1, FW-WSW-DC 1-2, FW-WSW-DC 4-5, FW-WSW-RMZ-DC 1-8, FW-WSW-RMZ-STM-DC 1, FW-WSW-RMZ-STM-DC 4, FW-WSW-RMZ-STM-DC 6, FW-WSW-RMZ-STM-DC 9, FW-WSW-RMZ-STM-DC 11, FW-WSW-RMZ-SNS-DC 1, FW-WSW-RMZ-WB-DC 2-3, FW-WSW-RMZ-WB-DC 5, FW-WSW-RMZ-WR-DC 1, FW-WSW-RMZ-WR-DC 3, FW-WSW-RMZ-FSR-DC 1-5, FW-WSW-RMZ-FSR-DC 8, FW-WSW-RMZ-FSR-DC 12, FW-WFP-DC 4, FW-WFP-DC 6-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-WSW-O 1, FW-WSW-G 1-2, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-STM-O 1, FW-WSW-RMZ-STM-S 1, FW-WSW-RMZ-STM-G 1, FW-WSW-RMZ-WB-S 1, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-SNS-G 1, FW-WSW-RMZ-FSSR-G 2 FW-WFP-O 1, FW-WFP-O 5, FW-NIS-O 1, FW-NIS-S 1-2, FW-NIS-G 1-3, FW-NIS-G 6, FW-GRZ- S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, FW-FIRE-G 8, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-FSR-G 1-3, FW-WFP-DC 1-3, FW-WFP-DC 5, FW-WFP-G 1-2, FW-WFP-G 6, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1-4, WFP MANAGEMENT APPROACH 6
Riparian areas	Catastrophic fire			
	Specific ecological features			
Wetland riparian	Non-native predation			
Forest and shrub riparian	Unnatural disease spread			
	Human-made features			

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Rio Grande chub, Rio Grande cutthroat, and Rio Grande sucker

Gila pandora have declined in range and abundance over the last 100 years and have been extirpated from the mainstem of the Rio Grande River. Populations can be threatened by habitat degradation that includes habitat loss, modification, and fragmentation as well as from interactions with nonnative species. Rio Grande chub impacts on the Carson National Forest include degraded stream and riparian habitat as well as water quality and quantity as a result of inadequately maintained roads and trails, water diversions, livestock grazing, and recreational use. Catastrophic fire and other extreme events such as drought and floods can also impact the species. Competition and predation with nonnative species can be extensive threats to Rio Grande chub populations through predation from brown trout and by competition for food resources with white sucker. Rio Grande chub have been petitioned for listing under the Endangered Species Act.

Oncorhynchus clarkii virginalis currently occur in approximately 10 percent of their presumed historic range. These population declines combined with losses in suitable habitat have led to considerable concern over the species' ability to persist over the long term in the plan area. Conservation populations of Rio Grande cutthroat on the Carson National Forest are isolated in high elevation streams above natural and manmade barriers that prevent the upstream movement of nonnative trout that hybridize with, compete with, and prey upon native cutthroat trout. Populations of this species are currently restricted to just 19 to 34 percent of their historic range within Carson National Forest (USDA Forest Service 2015). Rio Grande cutthroat trout are further threatened by degraded stream and riparian habitat as well as water quality and quantity as a result of inadequately maintained roads and trails, water diversions, livestock grazing, and recreational use. Catastrophic fire and other extreme events such as drought and floods also threaten the persistence of small, isolated populations which, because they occur above migratory barriers, cannot be recolonized naturally.

Catostomus plebius are endemic to the Rio Grande drainage and have been extirpated from most of its historic range. Populations can be threatened by habitat degradation that includes habitat loss, modification, and fragmentation as well as from interactions with nonnative species. Rio Grande sucker impacts on the Carson National Forest include degraded stream and riparian habitat as well as water quality and quantity as a result of inadequately maintained roads and trails, water diversions, livestock grazing, and recreational use. Catastrophic fire and other extreme events such as drought and floods can also impact the species. Competition and predation with nonnative species can be extensive threats to Rio Grande Sucker populations through predation from brown trout and by hybridizing and competing for food resources with the white sucker.

Table 74. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for Rio Grande chub, Rio Grande cutthroat trout, and Rio Grande sucker

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter)
Aquatic Systems	Seral state departure Coarse woody debris departure Catastrophic fire Invasive vegetation encroachment Disconnected floodplains Specific ecological features Non-native predation Ground or soil disturbance Intrusive human activity Chemical applications	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-SL-DC 1-3, FW-WSW-DC 1-5, FW-WSW-DC 7, FW-WSW-RMZ-DC 1-8, FW-WSW-RMZ-STM-DC 1-8, FW-WSW-RMZ-WB-DC 1-5, FW-WSW-RMZ-SNS-DC 1, FW-WSW-RMZ-SNS-DC 5-7, FW-WSW-RMZ-WR-DC 1-3, FW-WSW-RMZ-FSR-DC 1-6, FW-WSW-RMZ-FSR-DC 8, FW-WSW-RMZ-FSR-DC 12-13, FW-WFP-DC 4, FW-WFP-DC 6, FW-WFP-DC 9-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-SU-DC 7, FW-FIRE-DC 1-6, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-MCD-O 1-2, FW-VEG-PPF-O 1-2, FW-SL-G 1-2, FW-WSW-O 1, FW-WSW-G 1-2, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-4, FW-WSW-RMZ-STM-O 1-2, FW-WSW-RMZ-STM-S 1-2, FW-WSW-RMZ-STM-G 1-2, FW-WSW-RMZ-STM-G 4, FW-WSW-RMZ-WB-S 1-2, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-SNS-G 1, FW-WSW-RMZ-FSSR-G 1-2, FW-WFP-O 1, FW-WFP-O 5, FW-NIS-O 1, FW-NIS-S 1-2, FW-NIS-G 1-4, FW-NIS-G 6, FW-GRZ-S 1, FW-GRZ-G 2-3, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, FW-FIRE-G 8, FW-MM-G 1, DA-WSR-S 2, DA-WILD-S 1, DA-ZOO-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-STM-DC 9-11, FW-WSW-RMZ-STM-G 3-5, FW-WSW-RMZ-WB-DC 6, FW-WSW-RMZ-FSR-G 1-3, FW-WFP-DC 1-3, FW-WFP-DC 5, FW-WFP-O 3, FW-WFP-G 1-2, FW-WFP-G 6, FW-TFA-O 1-3, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1-4, WFP MANAGEMENT APPROACH 6, WFP MANAGEMENT APPROACH 11-12, VVMA MA 1-2, SAMA MA 1-7

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Nokomis fritillary butterfly

Nokomis fritillary butterfly (*Speyeria nokomis nokomis*) inhabits streamside meadows and bogs within arid ponderosa pine, piñon-juniper woodland, and sagebrush ecosystems (Selby 2007). The presence of bog violet is a critical ecological component, as this is the primary larval food plant (Selby 2007). Microhabitat conditions for the bog violet is wet alkaline soils and shade, often under willows (Selby 2007). It is also important to have plenty of nectar sources such as thistles, horsemint (*Agastache spp.*), and Joe pye weed (*Eupatorium maculatum*) nearby (NatureServe 2018). This species distribution within the Carson National Forest is limited, as wetland habitat found in arid ecosystems are rare, small, and isolated (Cary and Holland 1992). This species is primarily associated Wetland Riparian vegetation community. Threats include loss of bog violet component, loss of nectar sources, and loss of microhabitat condition through invasive plant species encroachment, stand replacing fire, decreased ground water retention, and increased soil compaction by livestock grazing and recreational use.

Table 75. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for Nokomis fritillary butterfly

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Riparian areas Forest and Shrub Riparian	Seral state departure Catastrophic fire Invasive vegetative encroachment Disconnected floodplains Specific ecological features Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-VEG-PPF-DC 1, FW-VEG-PPF-DC 3-4, FW-VEG-PJO-DC 1, FW-VEG-PJO-DC 5, FW-VEG-PJO-DC 13, FW-WSW-DC 1-2, FW-WSW-DC 6, FW-WSW-RMZ-DC 1-5, FW-WSW-RMZ-DC 7-9, FW-WSW-RMZ-SNS-DC 1-3, FW-WSW-RMZ-SNS-DC 5-7, FW-WSW-RMZ-WR-DC 1-3, FW-WSW-RMZ-FSR-DC 1-3 FW-WSW-RMZ-FSR-DC 5-8, FW-WSW-RMZ-FSR-DC 8, FW-WSW-RMZ-FSR-DC 12, FW-WFP-DC 4-6, FW-WFP-DC 8-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-VEG-PPF-O 1-2, FW-SL-G 2, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-G 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-SNS-O 1, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-WR-S 3, FW-WFP-O 1, FW-WFP-O 5, FW-WFP-G 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-4, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-TFA-G 9, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 16, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-SNS-DC 8-9, FW-WSW-RMZ-WR-DC 4-5, FW-WSW-RMZ-FSR-DC 9-10, FW-WSW-RMZ-FSR-G 1-2, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Masked shrew

Masked shrew (*Sorex cinereus*) hunts insects and other small mammals along banks of cold streams, in wet meadows, and under logs within spruce-fir and bristlecone pine forest (Frey and Yates 1996) throughout the Carson National Forest. Ecological condition is associated with moist sites with deep enough soil or duff to burrow (Whitaker 2005). Threats to this species include climate change, as it prefers wet areas in upper elevations that may be altered due to rising temperatures (BISON-M 2017l) include sedimentation caused by grazing, fuelwood gathering, wildfire, recreation, motorized travel, and changes in hydrology.

Table 76. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for masked shrew

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Bristlecone pine forest	Seral state departure	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-BP-DC 1, FW-VEG-BP-DC 4-5, FW-VEG-SFF-DC 1-2, FW-VEG-SFF-DC 7, FW-SL-DC 1-3, FW-WSW-DC 1-2, FW-WSW-DC 5-6, FW-WSW-RMZ-DC 1-9, FW-WSW-RMZ-STM-DC 1-2, FW-WSW-RMZ-STM-DC 4-5, FW-WSW-RMZ-STM-DC 8, FW-WSW-RMZ-SNS-DC 1-3, FW-WSW-RMZ-SNS-DC 5-7, FW-WSW-RMZ-WR-DC 1-3, FW-WSW-RMZ-FSR-DC 1-3, FW-WSW-RMZ-FSR-DC 5-8, FW-WSW-RMZ-FSR-DC 8, FW-WSW-RMZ-FSR-DC 12, FW-WFP-DC 4-6, FW-WFP-DC 8-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-FFP-DC 4, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-VEG-SFF-G 1, FW-VEG-SFF-G 5, FW-SL-G 1-2, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-G 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-STM-O 1-2, FW-WSW-RMZ-SNS-O 1, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-WR-2-3, FW-WSW-RMZ-FSR-G 3, FW-WFP-O 1, FW-WFP-O 5, FW-WFP-G 5, FW-NIS-O 1, FW-NIS-S 1-2, FW-NIS-G 1-5, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-FFP-G 1-3, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-O 1-3, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 16, FW-VEG-DC 21, FW-VEG-G 1-3, FW-VEG-BP-DC 8, FW-VEG-SFF-DC 16, FW-WSW-DC 5, FW-WSW-RMZ-FSR-DC 11-12, FW-WSW-RMZ-FSR-G 1-2, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-GRZ-S 3, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6
Spruce-fir Forest	Catastrophic fire			
Riparian areas	Invasive vegetative encroachment			
Forest and shrub riparian	Disconnected floodplains			
	Specific ecological features			
	Intrusive human activities			

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Pale Townsend's big-eared bat

The Townsend's big-eared bat (*Corynorhinus townsendii pallescens*) has not been documented on the Carson National Forest since 1998. They hibernate and roost in caves and abandoned mine features, which are rare on the Carson National Forest. Ongoing activities known to impact habitats used by the bats include recreational caving or mine exploring, vandalism, renewed mining (Finch 1992, Kunz and Martin 1982, USFS 2013, WBWG 2005b), and potentially white-nose syndrome, a lethal fungal infection in some species of hibernating bats in the eastern and midwestern United States. (USDI Bureau of Land Management et al. 2010, Cryan 2014). Past activities, such as improper cave and mine closures, have led to a reduction in the number of available hibernacula for this species.

Table 77. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for Pale Townsend's big-eared bat

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Caves and abandoned mines	Catastrophic fire Unnatural disease spread Specific ecological features Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 19-20, FW-CAM-DC 2-4, FW-WFP-DC 9, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-RMZ-STM-O 1-2, FW-WSW-RMZ-SNS-O 1, FW-WFP-O 1, FW-REC-G 3, FW-TFA-G 5, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 17, FW-VEG-DC 21, FW-VEG-G 1-3, FW-CAM-DC 1, FW-CAM-G 1-3, FW-WFP-DC 1-3, FW-WFP-DC 7, FW-WFP-G 1-2, FW-WFP-G 7, FW-FIRE-G 3, FW-FIRE-G 7-8, CAM MANAGEMENT APPROACH 1-2, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Spotted bat

In New Mexico, spotted bat (*Euderma maculatum*) has been recorded in 20 locations throughout very diverse habitats up to 10,000 feet elevation (NatureServe, 2010, BISON-M, 2010, Gannon, Kendall, Campbell, DeCarvalho, & Burt, 1998 and Geluso, 2006) including on the Carson National Forest. This species is more dependent on roost availability and water than on vegetation types. The ideal roost sites for this species are cliffs, rocky outcrops, or caves that are near water (streams, pond, and tanks) and open areas for foraging of insects within mixed conifer and ponderosa pine vegetation communities. Ongoing activities known to impact ecological conditions used by the bats include recreational mine adit exploring, recreational rock climbing, vandalism, renewed mining (Finch 1992, Kunz and Martin 1982, USFS 2013, WBWG 2005b), and potentially white-nose syndrome, a lethal fungal infection in some species of hibernating bats in the eastern and Midwestern U.S. (USDI Bureau of Land Management et al. 2010, Cryan 2014). Past activities, such as improper mine closures, have led to a reduction in the number of available hibernacula for this species.

Table 78. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for American peregrine falcon

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Mixed-conifer with frequent fire	Seral state departure	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-VEG-MCW-DC 1-3, FW-VEG-MCW-DC 12, FW-VEG-MCD-DC 1-2, FW-VEG-PPF-DC 1-2, FW-WSW-DC 1, FW-WSW-DC 5, FW-WSW-RMZ-DC 1-5, FW-CRF-DC 1-3, FW-WFP-DC 9, FW-FFP-DC 4, FW-FIRE-DC 1-5, FW-TFA-DC 4-5, FW-SU-DC 7, FW-MM-DC 1, FW-WILD-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 3, FW-VEG-MCD-O 1-2, FW-VEG-PPF-O 1-2, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WFP-O 1, FW-WFP-G 6, FW-FFP-S 2, FW-FFP-G 1-3, FW-REC-S 2, FW-REC-G 3-5, FW-TFA-O 1, FW-SU-S 2, FW-SU-G 1, FW-SU-G 4-5, DA-WSR-S 1-2, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 17, FW-VEG-DC 21, FW-VEG-G 1-2, FW-VEG-PPF-DC 19, FW- FW-WSW-DC 5, FW-CRF-G 1-3, FW-CAM-G 1-3, CRF MANAGEMENT APPROACH 1-3, FW-WFP-DC 1-3, FW-WFP-G 7, FW-WFP-DC 7, FW-WFP-G 1-3, WFP MANAGEMENT APPROACH 1-2, WFP MANAGEMENT APPROACH 7
Mixed-conifer with aspen	Unnatural disease spread			
Ponderosa pine forest	Specific ecological features			
Cliff and rocky features	Intrusive human activities			

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Water shrew

Water shrew (*Sorex palustris*) are strongly associated with riparian habitats in the vicinity of permanent streams above 8,000 feet in elevation (Conway 1952; Frey and Yates 1996; BISON M 2017m). This species typically utilizes areas with abundant cover, such as rocks, logs, or overhanging streambank vegetation (Conway 1952, NatureServe 2018) and will create burrows within these ecological conditions. High-elevation forest riparian habitats on the Carson National Forest are limited (less than 3 percent of the forest). Threats from changes in ecological condition include reduction of in-stream flow, increased sedimentation levels, loss of riparian coarse woody debris, loss of overhanging banks, and loss of woody and herbaceous riparian vegetation (BISON M 2018).

Table 79. Plan components (coarse and fine filter) and management approaches that maintain or improve ecological condition and minimize threats for water shrew

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Riparian areas	Seral state departure Catastrophic fire Invasive vegetation encroachment Disconnected floodplains Specific ecological features Ground-disturbing activities Intrusive human activity	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-SL-DC 1-3, FW-WSW-DC 1-3, FW-WSW-DC 5, FW-WSW-DC 7, FW-WSW-RMZ-DC 1-9, FW-WSW-RMZ-STM-DC 1-3, FW-WSW-RMZ-STM-DC4-8, FW-WSW-RMZ-SNS-DC 1, FW-WSW-RMZ-SNS-DC 5-7, FW-WSW-RMZ-WR-DC 1-3, FW-WSW-RMZ-FSR-DC 1-6, FW-WSW-RMZ-FSR-DC 8, FW-WSW-RMZ-FSR-DC 12-13, FW-WFP-DC 4, FW-WFP-DC 6, FW-WFP-DC 9-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-SU-DC 7, FW-FIRE-DC 1-6, FW-MM-DC 1, FW-WILD-DC 1, DA-WHT-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-MCD-O 1-2, FW-VEG-PPF-O 1-2, FW-SL-G 1-2, FW-WSW-O 1, FW-WSW-G 1-2, FW-WSW-RMZ-O 1, FW-WSW-RMZ-G 2-4, FW-WSW-RMZ-STM-O 1-2, FW-WSW-RMZ-STM-S 1-2, FW-WSW-RMZ-STM-G 1-2, FW-WSW-RMZ-STM-G 4, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-SNS-G 1, FW-WSW-RMZ-WR-S 1-3, FW-WSW-RMZ-FSSR-G 1-2, FW-WFP-O 1, FW-WFP-O 5, FW-NIS-O 1, FW-NIS-S 1-2, FW-NIS-G 1-4, FW-NIS-G 6, FW-GRZ-S 1, FW-GRZ-G 2-3, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 3, FW-REC-G 5, FW-TFA-S 3, FW-TFA-G 1-2, FW-TFA-G 6, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, FW-FIRE-G 8, FW-MM-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-STM-DC 11, FW-WSW-RMZ-FSR-DC 11-12, FW-WSW-RMZ-FSR-G 1-3, FW-WFP-DC 1-3, FW-WFP-DC 5, FW-WFP-O 3, FW-WFP-G 1-2, FW-WFP-G 6, FW-TFA-O 1-3, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1-4, WFP MANAGEMENT APPROACH 6, WFP MANAGEMENT APPROACH 11-12, VVMA MANAGEMENT APPROACH 1-2, SAMA MANAGEMENT APPROACH 1-7

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Alpine larkspur

Alpine larkspur (*Delphinium alpestre*) are found within the rocky outcrops of the alpine tundra. (NMRPTC 2018). Within New Mexico, populations of alpine larkspur are restricted to the alpine tundra of the Carson National Forest, and therefore have limited distribution. The remote and relatively inaccessible habitats of this species provide it with a large degree of protection from land use impacts, however, this species can be targeted for weed control and seed collection (NMRPTC 2018).

Table 80. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for alpine larkspur

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Alpine and tundra Cliffs and rocky feature	Seral state departure Invasive vegetative encroachment Specific ecological features Limited or specific soil conditions Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19, FW-VEG-ALP-DC 1-3, FW-VEG-ALP-DC 8, FW-SL-DC 1-6, FW-CRF-DC 1, FW-CRF-DC 3, FW-WFP-DC 4-6, FW-WFP-DC 8-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3	FW-VEG-G 1-3, FW-SL-G 2, FW-WFP-O 1, FW-WFP-O 5, FW-WFP-G 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-4, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 5, FW-TFA-S 1-3, FW-TFA-G 1-2, FW-TFA-G 6, FW-TFA-G 9-10, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, FW-MM-G 1, DA-WILD-S 1, MA-VVMA-G 1,	FW-VEG-DC 14, FW-VEG-DC 17-19, FW-VEG-DC 21, FW-VEG-S 1, FW-VEG-ALP-DC 7, FW-VEG-ALP-G 1, FW-VEG-G 1-3, FW-CRF-G 1-4, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6, CRF MANAGEMENT APPROACH 1-3,

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Arizona willow

Arizona willow (*Salix arizonica*) is only found in high-elevation areas within open meadows and along streams (montane subalpine grassland and forest, shrub, and scrub riparian vegetation communities). Thirteen populations occupy approximately 50 acres in the Cabresto Creek, Sawmill Creek, and Bitter Creek headwaters, and Lagunitas Creek on the Questa, Tres Piedras, and Camino Real ranger districts of the Carson National Forest. Threats to Arizona willow include decrease in ground water retention, increase in soil compaction, invasive species encroachment, stand replacing fire, and livestock grazing which could impact growth and vigor of willow.

Table 81. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for Arizona willow

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Montane and subalpine grassland Riparian areas Forest and shrub riparian	Seral state departure Catastrophic fire Invasive vegetative encroachment Disconnected floodplains Specific ecological features Ground disturbance activities Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-VEG-MSG-DC 1-6, FW-VEG-MSG-DC 8-11, FW-SL-DC 1-6, FW-WSW-DC 1-2, FW-WSW-DC 6, FW-WSW-RMZ-DC 1-5, FW-WSW-RMZ-DC 7-9, FW-WSW-RMZ-STM-DC 1-2, FW-WSW-RMZ-STM-DC 8-9, FW-WSW-RMZ-STM-DC 11, FW-WSW-RMZ-SNS-DC 1-3, FW-WSW-RMZ-SNS-DC 5-7, FW-WSW-RMZ-WR-DC 1-3, FW-WSW-RMZ-FSR-DC 1-3, FW-WSW-RMZ-FSR-DC 5-8, FW-WSW-RMZ-FSR-DC 8, FW-WFP-DC 4-6, FW-WFP-DC 8-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, FW-WILD-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-VEG-MSG-G, FW-SL-G 2, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-G 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-STM-O 1, FW-WSW-RMZ-STM-G 1, FW-WSW-RMZ-SNS-O 1, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-WR-S 3, FW-WFP-O 1, FW-WFP-O 5, FW-WFP-G 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-4, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 5, FW-TFA-S 1-3, FW-TFA-G 1-2, FW-TFA-G 6, FW-TFA-G 9-10, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, FW-MM-G 1, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 17-19, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-WR-DC 4, FW-WSW-RMZ-FSR-DC 8-9, FW-WSW-RMZ-FSR-DC 12, FW-WSW-RMZ-FSR-G 1-2, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Chaco milkvetch, Chama blazing star, Pagosa milkvetch, small-headed goldenweed, and tufted sand verbena

Chaco milkvetch (*Astragalus micromerius*) and Tufted sand verbena (*Abronia bigelovii*) are restricted to Todilto gypsum or limy sandstone in piñon-juniper woodlands on the Canjilon Ranger District. Due to its dependence on sandstone that is blended with Todilto gypsum or limestone, populations of this plant are isolated on the Carson National Forest.

Chama blazing star (*Mentzelia conspicua*) is only found on the Carson National Forest in small and isolated populations on the Canjilon Ranger District. It is restricted to gray to red shales of Mancos and Chinle soil formations in the piñon-juniper woodland (NMRPTC 1999).

Pagosa milkvetch (*Astragalus missouriensis* var. *humistratus*) is found in one small and isolated population on the Jicarilla Ranger District. It is restricted to Mancos and Lewis soil formations within ponderosa pine forest and piñon-juniper woodland vegetation communities (Decker 2006).

Small-headed goldenweed (*Ericameria microcephala*) is restricted to granite rock crevices and outcrops within ponderosa pine forest (NMRPTC 1999) on the Tres Piedras Ranger District.

Threats for these plant species include loss of specific soil or rock formation from ground disturbing activities, direct harm to the plant itself, and invasive species encroachment.

Table 82. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for Chaco milkvetch, Chama blazing star, Pagosa milkvetch, small-headed goldenweed, and tufted sand verbena

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Ponderosa pine forest Piñon-juniper woodlands Cliffs and rocky feature	Seral state departure Invasive vegetative encroachment Specific ecological features Limited or specific soil conditions Ground-disturbing activities Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-SL-DC 1-6, FW-VEG-PPF-DC 1-4, FW-VEG-PJO-DC 1, FW-VEG-PJO-DC 5-6, FW-CRF-DC 1, FW-CRF-DC 3, FW-WFP-DC 4-6, FW-WFP-DC 8-10, FW-NIS-DC 1FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-MM-DC 1, MA-RWMA-DC 1	FW-VEG-G 1-3, FW-SL-G 2, FW-VEG-PPF-O 1-2, FW-WFP-O 1, FW-WFP-O 5, FW-WFP-G 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-4, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 5, FW-TFA-S 1-3, FW-TFA-G 1-2, FW-TFA-G 6, FW-TFA-G 9-10, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, FW-MM-G 1	FW-VEG-DC 14, FW-VEG-DC 17-19, FW-VEG-DC 21, FW-VEG-S 1, FW-VEG-G 1-3, FW-VEG-PPF-DC 19, FW-VEG-PJO-DC 14, FW-CRF-G 1-4, CRF MANAGEMENT APPROACH 1-3, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Ripley's milkvetch

Ripley's milkvetch (*Astragalus ripleyii*) on the Carson National Forest is exclusively associated with volcanic substrates within ponderosa pine forest and piñon-juniper woodland vegetation communities on the Tres Piedras, Questa, and Camino Real ranger districts (Ladyman 2003). Currently, it has been identified at 44 locations in New Mexico, of which 10 are on the Carson National Forest (NHNM 2014). This is one of the few New Mexico milkvetches that is a desirable forage plant. It is relished by deer, elk, and all classes of livestock, without toxic effects common to other *Astragalus* species (NMRPTC 2018). This species is vulnerable to invasive species encroachment and direct harm to the plant itself.

Table 83. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for Ripley's milkvetch

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter)
Ponderosa pine forest Piñon-juniper woodlands	Seral state departure Invasive vegetative encroachment Specific ecological features Limited or specific soil conditions Ground disturbance activities Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 20, FW-SL-DC 1-6, FW-VEG-PPF-DC 1-4, FW-VEG-PJO-DC 1, FW-VEG-PJO-DC 5-6, FW-WFP-DC 4-6, FW-WFP-DC 8-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-SL-G 2, FW-VEG-PPF-O 1-2, FW-WFP-O 1, FW-WFP-O 5, FW-WFP-G 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-4, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 5, FW-TFA-S 1-3, FW-TFA-G 1-2, FW-TFA-G 6, FW-TFA-G 9-10, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 17-19, FW-VEG-DC 21, FW-VEG-S 1, FW-VEG-G 1-3, FW-VEG-PPF-DC 19, FW-VEG-PJO-DC 14, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Robust larkspur

Robust larkspur (*Delphinium robustum*) occurs in valley bottoms, riparian woodlands, subalpine meadows, and aspen groves in lower and upper montane coniferous forests of the Carson National Forest from 7,000 to 11,200 feet (spruce-fir forest and mixed conifer with aspen vegetation communities). Six occurrences have been reported in New Mexico, three of which were found on the Carson National Forest (SEINet 2014). This species is occasionally targeted for weed control, as some species of larkspur are poisonous to livestock. Additional threats include direct harm to the species itself.

Table 84. Plan components (coarse and fine-filter) and management approaches that maintain or improve ecological condition and minimize threats for robust larkspur

Ecological Conditions	Issues and Threats	Desired Conditions (Coarse Filter)	Objectives, Standards, and Guidelines (Coarse Filter)	Desired Conditions, Objectives, Standards, and Guidelines, and Management Approaches (Fine Filter) *
Spruce fir forest Aspen Mixed conifer with aspen Riparian areas	Seral state departure Invasive vegetative encroachment Specific ecological features Ground disturbance activities Intrusive human activities	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 19-20, FW-VEG-SFF-DC 1, FW-VEG-SFF-DC 5-8, FW-VEG-ASP-DC 1, FW-VEG-MCW-DC 1, FW-VEG-MCW-DC 7-8, FW-VEG-MCW-DC 11-12, FW-VEG-MCW-DC 15, FW-SL-DC 1-6, FW-WSW-DC 1-2, FW-WSW-DC 6, FW-WSW-RMZ-DC 1-5, FW-WSW-RMZ-DC 7-9, FW-WSW-RMZ-STM-DC 1-2, FW-WSW-RMZ-STM-DC 8-9, FW-WSW-RMZ-STM-DC 11, FW-WSW-RMZ-SNS-DC 1-3, FW-WSW-RMZ-SNS-DC 5-7, FW-WSW-RMZ-WR-DC 1-3, FW-WSW-RMZ-FSR-DC 1-3, FW-WSW-RMZ-FSR-DC 5-8, FW-WSW-RMZ-FSR-DC 8, FW-WFP-DC 4-6, FW-WFP-DC 8-10, FW-NIS-DC 1, FW-GRZ-DC 3-6, FW-TFA-DC 4-5, FW-FIRE-DC 1-5, FW-WILD-DC 1, MA-RWMA-DC 1, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2	FW-VEG-G 1-3, FW-VEG-SFF-G 1, FW-SL-G 2, FW-WSW-O 1, FW-WSW-RMZ-O 1, FW-WSW-G 1, FW-WSW-RMZ-G 2-3, FW-WSW-RMZ-STM-O 1, FW-WSW-RMZ-STM-G 1, FW-WSW-RMZ-SNS-O 1, FW-WSW-RMZ-SNS-S 1, FW-WSW-RMZ-WR-S 3, FW-WFP-O 1, FW-WFP-O 5, FW-WFP-G 5, FW-NIS-O 1, FW-NIS-S 1, FW-NIS-G 1-4, FW-GRZ-S 1, FW-GRZ-G 2-5, FW-FFP-S 2, FW-REC-G 1, FW-REC-G 5, FW-TFA-S 1-3, FW-TFA-G 1-2, FW-TFA-G 6, FW-TFA-G 9-10, FW-FIRE-G 2, FW-FIRE-G 4, FW-FIRE-G 6, DA-WSR-S 2, DA-WILD-S 1, MA-EWSR-S 1, MA-EWSR-G 1, MA-VVMA-G 1, MA-SAMA-S 1-2	FW-VEG-DC 14, FW-VEG-DC 17, FW-VEG-DC 21, FW-VEG-G 1-3, FW-WSW-DC 5, FW-WSW-RMZ-WR-DC 4, FW-WSW-RMZ-FSR-DC 8-9, FW-WSW-RMZ-FSR-DC 12, FW-WSW-RMZ-FSR-G 1-2, FW-WFP-DC 1-3, FW-WFP-G 1-2, FW-FIRE-G 3, FW-FIRE-G 7-8, WFP MANAGEMENT APPROACH 1, WFP MANAGEMENT APPROACH 2, WFP MANAGEMENT APPROACH 6

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Section 2. At-Risk Species Crosswalk – Issues and Threats

These crosswalks reference all plan components within the Carson National Forest Plan that minimize issues and threats for at-risk species (for an analysis of these issues and threats, please refer to chapter 3 of volume 1 of this DEIS). Issues have been identified as habitat that is out-of-reference and in need of restoration (coarse filter approaches) while threats have been identified as anthropomorphic (human-based) activities that are negatively impacting at-risk species. These are usually addressed through fine filter approaches and may be very species specific. Managing for at-risk species is often a combination of coarse and fine filter plan components.

Issues

Seral State Departure

Over 84 percent of all at-risk species on the Carson National Forest are impacted by highly-departed seral state. Seral state is a complex issue that deals with the ecological succession of vegetation as it progresses towards a climax community. It looks at how vegetative systems age over time and what the average range of age classes of vegetation exist within the system. For example, a healthy and productive (in-reference condition) forest will consist of a mix of young, middle-aged, and old trees as well as the herbaceous understory. A complete description of vegetation types and their seral state composition is found in the Assessment (USDA Forest Service 2015). The variability in vegetative structure also contributes to other ecological conditions necessary for some species such as snag density (amount of standing dead trees) or the amount of coarse woody debris (amount of dead tree material on the ground). These components may be critical for the persistence of some species and are indirectly tied to seral state condition since seral state impacts the recruitment, retention, and size classes of these features. Departure from reference conditions can negatively impact the habitat associated with these ecosystems. For example, a spruce-fir forest that consists of 80 percent early successional trees (young trees) may lack the structure and snags provided by old and dying trees. This can negatively impact the wildlife species dependent upon the seral states within healthy spruce-fir forests.

Another issue caused by out-of-reference seral state is the potential for stand replacing fires. In both forested and non-forested ecosystems, fuel loads can build to levels that increase the potential for stand replacing fires. Besides devastating the vegetative conditions within and vegetation types, uncharacteristic fires can also potentially wipe out at-risk species that reside in those systems, especially if they are rare or endemic. The cause of seral state departure can usually be traced back to long-term man-made actions such as fire-suppression. Vegetative conditions, including how they naturally transition over time and with disturbances, are the foundation of most wildlife habitat. Therefore, vegetation that closely mirrors appropriate distributions of these natural vegetative transitional states, or seral states, makes better wildlife habitat than vegetation that is departed from the appropriate seral state distributions (as defined by historic or reference conditions). Some at-risk species depend upon in-reference seral state condition in one, or multiple, vegetation types for persistence on the forest.

Plan components that would maintain or improve seral state are listed in table 85.

Table 85. Seral state plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-9	FW-VEG-MCW-DC 14-15	FW-WSW-O 1
FW-VEG-DC 11-12	FW-VEG-MCD-DC 1-5	FW-WSW-G 1
FW-VEG-DC 14-17	FW-VEG-MCD-DC 8-12	FW-WSW-RMZ-DC 1-4
FW-VEG-DC 20-21	FW-VEG-MCD-DC 16-20	FW-WSW-RMZ-O 1
FW-VEG-G 1-2	FW-VEG-MCD-O 1-2	FW-WSW-RMZ-WR-DC 1-3
FW-VEG-G 3-4	FW-VEG-PPF-DC 1-6	FW-WSW-RMZ-FSR-DC 1-3
FW-VEG-ALP-DC 1-5	FW-VEG-PPF-DC 8-10	FW-WSW-RMZ-FSR-DC 5-7
FW-VEG-MSG-DC 1-4	FW-VEG-PPF-DC 12	FW-WSW-RMZ-FSR-G 3
FW-VEG-MSG-DC 6-9	FW-VEG-PPF-DC 15-18	FW-WFP-DC 1-6
FW-VEG-MSG-DC 11-14	FW-VEG-PPF-O 1-2	FW-WFP-DC 8-10
FW-VEG-BP-DC 1	FW-VEG-PPF-G 1-2	FW-WFP-O 1
FW-VEG-BP-DC 3-7	FW-VEG-PJO-DC 1-10	FW-WFP-G 1-2
FW-VEG-BP-G 1	FW-VEG-PJO-G 1-3	FW-NIS-DC 1
FW-VEG-SFF-DC 1-10	FW-VEG-PJS-DC 1-10	FW-NIS-O 1
FW-VEG-SFF-DC 12	FW-VEG-PJS-DC 13-15	FW-GRZ-DC 4-6
FW-VEG-SFF-DC 15	FW-VEG-PJS-G 1	FW-GRZ-S 1
FW-VEG-ASP-DC 1-8	FW-VEG-SAGE-DC 1-9	FW-FFP-S 1-2
FW-VEG-MCW-DC 1-5	FW-SL-DC 3	FW-FIRE-DC 1-2
FW-VEG-MCW-DC 7-13	FW-WSW-DC 2	FW-MM-DC 1

Snag Density Departure

When a tree dies but remains standing it becomes a snag and provides habitat for an array of animals, especially birds. Ecologically, a dead tree is as important to the forest ecosystem as a live one and provides several key ecological functions that influence the ecosystem. Snags provide homes for birds and foraging opportunities for insectivorous animals. If snags are not in adequate supply or below desired conditions identified as snags per acre, it may result in lack of nesting locations or foraging areas for insectivorous birds or mammals. Conversely, large-scale fire often results in too many snags per acre and not enough live trees. Snag densities in reference condition should provide optimum habitat for at-risk species, therefore, departed snag densities may result in significant negative impacts to at-risk species. Currently, 3 percent of at-risk species are impacted by departed snag densities on the forest, these occur in three terrestrial forested vegetation types: piñon-juniper woodland (PJW), piñon-juniper sagebrush (PJS), and ponderosa pine forest (PPF). Plan components that maintain or improve snag density departure are listed in table 86.

Table 86. Snag density departure

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-5	FW-VEG-MCD-DC 11	FW-VEG-PJS-G 4
FW-VEG-DC 20-21	FW-VEG-MCD-O 1-2	FW-WSW-RMZ-O 1
FW-VEG-G 1-4	FW-VEG-PPF-DC 1	FW-WSW-RMZ-FSR-DC 1-3
FW-VEG-BP-DC 1	FW-VEG-PPF-DC 5-6	FW-WSW-RMZ-FSR-G 2
FW-VEG-SFF-DC 1	FW-VEG-PPF-DC 10	FW-WFP-DC 1-6
FW-VEG-SFF-DC 3-4	FW-VEG-PPF-O 1-2	FW-WFP-DC 8-10
FW-VEG-ASP-DC 4	FW-VEG-PPF-G 1-2	FW-WFP-O 1
FW-VEG-ASP-G 1	FW-VEG-PJO-DC 1	FW-WFP-G 1-2
FW-VEG-MCW-DC 1	FW-VEG-PJO-DC 7-8	FW-FFP-DC 4
FW-VEG-MCW-DC 4-5	FW-VEG-PJO-G 1	FW-FFP-S 1-2
FW-VEG-MCD-DC 1	FW-VEG-PJS-DC 1	FW-FFP-G 1-2
FW-VEG-MCD-DC 4-5	FW-VEG-PJS-DC 7-9	FW-FIRE-DC 1-2

Coarse Woody Debris Departure

When a large tree falls it becomes coarse woody debris and provides habitat for small animals and insects. When these logs rot, they store water and provide nutrients for the continued growth of the forest. Dead wood rotting on the forest floor eventually gets incorporated into the soil. This deteriorating wood feeds many insects and bacteria that provide nitrogen to feed the trees and other plants in the forest. Coarse woody debris is not only limited to upland habitats, it has significant impact on riparian areas as well and many aquatic species depend on downed woody material. Coarse woody debris not only provides foraging and escape cover for fish but it contributes to the creation of optimum aquatic habitat by slowing down water and contributing to pool development. Out of reference conditions of coarse woody debris may result in significant negative impacts to at-risk species. If coarse woody debris is not in adequate supply or below desired conditions identified as tons per acre (coarse woody debris load), it may result in lack of prey items for carnivorous birds or mammals. On the other hand, if coarse woody debris is in excess or above desired conditions it may create unfavorable soil conditions, especially for at-risk plant species by prohibiting growth or germination or resulting in more intense fires that negatively impact soil conditions. This is also a key factor in proper functioning aquatic habitats. Thus, coarse woody debris loads in reference condition should provide optimum habitat for terrestrial and aquatic animal species as well as soil conditions for plant species. Currently, 13 percent of at-risk species may be impacted by improper coarse woody debris loads on the forest, these occur in three terrestrial forested vegetation types: ponderosa pine forest (PPF), mixed conifer with frequent fire (MCD), and piñon-juniper sagebrush (PJS). Five species also utilize riparian areas (riparian management zones) where coarse woody debris is a key component not only for creating habitat but for maintaining stream function as well by trapping sediment and influencing channel formation.

The cause of departed coarse woody debris loads can usually be traced back to long-term human-caused actions such as fire suppression resulting in excess coarse woody debris in many of the forested vegetation types. Riparian areas, on the other hand, tend to lack enough coarse woody debris. The popularity of riparian areas for people, cattle, and wildlife often results in the suppression of woody recruitment because of increased trampling or grazing. In-reference coarse woody debris loads in both upland and riparian areas would provide the ecological conditions required for some at-risk species. Plan components that maintain or improve coarse woody debris departure are listed in table 87.

Table 87. Coarse woody debris plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-3	FW-VEG-MCD-O 1-2	FW-WSW-RMZ-STM-O 1
FW-VEG-DC 5	FW-VEG-PPF-DC 1	FW-WSW-RMZ-STM-G 2
FW-VEG-DC 20-21	FW-VEG-PPF-DC 6	FW-WSW-RMZ-FSR-DC 1-3
FW-VEG-G 1-3	FW-VEG-PPF-DC 10	FW-WSW-RMZ-FSR-DC 6
FW-VEG-BP-DC 1	FW-VEG-PPF-O 1-2	FW-WSW-RMZ-FSR-G 2
FW-VEG-SFF-DC 1	FW-VEG-PJO-DC 1	FW-WFP-DC 1-6
FW-VEG-SFF-DC 4	FW-VEG-PJO-DC 8	FW-WFP-DC 8-10
FW-VEG-ASP-DC 4	FW-VEG-PJO-G 1	FW-WFP-O 1
FW-VEG-MCW-DC 1	FW-VEG-PJS-DC 1	FW-WFP-G 1-2
FW-VEG-MCW-DC 5	FW-VEG-PJS-DC 8-9	FW-FFP-DC 4
FW-VEG-MCD-DC 1	FW-VEG-PJS-G 4	FW-FFP-S 1-2
FW-VEG-MCD-DC 5	FW-WSW-RMZ-O 1	FW-FFP-G 1-2
FW-VEG-MCD-DC 11	FW-WSW-RMZ-STM-DC 9-10	FW-FIRE-DC 1-2

Risk of Catastrophic Fire

Fire plays a critical role in maintaining the health of an ecosystem. Many vegetation types within the Carson National Forest are classified as frequent-fire systems and depend on certain fire-return intervals to maintain reference conditions for numerous vegetative characteristics (examples are seral state, coarse woody debris, etc.). Long-term, historical fire suppression policies on the forest has resulted in an excess of fuel in many frequent fire systems (see vegetation analysis). This excess fuel load often creates conditions for uncharacteristic fire, which is usually defined as fire that burns at higher-intensity or longer duration than would typically occur under reference conditions.

Uncharacteristic fire often creates unfavorable forest conditions for at-risk species. It also can potentially wipe out isolated or small populations of at-risk species. Currently, 59 percent of at-risk species may be impacted by uncharacteristic fire but are impacted in different ways. Table 88 lists plan components to reduce the risk of catastrophic fire.

Table 88. Catastrophic fire plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-3	FW-VEG-MCD-DC 1	FW-WSW-DC 1-2
FW-VEG-DC 5	FW-VEG-MCD-DC 3	FW-WSW-RMZ-DC 1
FW-VEG-DC 15-16	FW-VEG-MCD-DC 7	FW-WSW-RMZ-DC 7
FW-VEG-DC 20-21	FW-VEG-MCD-DC 20	FW-WSW-RMZ-O 1
FW-VEG-G 1-3	FW-VEG-MCD-O 1-2	FW-WSW-RMZ-WR-DC 1
FW-VEG-G 5	FW-VEG-PPF-DC 1-4	FW-WSW-RMZ-FSR-DC 1-3
FW-VEG-MSG-DC 1	FW-VEG-PPF-DC 18	FW-WSW-RMZ-FSR-DC 6
FW-VEG-MSG-DC 6	FW-VEG-PPF-O 1-2	FW-WFP-DC 1-4
FW-VEG-BP-DC 1	FW-VEG-PJO-DC 1	FW-WFP-O 1
FW-VEG-BP-DC 5	FW-VEG-PJO-DC 6	FW-WFP-G 1-2
FW-VEG-SFF-DC 1	FW-VEG-PJO-DC 13	FW-GRZ-DC 3-4
FW-VEG-SFF-DC 7	FW-VEG-PJS-DC 1	FW-FIRE-DC 1-6
FW-VEG-ASP-DC 1-2	FW-VEG-PJS-DC 6	FW-FIRE-S 1-6
FW-VEG-MCW-DC 1	FW-VEG-PJS-DC 15	FW-FIRE-G 1
FW-VEG-MCW-DC 3	FW-VEG-SAGE-DC 1	FW-FFP-DC 4
FW-VEG-MCW-DC 12	FW-VEG-SAGE-DC 8	MA-DEVRES-DC 2

Invasive Vegetation Encroachment

When non-native plant species appear on the landscape native species must compete for available resources. A naturally aggressive plant may be especially invasive when it is introduced to a new habitat. Increased resource availability and altered disturbance regimes associated with human activities often differentially increase the performance of invaders over that of natives, this places undue stressors on native populations, especially at-risk plant species. Invasive vegetative encroachment can also impact animal species as well. Small mammals and even fish are dependent upon certain vegetation types and can be impacted if invasive plants alter the composition of their native habitats.

Currently, 56 percent of at-risk species may be impacted by invasive vegetation encroachment on the forest, these occur in all vegetation types including riparian areas. Plan components to reduce the risk of invasive vegetation encroachment are in table 89.

Table 89. Invasive vegetation encroachment plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-3	FW-VEG-PPF-O 1-2	FW-WFP-DC 8
FW-VEG-DC 5	FW-VEG-PJO-DC 1	FW-WFP-O 1
FW-VEG-DC 17	FW-VEG-PJO-DC 5	FW-WFP-G 1-2
FW-VEG-DC 20-21	FW-VEG-PJS-DC 1	FW-WFP-G 5
FW-VEG-G 1-3	FW-VEG-PJS-DC 3	FW-NIS-DC 1
FW-VEG-ALP-DC 1-2	FW-VEG-PJS-DC 5	FW-NIS-O 1
FW-VEG-MSG-DC 1-3	FW-VEG-SAGE-DC 1-2	FW-NIS-S 1-2
FW-VEG-MSG-DC 8	FW-VEG-SAGE-DC 4	FW-NIS-G 1-7
FW-VEG-BP-DC 1	FW-WSW-DC 1-2	FW-GRZ-DC 5-6
FW-VEG-BP-DC 4	FW-WSW-O 1	FW-TFA-O 1
FW-VEG-SFF-DC 1	FW-WSW-G 1	FW-TFA-S 1
FW-VEG-ASP-DC 1	FW-WSW-RMZ-DC 1-3	FW-FIRE-G 3
FW-VEG-ASP-DC 7	FW-WSW-RMZ-DC 9	FW-FIRE-G 8
FW-VEG-MCW-DC 1-2	FW-WSW-RMZ-STM-S 1	FW-MM-G 1
FW-VEG-MCW-DC 7	FW-WSW-RMZ-WB-DC 1-2	DA-WILD-DC 1
FW-VEG-MCD-DC 1-2	FW-WSW-RMZ-WB-S 1	DA-WILD-S 4
FW-VEG-MCD-DC 7	FW-WSW-RMZ-SNS-DC 1-2	DA-IRA-DC 1
FW-VEG-MCD-DC 17	FW-WSW-RMZ-SNS-S 1	MA-RWMA-DC 2
FW-VEG-MCD-O 1-2	FW-WSW-RMZ-WR-DC 3	MA-GMMA-S 2
FW-VEG-PPF-DC 1-3	FW-WSW-RMZ-FSR-DC 1-3	MA-VVMA-DC 1
FW-VEG-PPF-DC 17	FW-WFP-DC 1-4	MA-SAMA-DC 1

Disconnected Floodplains

Floodplains are a key component in riparian areas that are adjacent to river and stream systems. They are generally characterized by gradual slopes which results in the water spreading out over large areas (floodplains), thus, dispersing its energy minimizing its erosive nature. The conditions created by these events have resulted in vegetative communities specifically designed for wet-soil conditions. Due to changing vegetative conditions in riparian areas from excessive human uses (e.g. recreation and grazing) native vegetation is often diminished causing more severe erosion problems during high water events. This oftentimes causes the stream channel to downcut and directs more water through the channel resulting in even greater erosion. This results in streams and rivers with deep incised channels and steep banks where water cannot escape and disconnects the floodplains from the existing stream. This often causes impacts to terrestrial species dependent upon wet soil conditions and vegetation, as well as aquatic species within the stream and river systems. Currently, 34 percent of at-risk species may be impacted by disconnected floodplains on the forest, these occur in all vegetation types with riparian areas. Plan components that improve disconnected floodplains can be found in table 90.

Table 90. Disconnected floodplains plan components

Plan Component Code	Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-3	FW-SL-G 1-3	FW-WFP-DC 1-6	FW-FIRE-G 7-8
FW-VEG-DC 5-9	FW-WSW-DC 1-3	FW-WFP-DC 8-10	FW-MM-DC 1
FW-VEG-DC 14	FW-WSW-DC 7	FW-WFP-O 1	FW-MM-S 1-2
FW-VEG-DC 20	FW-WSW-O 1	FW-WFP-O 5	FW-MM-G 1-2
FW-VEG-G 1-3	FW-WSW-G 1-4	FW-WFP-G 1-2	DA-WILD-DC 1-3
FW-VEG-ALP-DC 6	FW-WSW-RMZ-DC 1-9	FW-WFP-G 5-6	DA-WILD-S 4
FW-VEG-MSG-DC 1-5	FW-WSW-RMZ-O 1	FW-NIS-DC 1	DA-WSR-DC 1
FW-VEG-MSG-DC 9	FW-WSW-RMZ-G 1-4	FW-NIS-O 1	DA-WSR-S 1-3
FW-VEG-SFF-DC 1-2	FW-WSW-RMZ-STM-DC 1-2	FW-GRZ-DC 4-6	DA-IRA-DC 1
FW-VEG-SFF-G 1	FW-WSW-RMZ-STM-DC 4-11	FW-GRZ-S 1	DA-IRA-S 1-2
FW-VEG-MCW-DC 1-2	FW-WSW-RMZ-STM-O 1-2	FW-GRZ-G 2-5	DA-IRA-G 1-2
FW-VEG-MCD-DC 1-2	FW-WSW-RMZ-STM-S 1	FW-FPP-DC 1	MA-RWMA-DC 1-2
FW-VEG-MCD-O 1-2	FW-WSW-RMZ-STM-G 1-4	FW-FPP-S 1-2	MA-EWSR-DC 1-3
FW-VEG-PPF-DC 1-3	FW-WSW-RMZ-WB-DC 1-6	FW-FPP-G 1-3	MA-EWSR-S 1-8
FW-VEG-PPF-O 1-2	FW-WSW-RMZ-WB-S 1	FW-REC-S 1-2	MA-EWSR-G 1
FW-VEG-PJO-DC 1	FW-WSW-RMZ-SNS-DC 1-7	FW-REC-G 1	MA-GMMA-DC 3
FW-VEG-PJO-DC 5	FW-WSW-RMZ-SNS-O 1	FW-REC-G 5	MA-GMMA-S 1-3
FW-VEG-PJO-G 3	FW-WSW-RMZ-SNS-S 1	FW-TFA-DC 4-5	MA-JICMA-DC 1-2
FW-VEG-PJS-DC 1	FW-WSW-RMZ-SNS-G 1	FW-TFA-O 1-3	MA-JICMA-S 3-11
FW-VEG-PJS-DC 3	FW-WSW-RMZ-WR-DC 1-3	FW-TFA-S 1	MA-JICMA-G 1-2
FW-VEG-PJS-DC 5	FW-WSW-RMZ-WR-S 1-3	FW-TFA-G 1-4	MA-JICAMA-G 5
FW-VEG-SAGE-DC 1-2	FW-WSW-RMZ-FSR-DC 1-3	FW-TFA-G 9	MA-VVMA-DC 1
FW-VEG-SAGE-DC 4	FW-WSW-RMZ-FSR-DC 5-8	FW-FIRE-DC 1-3	MA-VVMA-G 1
FW-VEG-SAGE-DC 9	FW-WSW-RMZ-FSR-DC 12-13	FW-FIRE-S 1-7	MA-SAMA-DC 1
FW-SL-DC 1-3	FW-WSW-RMZ-FSR-G 1-3	FW-FIRE-G 1-4	MA-SAMA-S 1-3

Limited or Specific Soil Conditions

Soils are complex and dynamic system that consists of a mineral component, organic matter, air, water, and various soil organisms resulting from interaction between parent material, climate, topography, and organisms throughout time and space. Soils store water, supply nutrients for plants, and provide a medium for plant growth. Soils also provide habitat for a diverse number of invertebrates and belowground organisms. Due to their slow rate of formation, soils are essentially a non-renewable resource. Unfavorable soil conditions often decrease viability of at-risk species dependent upon specific soil type or condition. Most at-risk species reliant upon soil conditions are plants, however, some invertebrates also have an affinity for certain soil types.

Soil condition is based on three soil functions: (1) the ability of the soil to resist erosion, (2) the ability of the soil to infiltrate water, and (3) the ability of the soil to recycle nutrients. The loss of soil productivity through a reduction in soil function is due to a lack of effective vegetative ground cover and organic matter. This has resulted in unstable soils with reduced nutrient cycling. Soils in reference condition (satisfactory rating) provide the necessary ecological conditions for species dependent upon them. Soils that are out of reference are classified as impaired, unsatisfactory, or unsuited depending upon the degree in which they are impacted. Currently, 19 percent of at-risk species may be impacted by impaired, unsatisfactory, or unsuited soil conditions, or may need very specific soil type to grow on the forest. Plan components to maintain or improve limited or specific soil conditions are found in table 91.

Table 91. Limited or specific soil conditions plan components

Plan Component Code	Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-3	FW-VEG-PPF-DC 1-3	FW-WSW-RMZ-WR-DC 1-4	FW-TFA-O 1
FW-VEG-DC 5	FW-VEG-PPF-DC 19	FW-WSW-RMZ-FSR-DC 1-3	FW-TFA-S 1
FW-VEG-DC 9	FW-VEG-PPF-O 1-2	FW-WSW-RMZ-FSR-DC 9	FW-TFA-G 1-4
FW-VEG-DC 14	FW-VEG-PJO-DC 1	FW-WSW-RMZ-FSR-DC 11	FW-SU-S 1-2
FW-VEG-DC 18-20	FW-VEG-PJO-DC 4-5	FW-CRF-DC 3	FW-SU-G 1-2
FW-VEG-G 1-3	FW-VEG-PJO-DC 14	FW-WFP-DC 1-3	FW-FIRE-DC 1-3
FW-VEG-MSG-DC 1-4	FW-VEG-PJS-DC 1	FW-WFP-DC 10	FW-FIRE-G 1
FW-VEG-MSG-DC 7	FW-VEG-PJS-DC 4-5	FW-WFP-O 1	FW-FIRE-G 7-8
FW-VEG-BP-DC 1	FW-VEG-PJS-DC 16	FW-WFP-O 4	FW-MM-DC 1
FW-VEG-BP-DC 8	FW-VEG-SAGE-DC 1-2	FW-WFP-G 1-2	FW-MM-G 1-2
FW-VEG-SFF-DC 1	FW-VEG-SAGE-DC 4-5	FW-WFP-G 5	DA-WILD-DC 1
FW-VEG-SFF-DC 16	FW-VEG-SAGE-DC 9	FW-NIS-DC 1	DA-WILD-S 4
FW-VEG-SFF-G 1	FW-SL-DC 1-7	FW-NIS-O 1	DA-IRA-DC 1
FW-VEG-ASP-DC 1	FW-SL-G 1-3	FW-NIS-S 1-2	MA-RWMA-DC 1
FW-VEG-ASP-DC 9	FW-WSW-DC 1-3	FW-NIS-G 1-7	MA-JICMA-DC 1
FW-VEG-MCW-DC 1-2	FW-WSW-O 1	FW-GRZ-DC 4-6	MA-JICMA-S 3-11
FW-VEG-MCW-DC 17	FW-WSW-G 1	FW-FFP-S 1	MA-JICMA-G 1-2
FW-VEG-MCD-DC 1-2	FW-WSW-RMZ-DC 1-3	FW-REC-S 1-2	MA-GMMA-DC 3
FW-VEG-MCD-DC 21	FW-WSW-RMZ-DC 9	FW-REC-G 1	MA-GMMA-S 2-3
FW-VEG-MCD-O 1-2	FW-WSW-RMZ-O 1	FW-REC-G 5	MA-VVMA-DC 1
FW-CAM-DC 1	FW-CRF-DC 1	FW-TFA-DC 4-5	MA-SAMA-DC 1

Specific Ecological Features or Conditions

Specific ecological features sometimes limit the distribution and viability of at-risk species, especially if a species requires certain geophysical features (e.g., rock formations). For example, some bird species require specific rock or cliff formations for nesting, some plants require certain soil characteristics from specific geologic formations, and some fish and amphibians require specific water conditions (e.g., temperature, flow, etc.). Currently, 69 percent of at-risk species require specific ecological conditions that are not otherwise addressed by general habitat conditions related to vegetation. Plan components to maintain or improve specific ecological features are found in table 92.

Table 92. Specific ecological features plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 5	FW-SL-DC 7	FW-GRZ-DC 4-6
FW-VEG-DC 14	FW-SL-G 1-3	FW-GRZ-S 1-4
FW-VEG-DC 18-20	FW-WSW-DC 1-2	FW-GRZ-G 2-5
FW-VEG-S 1	FW-WSW-DC 4-5	FW-GRZ-G 8
FW-VEG-G 1-3	FW-WSW-O 1	FW-FFP-DC 1
FW-VEG-ALP-DC 6-7	FW-WSW-G 1	FW-FFP-S 1
FW-VEG-ALP-G 1-2	FW-WSW-RMZ-DC 1-3	FW-REC-G 3
FW-VEG-MSG-DC 1	FW-WSW-RMZ-O 1	FW-REC-G 5
FW-VEG-MSG-DC 10	FW-WSW-RMZ-STM-DC 1-3	FW-TFA-DC 5
FW-VEG-MSG-DC 12	FW-WSW-RMZ-STM-DC 6-11	FW-TFA-O 1
FW-VEG-MSG-DC 10	FW-WSW-RMZ-STM-O 1-2	FW-TFA-S 1-3
FW-VEG-BP-DC 1	FW-WSW-RMZ-STM-G 1-4	FW-TFA-G 1-10
FW-VEG-BP-DC 8	FW-WSW-RMZ-WB-DC 1-3	FW-FAC-G 2
FW-VEG-SFF-DC 1	FW-WSW-RMZ-SNS-DC 1-3	FW-SU-S 1-2
FW-VEG-SFF-DC 16	FW-WSW-RMZ-SNS-DC 8-9	FW-SU-G 1-6
FW-VEG-SFF-G 2-5	FW-WSW-RMZ-SNS-O 1	FW-FIRE-DC 1-3
FW-VEG-ASP-DC 1	FW-WSW-RMZ-WR-DC 1-4	FW-FIRE-S 6-7
FW-VEG-ASP-DC 9	FW-WSW-RMZ-FSR-DC 1-3	FW-FIRE-G 1-4
FW-VEG-ASP-G 1-4	FW-WSW-RMZ-FSR-DC 9	FW-FIRE-G 7-8
FW-VEG-MCW-DC 1-2	FW-WSW-RMZ-FSR-DC 11	FW-MM-DC 1
FW-VEG-MCW-DC 17	FW-WSW-RMZ-WR-DC 1	FW-MM-G 1-2
FW-VEG-MCW-G 2-6	FW-WSW-RMZ-WR-DC 4-5	DA-WILD-DC 1
FW-VEG-MCD-DC 1-2	FW-WSW-RMZ-FSR-DC 1-3	DA-WILD-S 4
FW-VEG-MCD-DC 21	FW-WSW-RMZ-FSR-DC 8-13	DA-IRA-DC 1
FW-VEG-MCD-G 3-6	FW-WSW-RMZ-FSR-G 3	DA-WHT-DC 1
FW-VEG-PPF-DC 1-2	FW-CAM-DC 1-4	DA-ZOO-DC 1-2
FW-VEG-PPF-DC 19	FW-CAM-G 1-3	DA-ZOO-S 1
FW-VEG-PPF-G 1-2	FW-CRF-DC 1-3	DA-BOT-DC 1-2
FW-VEG-PPF-G 5-8	FW-CRF-G 1-4	DA-BOT-G 1-2
FW-VEG-PJO-DC 1	FW-WFP-DC 1-3	MA-RWMA-DC 1
FW-VEG-PJO-G 1-2	FW-WFP-DC 10-11	MA-JICMA-DC 1
FW-VEG-PJO-DC 14	FW-WFP-O 1-3	MA-JICMA-S 3-11
FW-VEG-PJS-DC 1	FW-WFP-G 1-8	MA-JICMA-G 1-2
FW-VEG-PJS-DC 16	FW-WFP-G 5	MA-GMMA-DC 3
FW-VEG-PJS-G 3-4	FW-NIS-DC 1	MA-GMMA-S 2-3
FW-VEG-SAGE-DC 1-2	FW-NIS-O 1	MA-VVMA-DC 1
FW-VEG-SAGE-DC 9	FW-NIS-S 1-2	MA-SAMA-DC 1

Threats

Invasive Predation (Aquatic):

Negative impacts to at-risk species may occur when nonnative invasive species are introduced, intentionally or unintentionally, into aquatic systems where at-risk species exist and competition and prey behavior results in population declines of the native populations. Non-native invasive species on the Carson National Forest include but are not limited to American bullfrogs, white sucker, German brown trout and rainbow trout. It is well known that rainbow and German brown trout often out-compete native Rio Grande cutthroat trout in areas where they were introduced but there is also the risk of predation on the at-risk Rio Grande sucker and chub. These non-native fish, in particular the German brown and rainbow trout, were introduced in waters of the Carson National Forest for socioeconomic benefit. Similarly, non-native American bullfrog were known to out-compete Northern leopard frogs and Western boreal toad. These are just examples of the types of negative consequences associated with invasive species that were introduced into aquatic systems. Plan components to reduce invasive predation are listed in table 93.

Table 93. Invasive predation plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-3	FW-WSW-RMZ-STM-O 1	FW-NIS-DC 1
FW-VEG-DC 5	FW-WSW-RMZ-STM-S 1	FW-NIS-O 1
FW-VEG-DC 11	FW-WSW-RMZ-WB-DC 1-2	FW-NIS-S 1-2
FW-VEG-DC 14	FW-WSW-RMZ-WB-S 1	FW-NIS-G 1-7
FW-VEG-DC 20	FW-WSW-RMZ-SNS-DC 1-3	FW-GRZ-DC 4-6
FW-VEG-G 1-3	FW-WSW-RMZ-SNS-S 1	FW-FIRE-G 2-3
FW-VEG-MSG-DC 10	FW-WSW-RMZ-WR-DC 1	FW-FIRE-G 8
FW-SL-DC 5	FW-WSW-RMZ-WR-DC 3	DA-WILD-DC 1
FW-WSW-DC 4	FW-WSW-RMZ-FSR-DC 1-3	DA-WILD-S 4
FW-WSW-O 1	FW-WFP-DC 1-3	DA-IRA-DC 1
FW-WSW-G 1	FW-WFP-DC 5-6	MA-RWMA-DC 2
FW-WSW-RMZ-DC 1-3	FW-WFP-O 1	MA-RWMA-S 8
FW-WSW-RMZ-DC 9	FW-WFP-O 3	MA-VVMA-DC 1
FW-WSW-RMZ-O 1	FW-WFP-G 1-2	MA-VVMA-DC 3
FW-WSW-RMZ-STM-DC 1-3	FW-WFP-G 5	MA-SAMA-DC 1

Ground and Soil Disturbance (Roads and Trails):

Ground or soil disturbance can impact at-risk species in a multitude of ways. Soil compaction can crush plant species or alter soil characteristics necessary for at-risk plants, thus inhibiting their potential for spread. Invertebrates and amphibians can also be impacted by this issue when soil characteristics are altered or soil is compacted. Compaction mostly occurs when roads or trails are created, especially non-system roads or trails that may enter into areas where at-risk species exist. Other activities that increase ground and soil disturbance may include log landings for forestry activities as well as recreational and range improvements (e.g., campgrounds, picnic areas, mineral and feed sites for livestock). Since some at-risk populations may be isolated and small, even the smallest of footprints may impact their viability if it occurs in a highly sensitive area.

Another means by which ground and soil disturbance can impact at-risk species is through erosion and subsequent siltation of waterways. When soil is disturbed the likelihood of erosion increases, especially if there are uncharacteristic weather events such as high wind or excessive rains. If ground disturbance occurs near a waterway, this can ultimately lead to excessive siltation when the exposed soils are carried into the water. This increased siltation reduces the amount of available oxygen and may impair the ability of aquatic species to forage, ultimately leading to direct mortality. Plan components to reduce the risk of ground and soil disturbance are listed in table 94.

Table 94. Ground and soil disturbance plan components

Plan Component Code	Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1-3	FW-SL-DC 1	FW-NIS-O 1	DA-IRA-DC 1
FW-VEG-DC 5	FW-SL-G 1-2	FW-NIS-G 5-6	MA-RWMA-DC 2
FW-VEG-DC 14	FW-WSW-DC 1-3	FW-GRZ-DC 4-6	MA-EWSR-S 5
FW-VEG-DC 20	FW-WSW-O 1	FW-GRZ-S 1	MA-EWSR-G 1
FW-VEG-G 1-3	FW-WSW-G 1-4	FW-GRZ-G 2-5	MA-JICMA-DC 1-2
FW-VEG-ALP-DC 7	FW-WSW-RMZ-G 2-3	FW-FFP-S 2	MA-JICMA-S 7-8
FW-VEG-ALP-G 1	FW-WSW-RMZ-STM-DC 4-5	FW-FFP-G 1-3	MA-JICMA-S 10-11
FW-VEG-MSG-DC 3	FW-WSW-RMZ-STM-DC 11	FW-REC-S 1-2	MA-JICMA-G 4
FW-VEG-MSG-DC 5	FW-WSW-RMZ-STM-G 4	FW-REC-G 1	MA-GMMA-DC 3
FW-VEG-MSG-DC 10	FW-WSW-RMZ-WB-DC 6	FW-TFA-DC 4-5	MA-VVMA-DC 1-2
FW-VEG-MSG-G 1	FW-CAM-DC 2-3	FW-TFA-S 1-3	MA-VVMA-S 3-20
FW-VEG-BP-DC 3	FW-CAM-G 3	FW-TFA-G 6	
FW-VEG-SFF-G 1	FW-CRF-G 1	FW-SU-G 1-3	MA-SAMA-DC 1-2
FW-VEG-PJO-DC 4-5	FW-WFP-DC 1-3	FW-FIRE-G 7-8	MA-SAMA-S 1
FW-VEG-PJS-DC 4-5	FW-WFP-O 1	FW-MM-DC 1	MA-SAMA-S 5
FW-VEG-SAGE-DC 5	FW-WFP-G 1-7	FW-MM-G 1-2	MA-SAMA-S 7
FW-VEG-SAGE-DC 9	FW-NIS-DC 1	DA-WILD-DC 1	MA-SAMA-G 1

Intrusive Human Activity (Recreational Disturbance):

Intrusive human activity often creates issues for at-risk species where recreational activities impact biological function. It consists primarily of anthropomorphic activities that disrupt critical life stages of at-risk species such as reproduction, nesting/calving, or even feeding, especially during times of high-stress (e.g., breeding season, winter). Harassing activities include but are not limited to human presence, indiscriminate shooting, harassment from people and domestic dogs, and picking or digging of plants. At-risk species on the Carson National Forest are known to be negatively impacted by these activities. See table 95 for plan components that minimize intrusive human activity.

Table 95. Intrusive human activity plan components

Plan Component Code	Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 2	FW-VEG-MCD-G 6	FW-WFP-G 1-4	DA-BOT-G 1-2
FW-VEG-DC 14	FW-VEG-PPF-G 8	FW-WFP-G 7	MA-RWMA-DC 2
FW-VEG-DC 20	FW-WSW-DC 2	FW-REC-G 1	MA-VVMA-DC 1-2
FW-VEG-G 1-3	FW-CAM-G 1	FW-TFA-S 3	MA-VVMA-S 1-3
FW-VEG-ALP-G 2	FW-CRF-DC 1	FW-TFA-G-6	MA-SAMA-DC 1-2
FW-VEG-SFF-G 5	FW-CRF-G 2-3	FW-SU-DC 8	MA-SAMA-S 1-2
FW-VEG-ASP-G 4	FW-WFP-DC 1-3	FW-FIRE-G 7	MA-SAMA-G 1
FW-VEG-MCW-G 6	FW-WFP-DC 7	DA-WILD-DC 1	

Pesticides or Chemical Retardant:

Some chemical applications pose a concern to at-risk species populations. It is well known that many bird species are highly susceptible to pesticides. Pesticides were shown to cause reproductive failure in peregrine falcons as well as many other species. Pesticides can also have beneficial impacts to at-risk species, when pesticides are used to manage non-native species population. Excessive non-native species population can have detrimental effect to native at-risk species populations. Pesticide use is highly regulated on the forest, impacts from off the forest may still be an issue.

A greater risk from direct chemical impact on the forest may come from the use of chemical fire retardant used to fight forest fires. Impacts from chemical fire retardant application have been analyzed in a separate analysis for all national forests within region 3. At-risk species on the Carson National Forest are known to be impacted by certain chemical applications. Plan components related to pesticides or chemical application can be found in table 96.

Table 96. Pesticides or chemical application plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-SL-DC 6	FW-WSW-RMZ-STM-DC 5	FW-NIS-G 3-4
FW-WSW-RMZ-G 3-4	FW-WSW-RMZ-STM-S 2	FW-AIR-DC 4
FW-WSW-DC 2	FW-WSW-RMZ-SNS-DC 7	FW-FIRE-S 2
FW-WSW-DC 7	FW-WSW-RMZ-WB-S 2	FW-FIRE-S 6
FW-WSW-G 2	FW-WFP-DC 1-3	FW-FIRE-G 4
FW-WSW-RMZ-G 4	FW-WFP-G 1-2	DA-ZOO-S 1

Introduced Disease or Unnatural Spread:

Unnatural mortality in wildlife may occur when pathogens are introduced and resultant disease causes population declines of native populations, especially at-risk species. Disease creates a characteristic set of signs and symptoms that may affect the whole body or any part of a plant or animal. It usually results in mortality or decreased vigor in species that are impacted by disease outbreaks. Historically, many populations were widespread and redundant (many scattered small populations) which made them more resilient to disease. If a disease event were to occur, nearby populations could then move in to bolster surviving individuals to quickly restore the population. Populations that have now become more isolated cannot respond as quickly and may ultimately suffer from reduced gene flow.

Another factor associated with disease is unnatural spread. This can occur when human activities move pathogens faster and over greater distances than what naturally occurs. For example, pathogens found in one water body, may take a long time to, or may never, impact another water body that is a significant distance away. Currently, with increased human travels from one location to another, the likelihood of infecting other areas increases significantly. It is well documented that many pathogens were introduced into new areas through human activities such as boating, spelunking, and other recreational activities. Some of the diseases that were known to occur on the Carson National Forest include but are not limited to chytrid fungus, sylvatic plague, whirling disease, and West Nile virus. Plan components to reduce introduced disease or unnatural spread are found in table 97.

Table 97. Introduced disease or unnatural spread plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-G 1-3	FW-WFP-DC 11	FW-FIRE-G 8
FW-VEG-ALP-DC 5	FW-WFP-G 1-2	FW-SU-S 3
FW-VEG-BP-G 1	FW-NIS-DC 1	DA-WILD-DC 1
FW-WSW-DC 2	FW-NIS-S 1-3	DA-WILD-S 5
FW-WSW-RMZ-STM-S 1	FW-NIS-G 1	DA-WSR-S 4
FW-WSW-RMZ-WB-DC 1-2	FW-NIS-G 3	DA-IRA-DC 1
FW-WSW-RMZ-WB-S 1	FW-GRZ-DC 4	MA-RWMA-DC 2
FW-WSW-RMZ-SNS-DC 1-2	FW-GRZ-S 4	MA-GMMA-S 2
FW-CAM-G 2	FW-GRZ-G 8	MA-VVMA-DC 1
FW-WFP-DC 1-4	FW-FIRE-G 2-3	MA-SAMA-DC 1

Human-made Features (Mortality/Altered Behavior):

Impacts to at-risk species may occur when manmade structures result in direct mortality of at-risk species either by entrapment or collision. Obstructions may consist of obstacles or barriers that may prevent animals from moving from one place to another to fulfill basic life cycle needs or may actually cause direct mortality due to collision and forceful striking (e.g., wind turbines, cell towers, facilities, or fences), prolonged entanglement (e.g., barbed wire), or entrapment (e.g., water troughs). Species that are known to be at-risk on the Carson National Forest are occasionally known to be impacted by manmade features that cause direct mortality. Plan components that minimize human-made features (mortality/altered behavior) are listed in table 98.

Table 98. Human-made features plan components

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 5	FW-WFP-G 6	FW-SU-G 1-5
FW-VEG-DC 14	FW-WFP-G 8	FW-LAND-G 1
FW-VEG-DC 20	FW-GRZ-DC 7	DA-WILD-DC 3
FW-VEG-G 1-3	FW-GRZ-G 3-4	DA-IRA-S 1
FW-WSW-DC 4	FW-GRZ-S 2-3	DA-NTRL-G 10
FW-WSW-G 2	FW-REC-S 1-2	MA-RWMA-DC 3
FW-WSW-G 4	FW-REC-G 1	MA-RWMA-S 3
FW-WSW-RMZ-DC 5	FW-REC-G 3-5	MA-RWMA-S 6
FW-WSW-RMZ-G 2	FW-TFA-DC 4-5	MA-RWMA-G 5
FW-WSW-RMZ-STM-DC 2-3	FW-TFA-O1	MA-EWSR-G 1
FW-WSW-RMZ-SNS-DC 6	FW-TFA-S 1-3	MA-DEVRES-G 3
FW-WSW-RMZ-WR-S 2	FW-TFA-G 1-9	MA-JICMA-S 7
FW-WFP-DC 2-5	FW-FAC-G 1-2	MA-VVMA-S 4-6
FW-WFP-O 4-5	FW-SCEN-G 1	MA-VVMA-G 1
FW-WFP-G 1-2	FW-SU-DC 5	MA-SAMA-S 1-6

Section 3. Canada Lynx Southern Rockies Management Direction Crosswalk

Canada lynx (*Lynx canadensis*) is not typically found on the Carson National Forest, since the forest naturally lacks the physical and biological features necessary to sustain a population (USDI FWS 2014a). Historically, the Carson National Forest did not support naturally resident lynx populations (USDI FWS 2014a). In 1999, Canada lynx were reintroduced into southern Colorado, and on occasion an individual lynx may roam out of Colorado onto the Carson National Forest in New Mexico. As Canada lynx is not known to den or breed on the forest, lynx analysis units have not been established on the Carson National Forest, and the US Fish and Wildlife Service has not recommended the Forest Service to do so. When this species does roam into New Mexico (potential linkages), it is usually confined to mostly the mid- to high-elevation spruce fir and aspen forests at 9,800 to 12,000 feet elevation (Spruce Fir Forest and Aspen vegetation communities) (Koehler and Brittell 1990; Ruggiero et al. 1999). As such, Carson National Forest plan components for benefitting lynx will be confined to spruce fir and aspen ecosystems.

Since this species is a federally listed species, the Endangered Species Act requires consultation with the US Fish and Wildlife Service (USFWS) during the NEPA process on any management activities that may affect lynx or its habitat. Since a revised forest plan will provide management direction in potential lynx habitat on the Carson National Forest, consultation with the USFWS will take place. A draft proposed plan was posted on the forest's website for public review in July 2017. Several comments and requests from the public were made concerning how lynx is covered in the Carson National Forest's draft proposed plan and that the Southern Rockies Management Direction be included in the Carson's draft proposed plan. The text below displays the Southern Rockies Management Direction and the corresponding Carson National Forest's plan components that correspond to this direction.

Southern Rockies Management Direction Objective All O1: Maintain or restore lynx habitat connectivity in and between lynx analysis units, and in linkage areas.

Plan Component	Plan Component	Plan Component
See Section 4	FW-WFP-O 4	FW-WFP-O 5

Southern Rockies Management Direction Standard All S1: New or expanded permanent development and vegetation management projects must maintain habitat connectivity in a lynx analysis unit and/or linkage area.

Corresponding Carson National Forest Plan Component(s): [Habitat Connectivity Plan Components](#)

Southern Rockies Management Direction Guideline ALL G1: Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways or forest highways across federal land. Methods could include fencing, underpasses, or overpasses.

Corresponding Carson National Forest Plan Component: FW-TFA-G 7

Southern Rockies Management Direction Standard Lynx Analysis Unit S1: Changes in lynx analysis unit boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.

Corresponding Carson National Forest Plan Component: *Not applicable as do not have lynx analysis units, or denning/ breeding lynx*

Southern Rockies Management Direction Objective VEG O1: Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.

Table 99. Corresponding Carson plan components for SRM VEG O1

Plan Component Code	Plan Component Code
FW-VEG-DC 1	FW-VEG-SFF-G 1
FW-VEG-DC 3-7	FW-VEG-ASP-DC 1
FW-VEG-DC 14	FW-VEG-ASP-DC 4-7
FW-VEG-DC 20-21	FW-VEG-ASP-G 1
FW-VEG-G 1-3	FW-WFP-DC 2-3
FW-VEG-SFF-DC 2-4	FW-FFP-DC 4-5
FW-VEG-SFF-DC 9-13	FW-FFP-S 8
FW-VEG-SFF-DC 16	FW-FIRE-DC 2

Southern Rockies Management Direction Objective VEG O2: Provide a mosaic of habitat conditions through time that support dense horizontal cover, and high densities of snowshoe hare. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation.

Table 100. Corresponding Carson plan components for SRM VEG O2

Plan Component Code	Plan Component Code
FW-VEG-DC 1	FW-VEG-ASP-DC 4-5
FW-VEG-DC 3-7	FW-VEG-ASP-DC 8
FW-VEG-DC 14	FW-VEG-ASP-G 1
FW-VEG-DC 20-21	FW-WFP-DC 2-3
FW-VEG-G 1-3	FW-WFP-O 1
FW-VEG-SFF-DC 2-4	FW-FFP-DC 4-5
FW-VEG-SFF-DC 9-13	FW-FFP-S 8
FW-VEG-SFF-DC 16	FW-FIRE-DC 2
FW-VEG-ASP-DC 1	FW-FIRE-G1

Southern Rockies Management Direction Objective VEG O3: Conduct fire use activities to restore ecological processes and maintain or improve lynx habitat.

Corresponding Carson National Forest Plan Component(s): FW-FIRE-DC 2 and FW-FIRE-G1

Southern Rockies Management Direction Objective VEG O4: Focus vegetation management in areas that have potential to improve winter snowshoe hare habitat, but presently have poorly developed understories that lack dense horizontal cover.

Corresponding Carson National Forest Plan Component(s): FW-WFP-O 1¹⁵

¹⁵ Objectives are to improve highly departed ecosystems for all wildlife. Where this objective is implemented is a project-level decision as district personnel know what habitat is in most need of restoration. Objectives do not give prioritization.

Southern Rockies Management Direction Standard VEG S1: Where and to what this applies: Standard VEG S1 applies to all vegetation management projects that regenerate forested stands, except for fuel treatment projects within the wildland-urban interface as defined by HFRA17, subject to the following limitation:

Fuel treatment projects within the wildland-urban interface that do not meet Standards VEG S1, VEG S2, VEG S5, or VEG S6 shall occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a National Forest or administratively combined National Forests). In addition, fuel treatment projects may not result in more than three adjacent lynx analysis units exceeding the standard. For fuel treatment projects within the wildland-urban interface see guideline VEG G10.

The standard: Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages limit disturbance in each lynx analysis unit as follows: If more than 30 percent of the lynx habitat in a lynx analysis unit is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects.

Table 101. Corresponding Carson plan components for SRM VEG S1

Plan Component Code	Plan Component Code
Do not have lynx analysis units, or denning/ breeding lynx	FW-VEG-ASP-DC 4-6
FW-VEG-DC 1	FW-VEG-ASP-DC 8
FW-VEG-DC 3-7	FW-VEG-ASP-G 1
FW-VEG-DC 14	FW-WFP-DC 2-3
FW-VEG-DC 20-21	FW-WFP-G 1-2
FW-VEG-G 1-3	FW-FFP-S 6
FW-VEG-SFF-DC 2-4	FW-FFP-S 8
FW-VEG-SFF-DC 9-13	FW-FFP-G 1-2
FW-VEG-SFF-DC 16	FW-FIRE-DC 2
FW-VEG-ASP-DC 1	FW-FIRE-G1

Southern Rockies Management Direction Standard VEG S2: Where and to what this applies: Standard VEG S2 applies to all timber management projects that regenerate forests, except for fuel treatment projects within the wildland-urban interface as defined by HFRA17, subject to the following limitation:

Fuel treatment projects within the wildland-urban interface that do not meet Standards VEG S1, VEG S2, VEG S5, or VEG S6 shall occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a National Forest or administratively combined National Forests). For fuel treatment projects within the wildland-urban interface see guideline VEG G10.

The standard: Timber management projects shall not regenerate more than 15 percent of lynx habitat on National Forest System lands within a lynx analysis unit in a 10-year period. This 15 percent includes the entire stand within an even-age regeneration area, and only the patch opening areas within group selections. Salvage harvest within stands killed by insect epidemics, wildfire, etc. does not add to the 15 percent, unless the harvest treatment would cause the lynx habitat to change to an unsuitable condition.

Table 102. Corresponding Carson plan components for SRM VEG S2

Plan Component Code	Plan Component Code	Plan Component Code
Do not have lynx analysis units, or denning/ breeding lynx	FW-VEG-SFF-DC 6	FW-WFP-DC 2-3
FW-VEG-DC 1-6	FW-VEG-SFF-DC 9-13	FW-WFP-G 1-2
FW-VEG-DC 8	FW-VEG-SFF-DC 16	FW-FFP-S 6
FW-VEG-DC 14	FW-VEG-ASP-DC 1	FW-FFP-S 8
FW-VEG-DC 20-21	FW-VEG-ASP-DC 4-6	FW-FFP-G 1-2
FW-VEG-G 1-3	FW-VEG-ASP-DC 8	FW-FIRE-DC 2
FW-VEG-SFF-DC 2-4	FW-VEG-ASP-G 1	FW-FIRE-G1

Southern Rockies Management Direction Standard VEG S5: The Standard: Precommercial thinning practices and similar activities intended to reduce seedling/sapling density are subject to the following limitations from the stand initiation structural stage until the stands no longer provide winter snowshoe hare habitat.

Precommercial thinning may occur only:

- 1) Within 200 feet of administrative sites, dwellings, or outbuildings; or
- 2) For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
- 3) For conifer removal in aspen, or daylight thinning around individual aspen trees, where aspen is in decline; or
- 4) Based on new information that is peer reviewed and accepted by the regional/state levels of the Forest Service and FWS, where a written determination states:
 - a) That a project is not likely to adversely affect lynx; or
 - b) That a project is likely to have short term adverse effects on lynx or its habitat but would result in long-term benefits to lynx and its habitat.
- 5) In addition to the above exceptions (and above and beyond the three percent limitation for fuels projects within the wildland-urban interface), precommercial thinning may occur provided that:
 - a) The additional precommercial thinning does not exceed one percent of the lynx habitat in any lynx analysis unit for the life of this amendment, and the amount and distribution of winter snowshoe hare habitat within the lynx analysis unit must be provided through appropriate site-specific analysis and consultation; and
 - b) Precommercial thinning in lynx analysis units with more than 30 percent of the lynx habitat currently in the stand initiation structural stage is limited to areas that do not yet provide winter snowshoe hare habitat; and
 - c) Projects are designed to maintain lynx habitat connectivity and provide snowshoe hare habitat over the long term; and
 - d) Monitoring is used to determine snowshoe hare response.

Exceptions 2 and 3 may not occur in any lynx analysis unit in which VEG S1 is exceeded (i.e., more than 30 percent of lynx analysis unit in stand initiation structural stage). Note: This standard is intended to provide snowshoe hare habitat while permitting some thinning, to explore methods to sustain snowshoe hare habitat over time, reduce hazardous fuels, improve forest health, and increase timber production.

Project design must ensure any precommercial thinning provides an appropriate amount and distribution of snowshoe hare habitat with each lynx analysis unit over time, and maintains lynx habitat connectivity within and between lynx analysis units. Project design should focus on creating irregular shapes for the thinning units, creating mosaics of thinned and unthinned areas, and using variable density thinning, etc.

Table 103. Corresponding Carson plan components for SRM VEG S5

Plan Component Code	Plan Component Code
Do not have lynx analysis units, or denning/ breeding lynx	See Section 4
FW-VEG-DC 1	FW-VEG-ASP-DC 8
FW-VEG-DC 3-7	FW-VEG-ASP-G 1
FW-VEG-DC 14	FW-WFP-DC 2-3
FW-VEG-DC 20-21	FW-WFP-G 1-2
FW-VEG-G 1-3	FW-FFP-S 6
FW-VEG-SFF-DC 2-4	FW-FFP-S 8
FW-VEG-SFF-DC 6	FW-FFP-G 1-2
FW-VEG-SFF-DC 9-13	FW-FIRE-DC 2
FW-VEG-SFF-DC 16	FW-FIRE-G1
FW-VEG-ASP-DC 1	FW-WFP-DC 2-3

Southern Rockies Management Direction Standard VEG S6: Where and to what this applies: Standard VEG S6 applies to all vegetation management practices within multi-story mature or late successional conifer forest, except for fuel treatment projects within the wildland-urban interface as defined by HFRA17, subject to the following limitation:

Fuel treatment projects within the wildland-urban interface that do not meet Standards VEG S1, VEG S2, VEG S5, or VEG S6 shall occur on no more than 3 percent (cumulatively) of lynx habitat on each administrative unit (a National Forest or administratively combined National Forests). For fuel treatment projects within the wildland-urban interface see guideline VEG G10.

The Standard: Vegetation management projects³⁶ that reduce winter snowshoe hare habitat in multi-story mature or late successional conifer forests may occur only:

- 1) Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or
- 2) For research studies or genetic tree tests evaluating genetically improved reforestation stock; or
- 3) For incidental removal during salvage harvest⁴¹ (e.g., removal due to location of skid trails); or
- 4) Where uneven-aged management (single tree and small group selection) practices are employed to maintain and encourage multi-story attributes as part of gap dynamics. Project design must be consistent with VEG O1, O2 and O4, except where impacts to areas of dense horizontal cover are incidental to activities under this exception (e.g., construction of skid trails). Exceptions 2 and 4 may not occur in any lynx analysis unit in which VEG S1 is exceeded.

Table 104. Corresponding Carson plan components for SRM VEG S6

Plan Component Code	Plan Component Code	Plan Component Code
Do not have lynx analysis units, or denning/ breeding lynx	FW-VEG-SFF-DC 6	FW-WFP-DC 2-3
FW-VEG-DC 1	FW-VEG-SFF-DC 9-13	FW-WFP-G 1-2
FW-VEG-DC 3-7	FW-VEG-SFF-DC 16	FW-FFP-S 6
FW-VEG-DC 14	FW-VEG-ASP-DC 1	FW-FFP-S 8
FW-VEG-DC 20-21	FW-VEG-ASP-DC 4-6	FW-FFP-G 1-2
FW-VEG-G 1-3	FW-VEG-ASP-DC 8	FW-FIRE-DC 2
FW-VEG-SFF-DC 2-4	FW-VEG-ASP-G 1	FW-FIRE-G1

Southern Rockies Management Direction Guideline VEG G1: Vegetation management projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority for treatment should be given to stem-exclusion, closed-canopy structural stage stands to enhance habitat conditions for lynx or their prey (e.g., mesic, monotypic lodgepole stands). Winter snowshoe hare habitat should be near denning habitat.

Table 105. Corresponding Carson plan components for SRM VEG G1

Plan Component Code	Plan Component Code	Plan Component Code
Do not have lynx analysis units, or denning/ breeding lynx	FW-VEG-DC 20-21	FW-VEG-ASP-DC 1
FW-VEG-DC 1	FW-VEG-G 1-3	FW-VEG-ASP-DC 5
FW-VEG-DC 3	FW-VEG-SFF-DC 11	FW-WFP-DC 2-3
FW-VEG-DC 7	FW-VEG-SFF-DC 9-13	FW-WFP-O 1
FW-VEG-DC 14	FW-VEG-SFF-DC 16	FW-WFP-G 1-2

Southern Rockies Management Direction Guideline VEG G4: Prescribed fire activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.

Table 106. Corresponding Carson plan components for SRM VEG G4

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 14	FW-TFA-DC 5	FW-TFA-G 6
FW-WFP-DC 3	FW-TFA-S 2	FW-TFA-G 8
FW-WFP-G 1-2	FW-TFA-G 2-3	FW-FIRE-DC 2

Southern Rockies Management Direction Guideline VEG G5: Habitat for alternate prey species, primarily red squirrel, should be provided in each lynx analysis unit.

Table 107. Corresponding Carson plan components for SRM VEG G5

Plan Component Code	Plan Component Code
FW-VEG-DC 14	FW-VEG-ASP-DC 1-9
FW-VEG-G 1-3	FW-WFP-DC 1-3
FW-VEG-SFF-DC 1-17	FW-WFP-G 1-2

Southern Rockies Management Direction Guideline VEG G10: Fuel treatment projects within the wildland-urban interface as defined by HFRA17 should be designed considering Standards VEG S1, S2, S5, and S6 to promote lynx conservation.

Table 108. Corresponding Carson plan components for SRM VEG G10

Plan Component Code	Plan Component Code	Plan Component Code
Do not have lynx analysis units, or denning/ breeding lynx	FW-VEG-SFF-DC 2-11	See Section 4
FW-VEG-DC 1	FW-VEG-SFF-DC 13	FW-WFP-G 1-2
FW-VEG-DC 3-7	FW-VEG-SFF-DC 16	FW-FFP-S 6
FW-VEG-DC 7	FW-VEG-ASP-DC 1	FW-FFP-S 8
FW-VEG-DC 14	FW-VEG-ASP-DC 4-8	FW-FFP-G 1-2
FW-VEG-DC 20-21	FW-VEG-ASP-G 1	FW-FIRE-DC 2
FW-VEG-G 1-3	FW-WFP-DC 2-3	FW-FIRE-G 1

Southern Rockies Management Direction Guideline VEG G11: Denning habitat should be distributed in each lynx analysis unit in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees (“jack-strawed” piles). If denning habitat appears to be lacking in the lynx analysis unit, then projects should be designed to retain some coarse woody debris, piles, or residual trees to provide denning habitat in the future.

Table 109. Corresponding Carson plan components for SRM VEG G11

Plan Component Code	Plan Component Code
FW-VEG-DC 1	FW-VEG-SFF-DC 16
FW-VEG-DC 3-7	FW-VEG-ASP-DC 1
FW-VEG-DC 14	FW-VEG-ASP-DC 4-6
FW-VEG-DC 20-21	FW-VEG-ASP-DC 8
FW-VEG-G 1-3	FW-VEG-ASP-G 1
FW-VEG-SFF-DC 2-4	FW-WFP-DC 2-3
FW-VEG-SFF-DC 9-13	FW-WFP-G 1-2

Southern Rockies Management Direction Objective GRAZ O1: Manage livestock grazing to be compatible with improving or maintaining lynx habitat.

Table 110. Corresponding Carson plan components for SRM GRAZ O1

Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 14	FW-WFP-DC 2-3	FW-GRZ-DC 7
FW-VEG-DC 20-21	FW-WFP-G 1-2	FW-GRZ-S 1
FW-VEG-G 1-3	FW-GRZ-DC 4-5	FW-GRZ-G 1

Southern Rockies Management Direction Guideline GRAZ G1: In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.

Table 111. Corresponding Carson plan components for SRM GRAZ G1

Plan Component Code	Plan Component Code
FW-VEG-DC 14	FW-GRZ-DC 4-5
FW-VEG-DC 20-21	FW-GRZ-DC 7
FW-VEG-G 1-3	FW-GRZ-S 1
FW-WFP-DC 2-3	FW-GRZ-G 1
FW-WFP-G 1-2	FW-GRZ-G 6-7

Southern Rockies Management Direction Guideline GRAZ G2: In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.

Table 112. Corresponding Carson plan components for SRM GRAZ G2

Plan Component Code	Plan Component Code
FW-VEG-DC 14	FW-WFP-G 1-2
FW-VEG-DC 20-21	FW-GRZ-DC 4-5
FW-VEG-G 1-3	FW-GRZ-S 1
FW-VEG-ASP-DC 1-9	FW-GRZ-G 1
FW-WFP-DC 2-3	FW-GRZ-G 6-7

Southern Rockies Management Direction Guideline GRAZ G3: In riparian areas and willow carrs, livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

Table 113. Corresponding Carson plan components for SRM GRAZ G3

Plan Component Code	Plan Component Code
FW-VEG-DC 14	FW-WSW-RMZ-FSSR-DC 5-6
FW-VEG-DC 20-21	FW-WSW-RMZ-FSSR-DC 8
FW-VEG-G 1-3	FW-WSW-RMZ-FSSR-DC 12
FW-WSW-DC 2	FW-WSW-RMZ-FSSR-G 1
FW-WSW-DC 6	FW-WFP-DC 2-3
FW-WSW-G 1	FW-WFP-G 1-2
FW-WSW-RMZ-DC 1-4	FW-GRZ-DC 4-5
FW-WSW-RMZ-G 2	FW-GRZ-S 1
FW-WSW-RMZ-FSSR-DC 1-3	FW-GRZ-G 1-2

Southern Rockies Management Direction Guideline GRAZ G4: In shrub-steppe habitats, livestock grazing should be managed in the elevation ranges of forested lynx habitat in lynx analysis units, to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

Table 114. Corresponding Carson plan components for SRM GRAZ G4

Plan Component Code	Plan Component Code	Plan Component Code	Plan Component Code
FW-VEG-DC 1	FW-VEG-SFF-DC 2-4	FW-VEG-ASP-DC 1	FW-WFP-G 1-2
FW-VEG-DC 3-7	FW-VEG-SFF-DC 9-11	FW-VEG-ASP-DC 4-6	FW-GRZ-DC 4-5
FW-VEG-DC 14	FW-VEG-SFF-DC 13	FW-VEG-ASP-DC 8	FW-GRZ-DC 7
FW-VEG-DC 20-21	FW-VEG-SFF-DC 16	FW-VEG-ASP-G 1	FW-GRZ-S 1
FW-VEG-G 1-3	FW-VEG-SFF-G 1	FW-WFP-DC 2-3	FW-GRZ-G 1-2

Southern Rockies Management Direction Objective HU 01: Maintain the lynx’s natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat.

Table 115. Corresponding Carson plan components for SRM HU 01

Plan Component Code	Plan Component Code
FW-VEG-DC 14	FW-WFP-DC 2-3
FW-VEG-DC 20-21	FW-WFP-G 1-2
FW-VEG-G 1-3	FW-TFA-S 1-2

Southern Rockies Management Direction Objective HU 02: Manage recreational activities to maintain lynx habitat and connectivity.

Table 116. Corresponding Carson plan components for SRM HU 02

Plan Component Code	Plan Component Code
See Section 4	FW-WFP-O 4-5
FW-WFP-DC 3	FW-WFP-G 1-2
FW-WFP-DC 7	FW-REC-G 1

Southern Rockies Management Direction Objective HU 03: Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.

Table 117. Corresponding Carson plan components for SRM HU 03

Plan Component Code	Plan Component Code
FW-WFP-DC 3	FW-WFP-G 1-2
FW-WFP-DC 7	FW-LAND-G 1

Southern Rockies Management Direction Objective HU 04: Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation sites or ski areas.

Table 118. Corresponding Carson plan components for SRM HU 04

Plan Component Code	Plan Component Code
See Section 4	FW-VEG-ASP-DC 4-6
FW-VEG-DC 1	FW-VEG-ASP-DC 8
FW-VEG-DC 3-7	FW-VEG-ASP-G 1
FW-VEG-DC 14	FW-WFP-DC 3
FW-VEG-DC 20-21	FW-WFP-DC 7
FW-VEG-G 1-3	FW-WFP-O 4-5
FW-VEG-SFF-DC 2-4	FW-WFP-G 1-2
FW-VEG-ASP-DC 1	FW-REC-G 1

Southern Rockies Management Direction Objective HU 05: Manage human activities, such as special uses, mineral and oil and gas exploration and development, and placement of utility transmission corridors, to reduce impacts on lynx and lynx habitat.

Table 119. Corresponding Carson plan components for SRM HU 05

Plan Component Code	Plan Component Code
FW-VEG-G 1-3	FW-SU-S 2
FW-WFP-DC 3	FW-SU-G 1-3
FW-WFP-DC 7	FW-LAND-G 1
FW-WFP-G 1-2	FW-MM-DC 1-2
FW-SU-DC 3-4	FW-MM-S 4-5

Southern Rockies Management Direction Objective HU 06: Reduce adverse highway effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity, and to reduce the potential for lynx mortality.

Table 120. Corresponding Carson plan components for SRM HU 06

Plan Component Code	Plan Component Code
See Section 4	FW-TFA-G 1-3
FW-TFA-DC 4-5	FW-TFA-G 7-8

Southern Rockies Management Direction Guideline HU G1: When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris, so winter snowshoe hare habitat is maintained.

Table 121. Corresponding Carson plan components for SRM HU G1

Plan Component Code
FW-VEG-G 1-3
FW-WFP-DC 3
FW-WFP-DC 7
FW-WFP-G 1-2
MA-DEVRES-DC 1

Southern Rockies Management Direction Guideline HU G2: When developing or expanding ski areas, lynx foraging habitat should be provided consistent with the ski area’s operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.

Table 122. Corresponding Carson plan components for SRM HU G2

Plan Component Code	Plan Component Code
FW-WFP-DC 3	FW-WFP-G 1-2
FW-WFP-DC 7	MA-DEVRES-DC 1

Southern Rockies Management Direction Guideline HU G3: Recreation development and recreational operational uses should be planned to provide for lynx movement and to maintain the effectiveness of lynx habitat.

Table 123. Corresponding Carson plan components for SRM HU G3

Plan Component Code
See Section 4
FW-WFP-DC 3
FW-WFP-DC 7
FW-WFP-G 1-2
FW-REC-G 1

Southern Rockies Management Direction Guideline HU G4: Remote monitoring of mineral and energy development sites and facilities should be encouraged to reduce snow compaction.

Table 124. Corresponding Carson plan components for SRM HU G4

Plan Component Code	Plan Component Code
FW-WFP-DC 3	FW-TFA-S 2
FW-WFP-DC 7	FW-MM-DC 1
FW-WFP-G 1-2	FW-MM-S 5

Southern Rockies Management Direction Guideline HU G5: A reclamation plan should be developed (e.g., road reclamation and vegetation rehabilitation) for closed mineral and energy development sites and facilities that promote the restoration of lynx habitat.

Corresponding Carson National Forest Plan Component: FW-MM- S3

Southern Rockies Management Direction Guideline HU G6: Methods to avoid or reduce effects to lynx habitat connectivity should be used when upgrading unpaved roads to maintenance levels 4 or 5, where the result would be increased traffic speeds and volumes or contribute to development or increases in human activity.

Table 125. Corresponding Carson plan components for SRM HU G6

Plan Component Code	Plan Component Code
See Section 4	FW-WFP-G 1-2
FW-VEG-G 1-3	FW-TFA-G 2
FW-WFP-DC 3	FW-TFA-G 6
FW-WFP-DC 7	FW-TFA-G 8

Southern Rockies Management Direction Guideline HU G7: New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity. New permanent roads and trails should be situated away from forested stringers.

Table 126. Corresponding Carson plan components for SRM HU G7

Plan Component Code	Plan Component Code
FW-WFP-DC 3	FW-TFA-G 1-2
FW-WFP-DC 7	FW-TFA-G 6
FW-WFP-G 1-2	FW-TFA-G 8

Southern Rockies Management Direction Guideline HU G8: Cutting brush along low-speed, low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.

Table 127. Corresponding Carson plan components for SRM HU G8

Plan Component Code	Plan Component Code
FW-WFP-DC 3	FW-TFA-G 6
FW-WFP-G 1-2	FW-TFA-G 8

Southern Rockies Management Direction Guideline HU G9: If project level analysis determines that new roads adversely affect lynx, then public motorized use should be restricted. Upon project completion, these roads should be reclaimed or decommissioned, if not needed for other management objectives.

Table 128. Corresponding Carson plan components for SRM HU G9

Plan Component Code	Plan Component Code
FW-VEG-G 1-3	FW-TFA-DC 5
FW-WFP-DC 3	FW-TFA-G 1-3
FW-WFP-G 1-2	FW-TFA-G 6-8
FW-TFA-DC 1	FW-TFA-G 8

Southern Rockies Management Direction Guideline HU G10: Designated over-the-snow routes or designated play areas should not expand outside baseline areas of consistent snow compaction, unless designation serves to consolidate use and improve lynx habitat. This may be calculated on a lynx analysis unit basis, or on a combination of immediately adjacent lynx analysis units.

This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by Guideline HU G12. Use the same analysis boundaries for all actions subject to this guideline.

Table 129. Corresponding Carson plan components for SRM HU G10

Plan Component Code	Plan Component Code
FW-VEG-G 1-3	FW-WFP-G 1-2
FW-WFP-DC 3	FW-TFA-S 1-2

Southern Rockies Management Direction Guideline HU G11: When developing or expanding ski areas and trails, consider locating access roads and lift termini to maintain and provide lynx security habitat.

Table 130. Corresponding Carson plan components for SRM HU G11

Plan Component Code	Plan Component Code
FW-WFP-DC 3	MA-DEVRES-DC 1
FW-WFP-DC 7	MA-DEVRES-DC 4
FW-WFP-G 1-2	MA-DEVRES-DC 1-3

Southern Rockies Management Direction Guideline HU G12: Winter access for non-recreation special uses and mineral and energy exploration and development should be limited to designated routes or designated over-the snow routes.

Table 131. Corresponding Carson plan components for SRM HU G12

Plan Component Code	Plan Component Code
FW-VEG-G 1-3	FW-WFP-G 1-2
FW-WFP-DC 3	FW-TFA-S 1-2

Southern Rockies Management Direction Objective LINK O1: In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.

Corresponding Carson National Forest Plan Management Approaches:

- **Management Approaches for Wildlife, Fish, and Plants 2-4**
- **Management Approaches for Wildlife, Fish, and Plants 8**
- **Management Approaches for Land 1**

Southern Rockies Management Direction Standard LINK S1: When highway or forest highway construction or reconstruction is proposed in linkage areas, identify potential highway crossings.

Table 132. Corresponding Carson plan components for SRM LINK S1

Plan Component Code	Plan Component Code
FW-VEG-G 1-3	FW-WFP-G 1-2
FW-WFP-DC 3	FW-TFA-G 6-7

Southern Rockies Management Direction Guideline LINK G1: National Forest System lands should be retained in public ownership.

Corresponding Carson National Forest Plan Component(s): FW-LAND-DC 1

Southern Rockies Management Direction Guideline LINK G2: Livestock grazing in shrub-steppe habitats should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

Table 133. Corresponding Carson plan components for SRM LINK G2

Plan Component Code	Plan Component Code
FW-VEG-DC 1	FW-VEG-ASP-DC 1
FW-VEG-DC 3-8	FW-VEG-ASP-DC 4-6
FW-VEG-DC 14	FW-VEG-ASP-DC 8
FW-VEG-DC 20-21	FW-VEG-ASP-G 1
FW-VEG-G 1-3	FW-WFP-DC 2-3
FW-VEG-SFF-DC 2-4	FW-WFP-G 1-2
FW-VEG-SFF-DC 6	FW-GRZ-DC 4-5
FW-VEG-SFF-DC 9-13	FW-GRZ-DC 7
FW-VEG-SFF-DC 16	FW-GRZ-S 1
FW-VEG-SFF-G 1	FW-GRZ-G 1

Section 4. Habitat Connectivity Plan Components

Habitat connectivity for wildlife is the premise that terrestrial and aquatic animals are able to move freely about their environment in order to access necessary resources or seek other individuals within their species for the purpose of fulfilling basic life-cycle needs. Connectivity may be negatively impacted by two primary issues: impaired ecological conditions and physical obstructions.

Below is a list of the plan components and management approaches related to habitat connectivity found within the land management plan.

Table 134. Habitat connectivity plan components

Plan Component Code	Plan Component Code	Plan Component Code and Management Approaches
FW-VEG-DC 1-6	FW-VEG-PJO-DC 2-3	FW-WFP-O 4-5
FW-VEG-DC 9	FW-VEG-PJO-DC 9	FW-WFP-G 3-4
FW-VEG-DC 12	FW-VEG-PJO-G 1-5	FW-WFP-G 6-8
FW-VEG-MSG-DC 2-3	FW-VEG-PJS-DC 2-3	WFP Management Approach 3-4
FW-VEG-MSG-DC 5	FW-VEG-PJS-G 1-4	WFP Management Approach 6
FW-VEG-MSG-DC 8	FW-WSW-DC 1-4	FW-NIS-DC 1
FW-VEG-MSG-DC 10-11	FW-WSW-O 1	FW-NIS-O 1
FW-VEG-MSG-DC 14	FW-WSW-G 1	FW-GRZ-S 2-3
FW-VEG-MSG-G 1	FW-WSW-RMZ-DC 1-6	FW-GRZ-G 2
FW-VEG-SFF-DC 2	FW-WSW-RMZ-O 1	FW-REC-S 1-2
FW-VEG-SFF-DC 6	FW-WSW-RMZ-G 2-3	FW-REC-G 3
FW-VEG-SFF-DC 9	FW-WSW-RMZ-STM-DC 1-2	FW-TFA-DC 5
FW-VEG-SFF-DC 16	FW-WSW-RMZ-STM-DC 4	FW-TFA-O 1
FW-VEG-ASP-DC 1	FW-WSW-RMZ-STM-DC 6-9	FW-TFA-S 1-2
FW-VEG-ASP-DC 4	FW-WSW-RMZ-STM-O 1-2	FW-TFA-G 1-3
FW-VEG-ASP-DC 8	FW-WSW-RMZ-STM-G 1	FW-TFA-G 5
FW-VEG-ASP-G 1	FW-WSW-RMZ-WB-DC 1-3	FW-TFA-G 7
FW-VEG-MCW-DC 2	FW-WSW-RMZ-SNS-DC 1-2	FW-FAC-G 2
FW-VEG-MCW-DC 8	FW-WSW-RMZ-SNS-DC 6	FW-SU-S 2
FW-VEG-MCW-DC 15-16	FW-WSW-RMZ-SNS-O 1	FW-SU-G 1-5
FW-VEG-MCW-G 1-2	FW-WSW-RMZ-WR-DC 1	FW-LAND-DC 1
FW-VEG-MCD-DC 2	FW-WSW-RMZ-WR-DC 3	FW-LAND-G 1
FW-VEG-MCD-DC 10	FW-WSW-RMZ-FSSR-DC 5	MA-VVMA-DC 2
FW-VEG-MCD-G 1-2	FW-WSW-RMZ-FSSR-DC 7	MA-SAMA-DC 1-2
FW-VEG-PPF-DC 2	FW-WSW-RMZ-FSSR-G 1-3	MA-SAMA-DC 4
FW-VEG-PPF-DC 9	FW-WFP-DC 1-7	MA-SAMA-S 1-7
FW-VEG-PPF-G 1-4	FW-WFP-DC 9-10	MA-SAMA-G 1

Section 5. Bighorn Sheep Plan Components

Ovis canadensis canadensis are the largest wild sheep in North America. There are five known bighorn sheep herds (Latir, Wheeler Peak, Rio Grande Gorge, Red River, and Pecos) occurring on the Carson. Rocky Mountain bighorn sheep use a variety of habitats but require rocky outcrops and cliffs for escape from predators and for lambing (Beecham et al. 2007). Bighorn sheep browses on grasses, clover, and sedges. It transitions to eating woody plants like willow and sage in colder months. Threats include competition with domestic livestock for forage, vehicle collisions on highways, and the spread of disease from domestic sheep and goats. The plan components and management approaches that maintain or improve ecological condition and threats for the Rocky Mountain bighorn sheep are listed in table 135.

Table 135. Plan components and management approaches that maintain or improve ecological condition and threats for Rocky Mountain bighorn sheep

Ecological Conditions	Issues and Threats	Plan Components and management approaches that maintain or improve ecological conditions	Plan components and management approaches that mitigate threats *
Cliffs and rocky features Alpine and tundra	Seral state departure Intrusive human disturbance Unnatural disease spread Specific ecological features	FW-VEG-DC 1-3, FW-VEG-DC 5, FW-VEG-DC 10-11, FW-VEG-DC 14, FW-VEG-VEG-DC 20, Vegetation Management Approach 7,FW-VEG-ALP-DC-1-4, FW-ALP-DC 6-7, FW-CFR-DC 1-3, FW-WFP-DC 1-2, FW-WFP-DC-4-6, FW-WFP-DC-9,FW-TFA-DC 5, DA-WILD-DC 1-4, MA-RWMA-DC 1-4, MA-VVMA-DC 1-3, MA-SAMA-DC 1-2, FW-WFP-O-1-2, FW-PAR-DC-2-3, Wilderness Management Approach 4	FW-VEG-ALP-G-1, FW-CRF-G-1, Cliffs and Rocky Features Management Approach 1, FW-WFP-DC-7, FW-WFP-DC-11, FW-WFP-G-4, Wildlife, fish, and Plants Management Approach 1-6, Wildlife, Fish, and Plants Management Approach 8-9, FW-NIS-S-3, FW-GRZ-DC-4, FW-GRZ-S-1-4, FW-GRZ-G-8, Sustainable Rangelands and Livestock Grazing Management Approaches 6, Sustainable Rangelands and Livestock Grazing Management Approaches 8-9, FW-REC-G-1, FW-TFA-G-7-8, FW-SU-S-3, Special Uses Management Approach 4, DA-WILD-S-5, Wilderness Management Approach 4, DA-WSR-S-4

* Management approaches are not plan components and do not meet 36 CFR 219.9 requirements for at-risk species.

Appendix I – Proposed Research Natural Areas

A research natural area (RNA) is a type of special area within the National Forest System designated to preserve a representative sample of an ecological community primarily for scientific and educational purposes (FSM 1905). Research natural areas are part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands. Research natural areas are principally for non-manipulative research, observation, and study of the environment and ecosystems in their natural state (FSM 4063). The objectives of establishing research natural areas are to:

1. Maintain a wide spectrum of high-quality representative areas that represent the major forms of variability found in forest, shrub land, grassland, alpine, and other natural systems that have scientific interest and importance that, in combination, form a national network of ecological areas for research, education, and maintenance of biological diversity.
2. Preserve and maintain genetic diversity, including threatened, endangered, and sensitive species.
3. Protect against human-caused environmental disruptions.
4. Serve as reference areas for the study of natural ecological processes including disturbance and climate change.
5. Provide onsite and extension educational activities.
6. Serve as baseline areas for measuring long-term ecological changes.
7. Serve as control areas for comparing results from manipulative research.
8. Monitor effects of resource management techniques and practices (FSM 4063.02).

Designated area recommendations are part of the Forest Plan. Therefore, it is appropriate to evaluate conditions and management direction for proposed or removal of proposed RNAs. Any proposals for designation of new, or previously proposed RNAs may be made during plan revision at the Forest Supervisor's discretion. Formal RNA designation would have to be handled in a subsequent site-specific establishment report and NEPA process and be approved by the Regional Forester, with the concurrence of Research Station Directors (FSM 4063.04b).

An interdisciplinary team of Carson NF staff used the Southwestern Region's RNA Working Group's Research Natural Area Process for Forest Plan Revision under the 2012 Planning Rule Provisions (USDA FS, Southwestern Region 2015) to complete this evaluation. The Forest Supervisor reviewed the evaluation to develop his proposal to the Regional Forester.

A regionwide RNA inventory of all existing designated and proposed RNAs was used to identify underrepresented ecosystem types among current RNAs. Need for additional representation was rated from 1 to 3. A rating of "1" reflects the least degree of need according to the regional needs assessment and corresponds to ecosystem types that are well-represented. A rating of "2" indicates moderate representation, but additional representation across the region may be warranted. A rating of "3" reflects little to no representation in the existing RNAs. This assessment focused on ecosystems with need ratings of 2 and 3 for consideration for RNA recommendation. Table 136 displays the need rating of ecological response units (ERUs) on the Carson NF.

Table 136. Carson National Forest ERUs and riparian ERU groups and their regional RNA need rating

Ecological Response Unit (ERU)	Total Acres	Percent RNA Representation	Need Rating
Alpine and Tundra	4,665	0.00%	3
Cottonwood Willow Riparian Forest	534,391	0.37%	2
Gallery Coniferous Riparian Forest	1,315	0.00%	2
Mixed Conifer - Frequent Fire	963,611	0.67%	1
Mixed Conifer w/ Aspen (Cold)	997,999	0.70%	1
Mixed Conifer w/ Aspen (Mild)	29,796	0.02%	1
Montane / Subalpine Grassland	651,936	0.45%	1
Montane Willow Riparian Forest	225,843	0.16%	2
PJ Sagebrush	942,823	0.66%	1
PJ Woodland (persistent)	17,766,745	12.39%	2
Ponderosa Pine Forest	7,857,154	5.48%	2
Sagebrush Shrubland	2,469,353	1.72%	2
Spruce Fir Forest	581,206	0.41%	1
Wetland/Cienega (Cold)	563,044	0.39%	2

Summary of Evaluation Process

This analysis assessed 13 candidate RNAs. The objective of the RNA candidate identification process was to support an effective ecological distribution of RNAs across major climate gradients, biophysical settings (ERUs), and to some extent, across important vegetation types within life zones. In addition, an effort was made to consider the geographic distribution of RNAs across ecological sections and subsections of the region (Cleland et al. 2007). The distribution of biophysical settings across other reserve designations (e.g., wilderness) was also considered to help prioritize the establishment of additional RNAs.

The selected candidate locations included all five proposed RNAs from the 1986 Carson NF plan. Three of these previously proposed RNAs were modified slightly based on new spatial information and the proposed management under the revised plan to create three new candidate areas. The last five candidate locations were identified using five criteria: (1) preference was given to areas with ERUs that have an identified regional need for additional representation; (2) preference was given to the Northern Rio Grande Basin ecoregional section (least RNA representation among the four that overlap the Carson NF); (3) areas without roads; (4) areas without grazing, or where grazing has limited impact (closed areas or topographically isolated); and (5) preference was given to inventoried roadless areas (table 137).

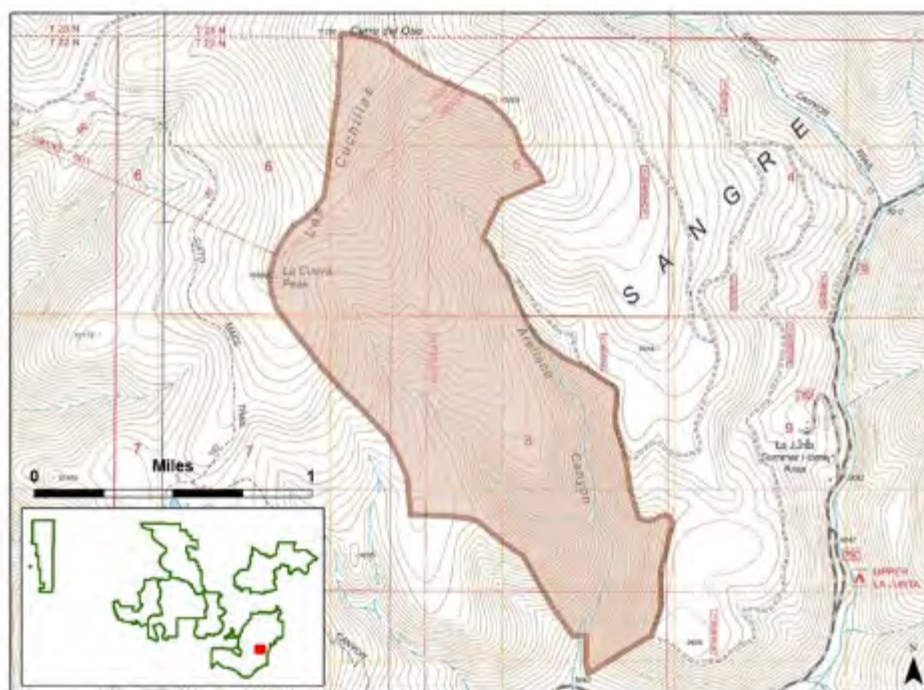
Ultimately it is the decision of the responsible official (Forest Supervisor) whether an area will be proposed as an RNA in the revised plan. Previously proposed RNAs were not brought forward into the revised plan unless they fill a need as defined by the regional assessment. Entire small drainages are preferable because they maintain interrelationships of terrestrial and aquatic systems and are easier to delineate and protect on the ground. To the extent possible, proposed areas that show no evidence of major disturbances by humans, such as livestock grazing or timber cutting, for the past 50 years. In the selection of representative areas, a pristine condition is the goal. However, when candidate areas in a pristine condition are unavailable, then areas that reflect the pristine condition as closely as possible may be selected.

Table 137. Candidate research natural areas with attributes

Candidate RNA	Previously proposed	Dominant ERUs	Other ERUs represented	Ecoregional section	Carson NF ranger district	Acres
Arellano Canyon	Yes	Spruce-Fir Forest	Mixed Conifer with Aspen, Bristlecone Pine	Southern Parks and Rocky Mountain Range	Camino Real	959
Chiquialpa	No	Ponderosa Pine Forest	Piñon-Juniper Woodland, Piñon-Juniper Sagebrush	Southern Parks and Rocky Mountain Range	Camino Real	324
Clayton Pass (previously proposed)	Yes	Bristlecone Pine	Montane-Subalpine Grassland, Spruce-Fir Forest	Southern Parks and Rocky Mountain Range	Questa	316
Clayton Pass (revised)	No	Bristlecone Pine	none	Southern Parks and Rocky Mountain Range	Questa	356
Comanche Canyon	Yes	Piñon-Juniper Woodland	Piñon-Juniper Sagebrush	South Central Highlands	El Rito	572
East Petaca	No	Piñon-Juniper Woodland	none	Northern Rio Grande Basin	El Rito	177
La Cueva	No	Spruce-Fir Forest	Mixed Conifer with Aspen, Bristlecone Pine	Southern Parks and Rocky Mountain Range	Camino Real	742
Little Costilla Peak (previously proposed)	Yes	Alpine and Tundra	Spruce-Fir Forest	Southern Parks and Rocky Mountain Range	Questa	597
Little Costilla Peak (revised)	No	Alpine and Tundra	Spruce-Fir Forest	Southern Parks and Rocky Mountain Range	Questa	440
Yeso	No	Piñon-Juniper Woodland	Piñon-Juniper Sagebrush	South Central Highlands	Canjilon	519
McCrystal Meadow	Yes	Spruce-Fir Forest	Montane-Subalpine Grassland, Herbaceous Riparian	Southern Parks and Rocky Mountain Range	Questa	211
South Petaca	No	Piñon-Juniper Woodland	Ponderosa Pine Forest	Northern Rio Grande Basin	El Rito	375
Tetillas	No	Piñon-Juniper Sagebrush	Ponderosa Pine Forest	Southern Parks and Rocky Mountain Range	Camino Real	248
Tio Gordito	No	Ponderosa Pine Forest	none	Northern Rio Grande Basin	Tres Piedras	153
Tom Bryan	No	Ponderosa Pine Forest	Montane-Subalpine Grassland	Northern Rio Grande Basin	Tres Piedras	212

Candidate RNAs

Candidate RNA: Arellano Canyon (Spruce-Fir Forest, 959 acres)



Evaluation of the Arellano Canyon candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Spruce-Fir Forest is well represented regionally (rating 1), but this proposed RNA makes up a large portion of the total regional representation.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Area generally follows topography and is identifiable on the ground. Encompasses the entire small drainage of a small tributary to Arellano Canyon. Some livestock enter the area from the north.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance, except in Arellano Canyon itself which is accessible by closed road and where some grazing currently occurs. There is illegal motorized use, trash, and grazing impact in that area.
Existing management and uses contribute to the area's management as an RNA.	The La Cueva pasture is closed to grazing and the road in Arellano Canyon is closed to motorized use, however both occur, and enforcement is difficult.

Responsible Official determination: do not propose, replace with La Cueva boundary.

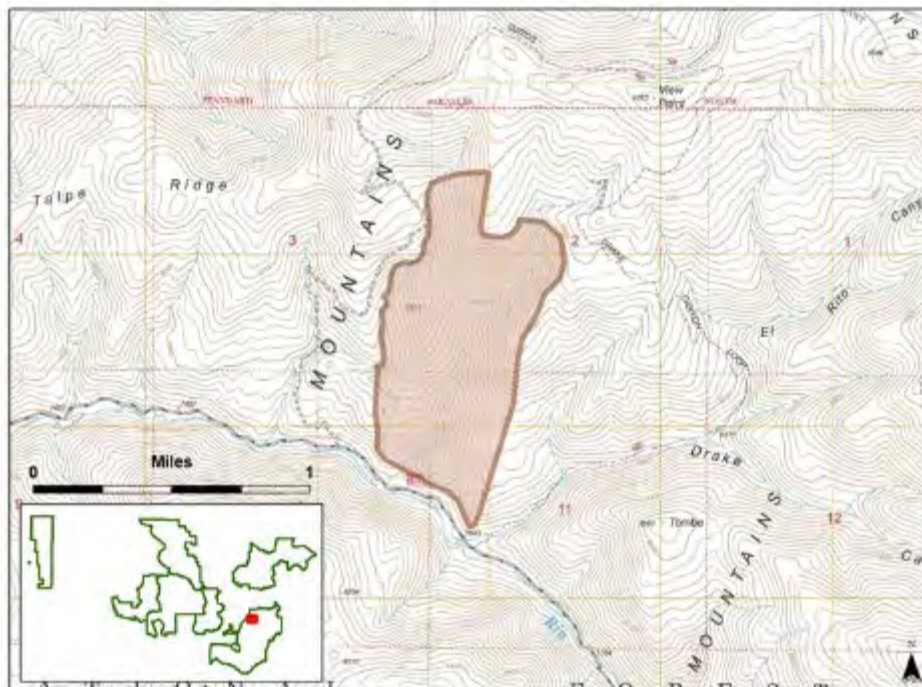


Figure 83. Road in Arellano Canyon



Figure 84. Ax cut stump and log, top of Arellano Canyon, more than 50 years old

Candidate RNA: Chiquialpa (Ponderosa Pine Forest, 324 acres)



Evaluation of the Chiquialpa candidate research natural area

Evaluation criteria	State reason why the area <u>meets</u> or <u>does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Ponderosa Pine Forest is moderately represented regionally (rating 2). The area also includes Piñon-Juniper types which are also not well represented.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Area is surrounded by closed roads with open Forest Road 437 to the south which is popular with campers, woodcutters and other users. The interior is not disturbed by humans. Encompasses the majority of a small drainage though the upper portions are not included because they include accessible old roads with illegal use.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance. There is extensive evidence of past wood harvest of piñon and juniper, all more than 50 years old.
Existing management and uses contribute to the area's management as an RNA.	The Olla-Ranchos allotment is closed to livestock grazing. The area is steep and inaccessible which limits current wood gathering or recreation. Drake Canyon contains an open non-motorized trail that is used illegally by UTVs and connects to many old closed roads.

Responsible Official determination: do not propose.

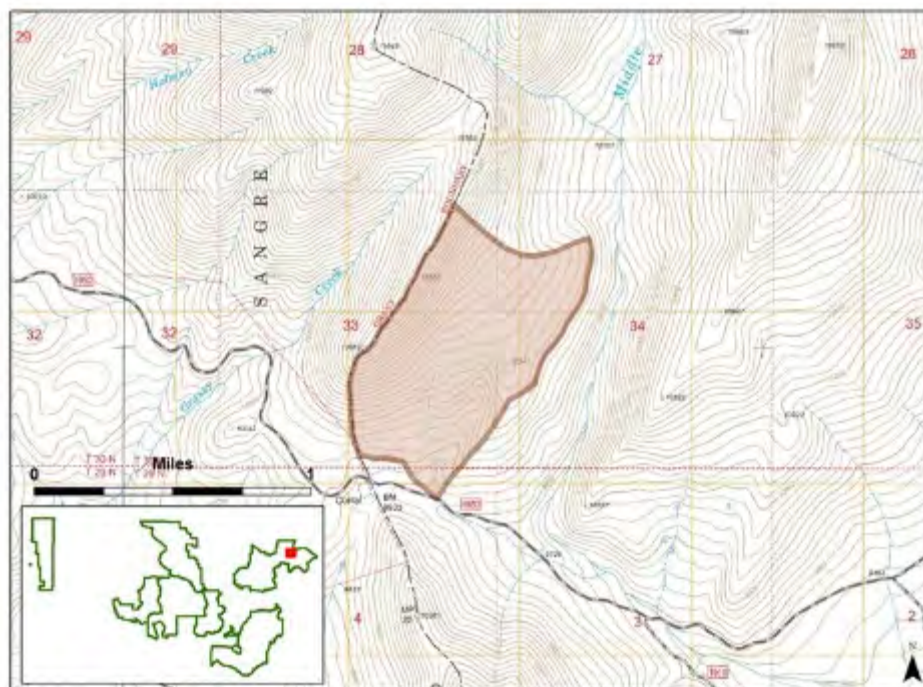


Figure 85. Ax cut stump, more than 50 years old



Figure 86. Ax cut stump, more than 50 years old

Candidate RNA: Clayton Pass-previously proposed (Bristlecone Pine, 316 acres)



Evaluation of the Clayton Pass candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Bristlecone Pine is uncommon in the region and was not assessed for representation in RNAs. Due to its limited extent it is not well represented in RNAs.
Area serves as a control area for comparing results from manipulative research.	Generally, except near Forest Road 1950 where there is some recreational impact and cattle are trailed through the Shuree Canyon pasture
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	The western boundary follows a well-defined ridgeline. The remainder of the boundary is not easily identifiable on the ground. A non-system trail follows the ridge line to Little Costilla Peak but hikers are not likely to leave the steep ridge. A more well-traveled non-system trail cuts through the eastern portion of the area and does encourage recreational use.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance, except immediately along the trail through the eastern portion.
Existing management and uses contribute to the area's management as an RNA.	The Shuree Canyon pasture is only open to trailing of livestock but is otherwise closed to grazing. The area is closed to motorized travel.

Responsible Official determination: do not propose, replace with revised boundary.

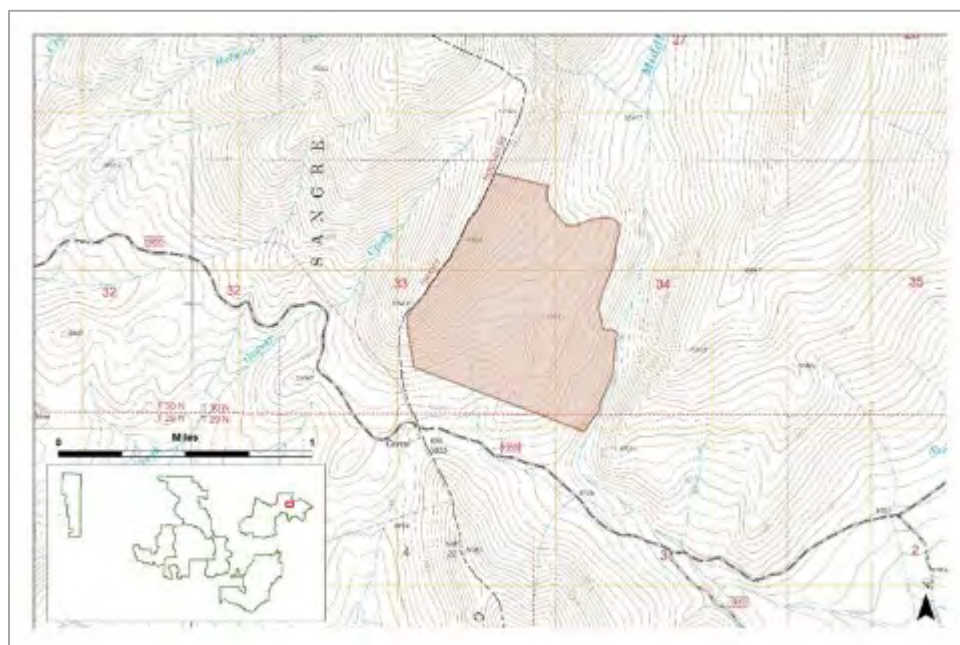


Figure 87. Large bristlecone pine



Figure 88. Non-system hiking trail

Candidate RNA: Clayton Pass-revised (Bristlecone Pine, 356 acres)

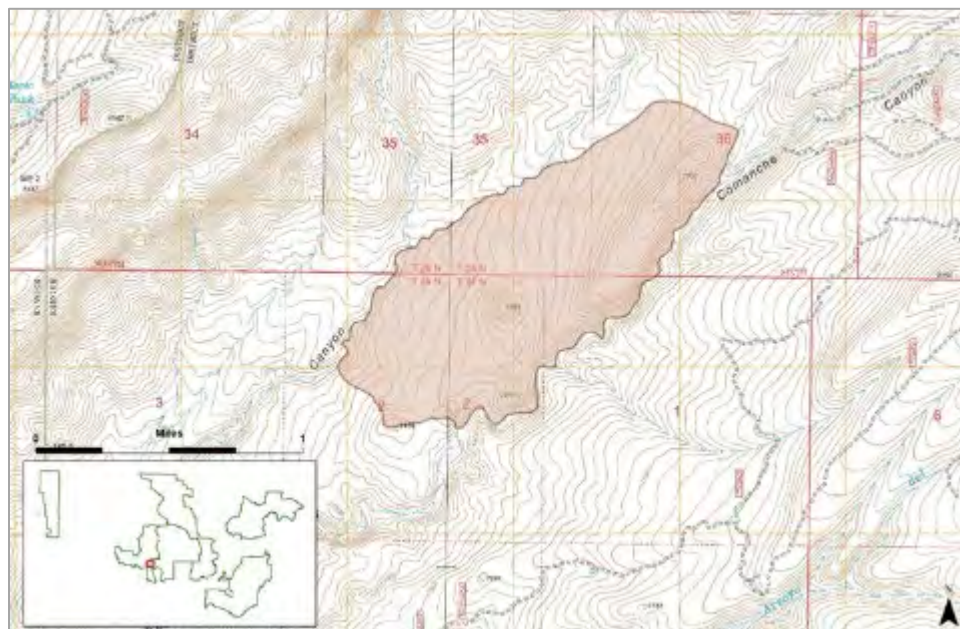


Evaluation of the revised Clayton Pass candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Bristlecone Pine is uncommon in the region and was not assessed for representation in RNAs. Due to its limited extent it is not well represented in RNAs.
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from human manipulation.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	The western boundary follows a well-defined ridgeline. The southern boundary follows the Ash Mountain recommended wilderness. The remainder of the boundary follows the bristlecone pine vegetation community extent. A non-system trail follows the ridge line to Little Costilla Peak, but hikers are not likely to leave the steep ridge. A more well-traveled non-system trail cuts through the eastern portion of the area and does encourage recreational use.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance, except immediately along the trail through the eastern portion.
Existing management and uses contribute to the area's management as an RNA.	The Shuree Canyon pasture is only open to trailing of livestock but is otherwise closed to grazing. The area is closed to motorized travel and entirely within the Ash Mountain recommended wilderness.

Responsible Official determination: propose.

Candidate RNA: Comanche Canyon (Piñon-Juniper Woodland, 572 acres)

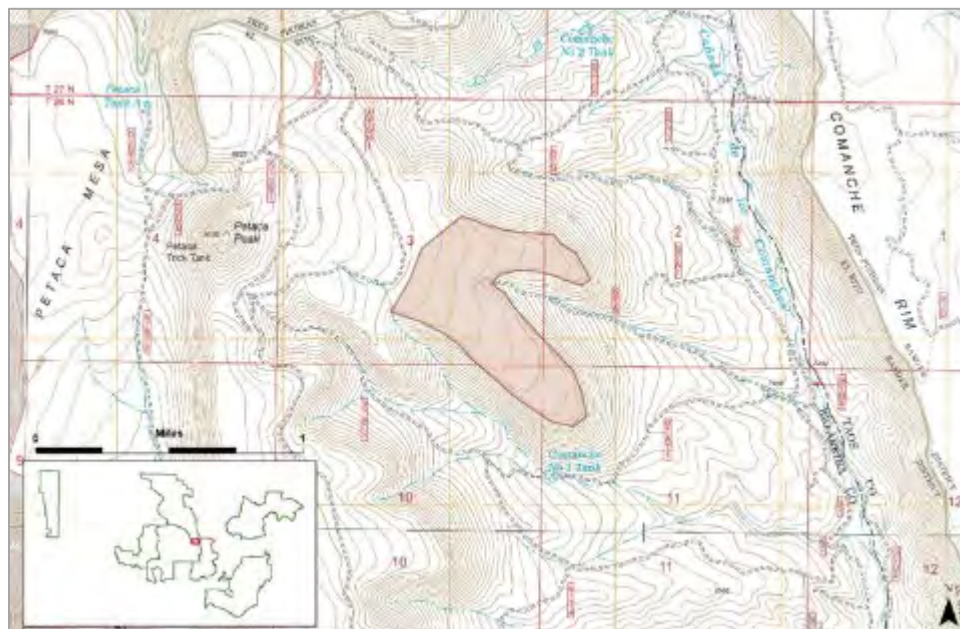


Evaluation of the Comanche Canyon candidate research natural area

Evaluation criteria	State reason why the area <u>meets</u> or <u>does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Piñon-Juniper Woodlands are underrepresented regionally (rating 2).
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from human manipulation.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	The area is bound by Bull Canyon to the north and Comanche Canyon to the south and is easily identifiable on the ground. The area is not easily accessible.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance.
Existing management and uses contribute to the area's management as an RNA.	The Comanche pasture is not currently grazed. The area is entirely within the Bull Canyon inventoried roadless area.

Responsible Official determination: do not propose, replace with Yeso RNA.

Candidate RNA: East Petaca (Piñon-Juniper Woodland, 177 acres)



Evaluation of the East Petaca candidate research natural area

Evaluation criteria	State reason why the area <u>meets</u> or <u>does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Piñon-Juniper Woodlands are underrepresented regionally (rating 2). The Northern Rio Grande Basin ecoregion is underrepresented.
Area serves as a control area for comparing results from manipulative research.	Most of the area shows evidence of having been manipulated, mostly from fuelwood cutting but there is also evidence of grazing.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Most of the boundary is defined by the mesa edge and is easily identifiable on the ground. The northwest boundary crosses the flat mesa top and is accessible by off road motorized use which would be difficult to enforce.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area has been disturbed by humans. There are recent impacts from illegal motorized use, trash, fuelwood cutting and grazing. The area is entirely within the Comanche/La Tetilla pasture which is currently grazed.
Existing management and uses contribute to the area's management as an RNA.	The Comanche/La Tetilla pasture is currently open to grazing and clearly used by livestock. The area is closed to motorized use, however cross-country travel is occurring, mainly for fuelwood collection.

Responsible Official determination: do not propose.



Figure 89. Stumps and fuelwood slash



Figure 90. Grazing and fuelwood impacts

Candidate RNA: La Cueva (Spruce-Fir Forest, 742 acres)



Evaluation of the La Cueva candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Spruce-Fir Forest is well represented regionally (rating 1), but the overlapping Arelano Canyon proposed RNA makes up a large portion of the total regional representation.
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from human manipulation.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Area generally follows topography and is identifiable on the ground. Encompasses the entire small drainage of a small tributary to Arelano Canyon.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance.
Existing management and uses contribute to the area's management as an RNA.	The La Cueva pasture is closed to grazing. The area is generally inaccessible to livestock or motorized use due to topography.

Responsible Official determination: propose.

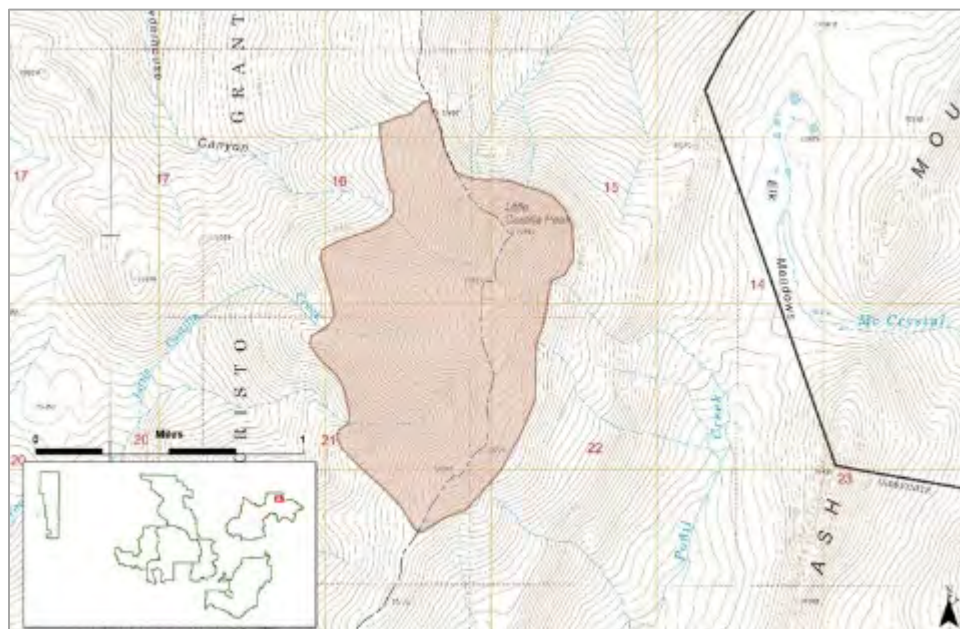


Figure 91. Spruce-fir forest



Figure 92. View from top of proposed research natural area, looking down Arellano Canyon

Candidate RNA: Little Costilla Peak-previously proposed (Alpine and Tundra, 597 acres)



Evaluation of the Little Costilla Peak candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Alpine and Tundra is very underrepresented regionally (rating 3).
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from human manipulation. There are two old closed roads that enter the western edge of the area. The western portion is open to grazing. A non-system trail follows the ridgeline to Little Costilla Peak.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	The boundary is difficult to identify on the ground.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance, except at the top of Little Costilla Peak where there is some recreational impact.
Existing management and uses contribute to the area's management as an RNA.	The Shuree Canyon pasture is only open to trailing of livestock but is otherwise closed to grazing. The La Cueva pasture to the west is open and currently grazed. The area is closed to motorized travel.

Responsible Official determination: do not propose, replace with the revised boundary.

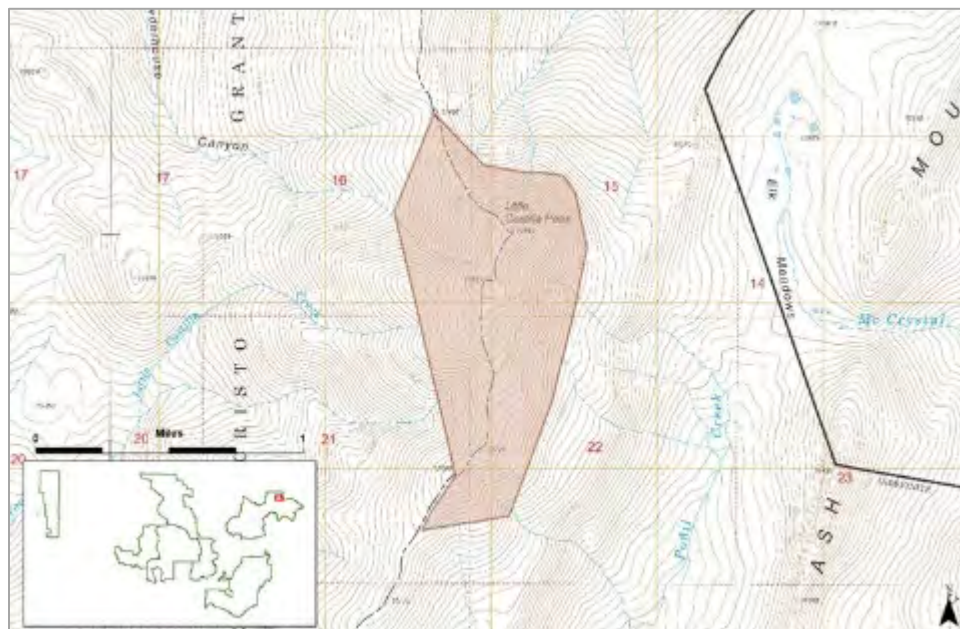


Figure 93. Ridge to the south of Little Costilla Peak



Figure 94. View to the east toward Ash Mountain

Candidate RNA: Little Costilla Peak-revised (Alpine and Tundra, 440 acres)

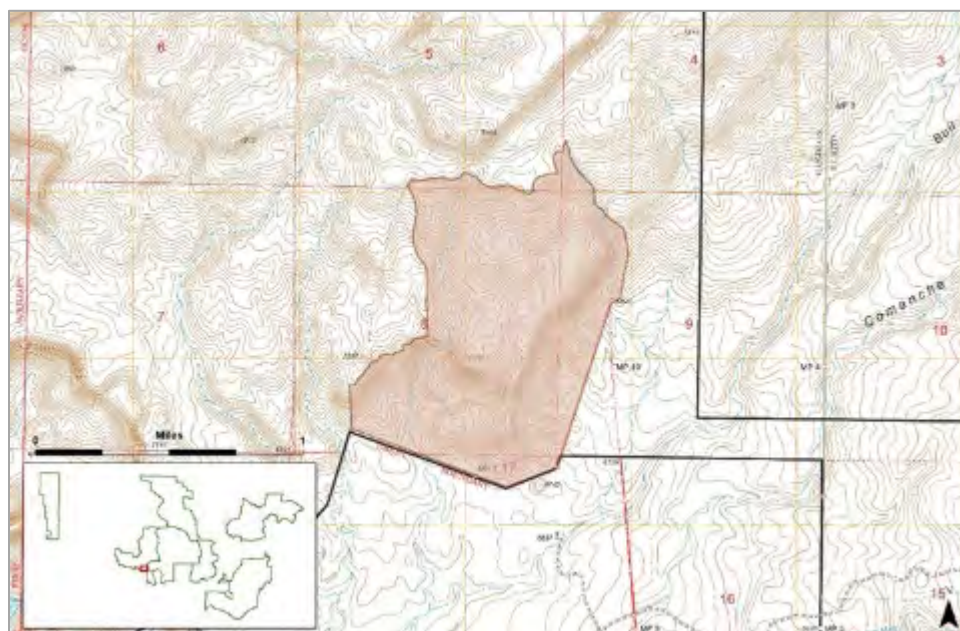


Evaluation of the revised Little Costilla Peak candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Alpine and Tundra is very underrepresented regionally (rating 3).
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from human manipulation. The western portion is open to grazing. A non-system trail follows the ridgeline to Little Costilla Peak.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	The western boundary is difficult to identify on the ground but follows the Ash Mountain recommended wilderness. The eastern side follows treeline.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance, except at the top of Little Costilla Peak where there is some recreational impact.
Existing management and uses contribute to the area's management as an RNA.	The Shuree Canyon pasture is only open to trailing of livestock but is otherwise closed to grazing. The La Cueva pasture to the west is open and currently grazed. The area is closed to motorized travel.

Responsible Official determination: propose.

Candidate RNA: Yeso (Piñon-Juniper Woodland, 519 acres)



Evaluation of the Yeso candidate research natural area

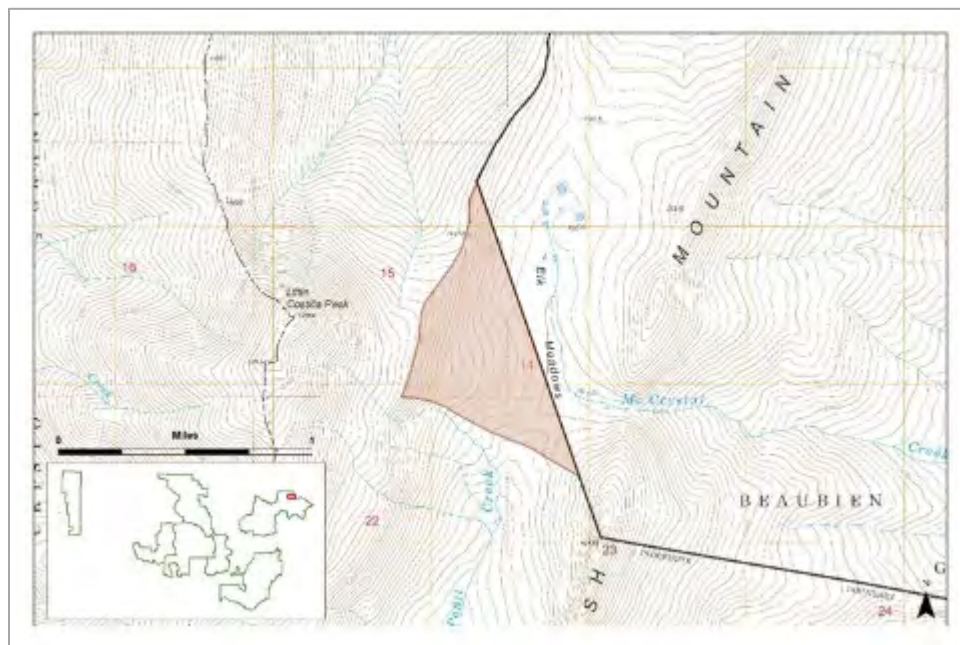
Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Piñon-Juniper Woodlands are underrepresented regionally (rating 2). About one half of the area is Piñon-Juniper Sagebrush which is well represented regionally (rating 1).
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from human manipulation.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	The area is remote and very steep and inaccessible. It is bounded by the forest boundary to the south and topographic features elsewhere. It encompasses an entire small, unnamed drainage.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	The area generally shows little evidence of human disturbance.
Existing management and uses contribute to the area's management as an RNA.	There is no grazing in this portion of the El Rito Lobato West allotment. The area is entirely within the Bull Canyon inventoried roadless area.

Responsible Official determination: propose.



Figure 95. Cliffs above Piñon-Juniper Woodland in Yeso

Candidate RNA: McCrystal Meadow (Spruce-Fir Forest, 211 acres)



Evaluation of the McCrystal Meadow candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Spruce-Fir Forest is well represented regionally (rating 1). There are about 5 acres of herbaceous riparian that is connected to the large Elk Meadows riparian area on private land.
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from human manipulation. A non-system trail does cross the southern portion of the area through the riparian meadow.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	The area is not easily identifiable on the ground. The forest boundary is not fenced or signed and any impacts that occur on private land could not be prevented on National Forest Lands. The only trail in the area leads directly to this riparian meadow.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of human disturbance.
Existing management and uses contribute to the area's management as an RNA.	The Shuree Canyon pasture is closed to grazing and the entire area is within the Ash Mountain recommended wilderness. The existing trail encourages some recreational use.

Responsible Official determination: do not propose.

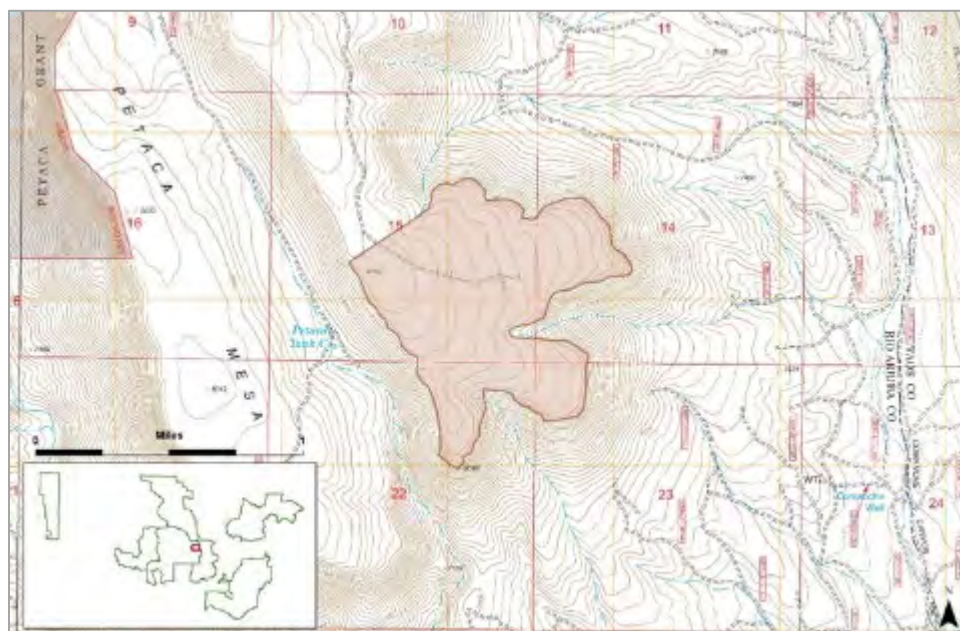


Figure 96. Looking north along the forest boundary, most of the RNA is spruce-fir forest



Figure 97. View to the south from meadows on private land; the forest boundary approximately follows the forest edge but crosses the small meadow in the distance

Candidate RNA: South Petaca (Piñon-Juniper Woodland, 375 acres)



Evaluation of the South Petaca candidate research natural area

Evaluation criteria	State reason why the area <u>meets</u> or <u>does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Piñon-Juniper Woodlands are underrepresented regionally (rating 2). The Northern Rio Grande Basin ecoregion is underrepresented.
Area serves as a control area for comparing results from manipulative research.	Most of the area shows evidence of having been manipulated, mostly from fuelwood cutting but there is also evidence of grazing.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Most of the boundary is defined by the mesa edge and is easily identifiable on the ground. The northwest boundary crosses the flat mesa top and is accessible by off road motorized use which would be difficult to enforce. An old, closed road is accessible.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area has been disturbed by humans. There are impacts from recent illegal motorized use, trash, fuelwood cutting and grazing. The area is entirely within the Comanche/La Tetilla pasture which is currently grazed.
Existing management and uses contribute to the area's management as an RNA.	The Comanche/La Tetilla pasture is currently open to grazing and clearly used by livestock. The area is closed to motorized use, however cross-country travel is occurring, mainly for fuelwood collection.

Responsible Official determination: do not propose.



Figure 98. Trash and fuelwood slash



Figure 99. Stump and fuelwood slash

Candidate RNA: Tetillas (Piñon-Juniper Sagebrush, 248 acres)



Evaluation of the Tetillas candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Piñon-Juniper Sagebrush is well represented regionally (rating 1). About 1/3 of the area is Piñon-Juniper Woodland which is underrepresented regionally (rating 2).
Area serves as a control area for comparing results from manipulative research.	Generally, there are few impacts from recent human manipulation.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Area generally follows topography and is identifiable on the ground. Covers a portion of a small unnamed drainage. There is no grazing allowed in this portion of the Olla-Ranchos allotment.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	Area generally shows little evidence of recent human disturbance. There is widespread evidence of tree removal that is all more than 50 years old.
Existing management and uses contribute to the area's management as an RNA.	There is no grazing allowed in this portion of the Olla-Ranchos allotment. Access is difficult due to steep topography though there are closed roads that have been used recently near the eastern boundary and in the bottom of the drainage.

Responsible Official determination: do not propose.

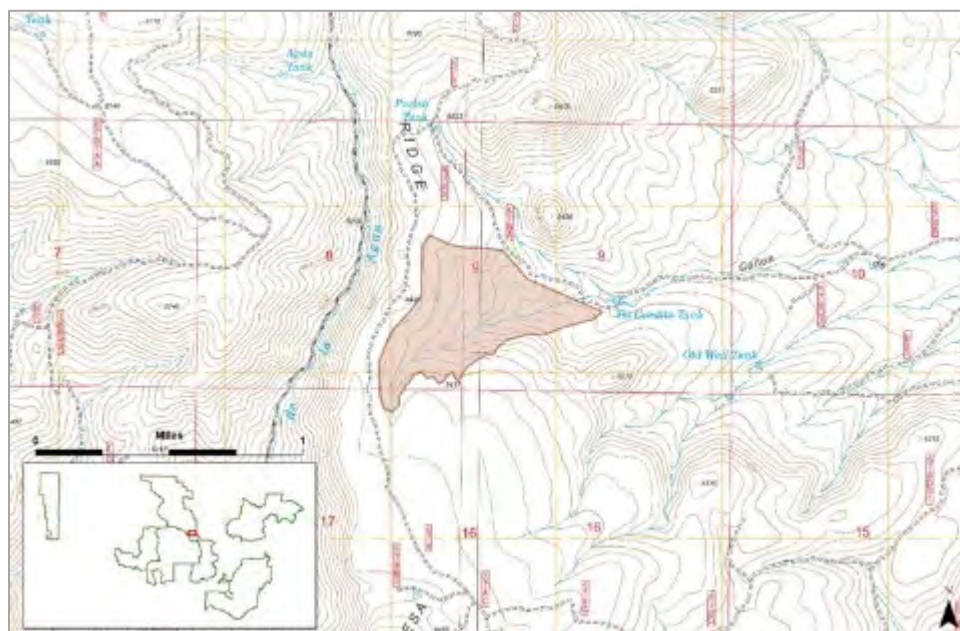


Figure 100. Old stump, more than 50 years old



Figure 101. Ax-chopped juniper, more than 50 years old

Candidate RNA: Tio Gordito (Ponderosa Pine Forest, 153 acres)



Evaluation of the Tio Gordito candidate research natural area

Evaluation criteria	State reason why the area <u>meets or does not meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Ponderosa Pine forest is underrepresented regionally (rating 2). The Northern Rio Grande Basin ecoregion is underrepresented.
Area serves as a control area for comparing results from manipulative research.	The area has been substantially manipulated. Grazing currently occurs.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Boundaries follow existing roads and topography and are generally identifiable. The area is easily accessible from adjacent roads across gradual slopes.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	The area has been substantially modified through recent thinning, timber harvest, fuelwood collection, and prescribed fire. Grazing impacts are evident.
Existing management and uses contribute to the area's management as an RNA.	The Malpais pasture is open to livestock grazing. Forest roads 578 and 578A are both open to the public and provide access to the edge of the area. There are no topographic barriers to public entry into the area itself.

Responsible Official determination: do not propose.

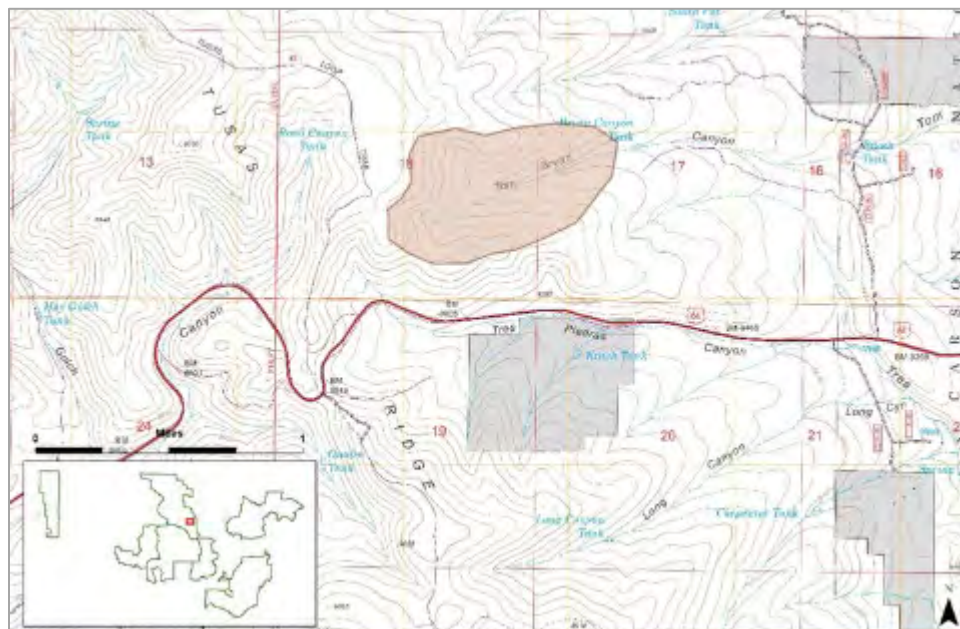


Figure 102. Stumps and downed logs from recent thinning and timber harvest



Figure 103. Evidence of recent timber harvest

Candidate RNA: Tom Bryan (Ponderosa Pine Forest, 212 acres)



Evaluation of the Tom Bryan candidate research natural area

Evaluation criteria	State reason why the area <u>meets</u> or does not <u>meet</u> the criterion
RNA represents a specific vegetation type or ecosystem identified as underrepresented by the Regional ecological RNA evaluation.	Ponderosa Pine forest is underrepresented regionally (rating 2). The Northern Rio Grande Basin ecoregion is underrepresented.
Area serves as a control area for comparing results from manipulative research.	Portions of the area have been substantially manipulated. Grazing currently occurs, particularly in the canyon bottom.
Area boundaries encompass an area large enough to provide essentially unmodified conditions within their interiors. Boundaries are identifiable and assist in preventing undesired disturbances. Entire small drainages are preferable.	Boundaries follow topographic features and are generally identifiable. The area is easily accessible from an adjacent road across gradual slopes.
Area shows little or no evidence of major disturbances by humans. Activities, such as livestock grazing, and other uses have not had affected the area beyond its ability to recover. No evidence of timber cutting in past 50 years.	The area has been substantially modified through recent fire management activities. Grazing impacts are evident, particularly in the canyon bottom.
Existing management and uses contribute to the area's management as an RNA.	The Palmer pasture is open to livestock grazing. Forest road 167AA is open to the public and provides access to the edge of the area. There are no topographic barriers to public entry into the area itself.

Responsible Official determination: do not propose.



Figure 104. Grazing impacts are evident, particularly in the meadows along the canyon bottom



Figure 105. Downed tree and fencing material

References for Appendix I

- Cleland, D.T.; Freeouf, J.A.; Keys, J.E.; Nowacki, G.J.; Carpenter, C.A.; and McNab, W.H. 2007. Ecological Subregions: Sections and Subsections for the conterminous United States. Gen. Tech. Report WO-76D [Map on CD-ROM] (A.M. Sloan, cartographer). Washington, DC: U.S. Department of Agriculture, Forest Service, presentation scale 1:3,500,000; colored.
- USDA FS, Southwestern Region (United States Department of Agriculture – Forest Service, Southwestern Region). 2015. Southwestern Region's RNA Working Group's Research Natural Area Process for Forest Plan Revision under the 2012 Planning Rule Provisions. On file at Southwestern Regional Office, Albuquerque, NM.

Appendix J – Crosswalk of Previous Plan Components to Revised Plan Components

Table 138. Comparison of air resource guidance from the 1986 land management plan to related air resource plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Air-Vision-1	The air is clear and clean, particularly when viewing from the wilderness.	FW-AIR-DC-1 FW-AIR-DC-2 FW-AIR-DC-4 FW-AIR-DC-5 DA-WILD-DC-1	Guidance has been retained.
FW-Air- Management Highlights-1	Meet all air quality standards.	FW-AIR-DC-2	Guidance has been retained.
FW-Air- Management Highlights-2	Document current conditions so we can work with EPA and the New Mexico EID concerning possible air pollution sources and how they might affect the wilderness.	FW-AIR-DC-4 FW-AIR-DC-5 FW-AIR-DC-3 DA-WILD-DC-1	Guidance has been retained.
FW-Air-Setting the Stage-1	The Forest Service has the responsibility to manage the air resource in federally designated class I air quality areas as mandated by law. The Wheeler Peak Wilderness is the only area in the class I category on the Carson. Under the Clean Air Act (CAA) amendments of 1977, wilderness areas greater than 5000 acres in existence prior to August 7, 1977, are class I air quality areas. Section 165 of the CAA gives the Forest Service as federal land manager the responsibility to protect these areas by making recommendations to the regulatory agency regarding insurance of Prevention of Significant Deterioration (PSD) permits for proposed new sources.	FW-AIR-DC-1 FW-AIR-G-1 FW-AIR-DC-3	Guidance repeats existing law, policy, or regulation. Revised plan includes specific direction related to smoke-sensitive and wilderness areas.
FW-Air-Standards and Guidelines-1	Standards and Regulations: Management activities will be planned so that air quality will be equal to or better than that required by the applicable Federal, State and/or local standards or regulations. (36 CFR 219.27 (a) 12, Clean Air Act as amended 1977, 42 U.S.C 7401-7642, FSM 2120.)	FW-AIR-DC-2 FW-AIR-G-1 FW-AIR-G-2 FW-AIR-m.a.-2	Guidance repeats existing law, policy, or regulation. Revised plan includes specific direction related to smoke-sensitive areas and dust abatement.

Table 139. Comparison of cultural resource guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-CR-Vision-1	As trustees, we are protecting and preserving the cultural and historical resources on the Carson. The knowledge of these resources and a sense of their significance is being shared by all.	FW-CR-DC-1 FW-CR-DC-4 FW-CR-DC-5 FW-CR-DC-6	Guidance has been retained.
FW-CR-Vision-2	We conduct surveys throughout the Carson. The information can help us to predict where cultural sites are located. It also enables us to preserve, protect, stabilize, and interpret the cultural and historic resource.	FW-CR-m.a.-3	Guidance has been retained; Section 110 of the National Historic Preservation Act referenced.
FW-CR-Vision-3	The data is of high quality, comparable, uniform, and accurate. Our work is closely coordinated with individuals and organizations throughout the government and private sector. Care is taken so we can interrelate our data with data of others. We maintain especially close working relationships with the Bureau of Land Management, the New Mexico State Office of Cultural Affairs, Fort Burgwin Research Center, and the New Mexico Natural History Museum.	FW-CR-G-2 FW-CR-m.a.-1	Guidance has been retained.
FW-CR-Vision-4	The rich historic record on the Carson has been documented and interpreted for the public. We have a good chronology of the prehistory as it occurred on the Carson. There is a dendrochronological record for the Carson.	FW-CR-DC-5 FW-CR-G-2 FW-CR-m.a.-1 FW-CR-m.a.-5	Guidance has been partially retained; no discussion of dendrochronological record in revised plan.
FW-CR-Vision-5	We prevent the destruction of our national heritage, for as Abraham Lincoln said, "A country with no regard for its past will have little worth remembering in the future."	FW-CR-DC-1 FW-CR-DC-4 FW-CR-S-2 FW-CR-G-1 FW-CR-m.a.-3	Guidance has been retained.
FW-CR-Management Highlights-1	Manage Cultural resources in accordance with existing laws, regulations, and policies.	none	Guidance references existing laws, policies, and regulations.
FW-CR- Management Highlights-2	Locate and protect cultural resources in conjunction with all surface disturbing activities.	none	Guidance references existing laws, policies, and regulations. (Public Law 89-665; 54 U.S.C. 300101 et seq; Pub.L. 96-95 as amended, 16 U.S.C. 470aa et seq).
FW-CR- Management Highlights-3	On a priority basis, stabilize cultural resource sites that have sustained damages or are vulnerable to damage.	FW-CR-G-1 FW-CR-m.a.-3	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-CR- Management Highlights-4	Interpret cultural resources through the use of displays, brochures, signs, presentations and guided site visits.	FW-CR-DC-5 FW-CR-G-2 FW-CR-m.a.-1 FW-CR-m.a.-5	Guidance has been retained.
FW-CR- Management Highlights-5	Nominate eligible sites to the National Register of Historic Places based on the Forest's priority listing.	FW-CR-S-1	Guidance has been retained.
FW-CR-Setting the Stage-1	Like a great history book, the Carson holds the record of more than 9,000 years of human history. Most of us know about the major historical events related to early settlement by trappers, ranchers, miners, farmers, and loggers. But most people do not know that over 99 percent of the record of human life in the Southwest was made by countless numbers of people who did not leave a written history -- the Native Americans.	None	This is a statement that does not provide management direction.
FW-CR-Setting the Stage-2	Without written records, we must look for other evidence of how native Americans and early pioneers encountered and solved the problems of survival that existed on the ground in the form of prehistoric and historic objects and sites -- the physical remains of human behavior. To the uninformed, prehistoric and historic artifacts are simply interesting curiosities of objects to sell for personal gain. But artifacts are really tools used to interpret the life and times of the people who made them. A single arrowhead, potsherd or military button may be the only clue to date and determine insights into social, political, and economic relationships.	None	This is a statement that does not provide management direction.
FW-CR-Setting the Stage-3	The Forest will comply with the provisions of the National Historic Preservations Act of 1966, as amended; Executive Order 11593 and the Archeological Resources Protection Act of 1979. It will undertake active management which recognizes cultural resources as equal in importance to other multiple uses. Cultural resources will be managed in coordination with the State Historic Preservation Plan and planning activities of the State Archeologist, and in accordance with the negotiated settlement to the Save the Jemez, et al./State of New Mexico vs. Forest Service litigation.	none	Guidance references existing laws, policies, and regulations.
FW-CR-Setting the Stage-6	Interactions among cultural and other resources are considered in detail in the cultural resources management planning assessment. These interactions are analyzed by assessing the kind and distribution of cultural resources, and their interaction with other multiple uses within each management area. The interaction between cultural and other resources for any specific undertaking is evaluated in project-level analyses.	FW-CR-S-1 FW-CR-m.a.-2	

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-CR-Laws, Regulations, Coordination-Standards and Guidelines-1	Laws...The Forest will comply with the provisions of the National Historic Preservation Act of 1966, as amended; Executive Order 11593; the Archeological Resources Protection Act of 1979; and the settlement to the Save the Jemez, et al./State of New Mexico litigation.	none	Guidance references existing laws, policies, and regulations.
FW-CR-Laws, Regulations, Coordination-Standards and Guidelines-2	Coordinate with State...Cultural resource management, including the formulation and evaluation of alternatives, will be coordinated to the extent feasible with the State Cultural Resource Plan and planning activities of the State Historic Preservation Officer and State Archeologist, and with other State and Federal agencies. This will be accomplished as follows: (a) consultation and meetings with such parties, (b) sharing of data, reports, plans, interpretations, and other documents, (c) coordination on National Register nominations, and (d) participation in the State cultural resources planning process.	none	In compliance with Public Law 89-665, Federal agencies must seek the views of the State Historic Preservation Officer. (FSM 2360)
FW-CR-Laws, Regulations, Coordination-Standards and Guidelines-3	Save Jemez Settlement...The standards specified in the settlement to the Save Jemez, et. al. /State of New Mexico litigation have been incorporated in the Forest Service manual and handbook will apply.	none	Guidance references existing laws, policies, and regulations.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-1	Avoidance and Protection...During the conduct of undertakings, the preferred management of sites listed in, nominated to, eligible for, or potentially eligible for the National Register is avoidance and protection. Exceptions may occur in specific cases where consultation with the SHPO indicates that the best use of the resource is data recovery and interpretation.	FW-CR-DC-1	Guidance has been retained.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-2	Project Redesign, Relocation, Cancellation...Where preservation in place is important under these conditions, the Forest will give serious consideration to such options as project redesign, relocation, or cancellation. The procedures specified in 36 CFR 800 will be followed in reaching a management decision, and the minimum management standard will be to achieve a 'No Adverse Effect' finding.	FW-CR-DC-1 FW-CR-DC-2 FW-CR-DC-3 FW-CR-S-1	Guidance has been retained. The plan does not reiterate the requirement to follow law such as 36 CFR 800.

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FW-CR-Impacts of Projects/Activates-Standards and Guidelines-3	Surface Disturbance...Surface disturbing undertakings will be managed to comply with 36 CFR800. All consultation responsibilities to the SHPO before, during, and after an undertaking will be followed. The area of an undertaking's potential environmental impact will be surveyed for cultural resources and areas of Native American religious use. Inventory standards will be as specified in the Forest Service Handbook, and will be determined in consultation with the SHPO. Native American groups will be consulted as appropriate.	FW-CR-DC-5 FW-CR-G-1	Guidance repeats existing law, policy, or regulation. Revised plan also includes specific direction regarding opportunities for traditional communities to participate in management of cultural resources important to them.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-4	Contracts, Permits, Leases...Each Forest contract, permit, or lease that has the potential to affect cultural resources will contain a clause specifying site protection responsibilities and liability for damage. If damage to a cultural resource is found, the procedures specified in the Forest Service manual and handbook, will be followed.	FW-CR-DC-1 FW-CR-DC-2 FW-CR-DC-3 FW-CR-S-1	Guidance has been retained. The plan does not reiterate the requirement to follow policy.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-5	Mineral Operations Plans...Complete the procedural requirements of 36 CFR 800 prior to approval of mineral operating plans. Employ a strategy of avoidance wherever possible without unreasonably or unnecessarily infringing on the rights of the operator. Require the operator to take appropriate mitigation action if the resources cannot be avoided. If mitigation is not possible, consider mineral withdrawal or mineral contest action.	FW-MM-DC-1	Guidance references existing laws, policies, and regulations; revised plan also includes specific, relevant direction.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-6	Minerals Avoid Cultural Resources...Wherever possible, mineral material pits and access roads will avoid cultural resources. If it is in the public interest, permits may be issued, however, the operator will bear the burden of appropriate mitigation action.	FW-MM-DC-1	Guidance has been retained.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-7	Watershed...Minimize activities which might cause accelerated erosion and the development of gullies. Provide strategy for watershed improvements that are not visually offensive or impair the cultural significance of the area when gullies threaten sites.	FW-CR-DC-1 FW-WSW-G-1 FW-SCEN-G-2	Guidance has been retained.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-8	Special Uses...Special land uses may be allowed which are, or can be, made compatible with emphasized management practices.	FW-SU-DC-7 FW-SU-m.a.-3	Guidance has been retained.
FW-CR-Impacts of Projects/Activates-Standards and Guidelines-9	Utility Corridors...Avoid placement of utility corridors through sites when possible.	FW-CR-DC-1 FW-SU-S-2	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-CR-Protect & Interpret-Standards and Guidelines-1	Preservation...Where resource management conflicts occur, the desirability of in-place preservation of cultural resources will be weighted against the values of the proposed land use. Preservation of cultural resources in place will become increasingly important under the following conditions: - Where present methods of investigation and data recovery cannot realize the current research potential of the sites; - Where the sites are likely to have greater importance for addressing future research questions than current ones; - Where cultural values derive primarily from qualities other than research potential, and where those values are fully realized only when the cultural remains exist undisturbed in their original context(s) (e.g., association with significant historical persons or events, special ethnic or religious values, or unique interpretive values); - Where cultural resources are important primarily for the quality of their architecture and the integrity of their setting; - Where preservation in place is necessary to accomplish the objectives of the State Historic Preservation Plan; - Where site density would make data recovery economically infeasible, or require unattainable operating conditions.	FW-CR-DC-1 FW-CR-S-2	Guidance has been retained.
FW-CR-Protect & Interpret-Standards and Guidelines-2	Protection...Measures for the protection of cultural resources from vandalism and natural destruction will include regular inspection and, where necessary, electronic monitoring. Sites listed in or nominated to the National Register will be inspected biennially. Sites determined eligible for the National Register will be inspected periodically, unless previous data recovery has fully documented the characteristics that qualify the site for the Register. All other sites, except those formally determined ineligible for the National Register, will be inspected on a need or opportunity basis, as specified in the Forest Service manual and handbooks. Sites susceptible to rapid deterioration and/or human disturbance will be inspected most frequently.	FW-CR-DC-1 FW-CR-DC-4 FW-CR-m.a.-3	Guidance references existing laws, policies, and regulations; revised plan also includes specific, relevant direction.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-CR-Protect & Interpret-Standards and Guidelines-3	Stabilization... - Sites known to have sustained unusual damage, beyond minimal levels that normally occur from natural forces, are listed in priority order for stabilization in the cultural resources management planning assessment. - Rapid natural deterioration, or susceptibility to this, will require planning for appropriate measures, such as stabilization and/or data recovery. Vandalism, collecting, or illicit excavation will require planning for protective measures, such as signing, fencing, administrative closure, remote sensing, increased patrolling, investigations, interpretive signs, District displays, media communications, and stabilization and/or data recovery. Specific sites or areas may be closed to ORV use and withdrawn from mineral entry. Parties known to have damaged cultural resources willfully or through negligence will be held legally and financially liable for the cost of stabilization and repair.	FW-CR-S-2 FW-CR-G-1 FW-CR-m.a.-3	Guidance has been retained.
FW-CR-Protect & Interpret-Standards and Guidelines-4	Interpretation...The Forest will provide interpretive opportunities which should be pursued as a high priority when opportunities arise, such as: 1. Cultural resources displays in the Supervisor's Office and in District Offices. 2. Preparation of popular literature, brochures, and films regarding the Forest's cultural resources. 3. Presentation of popular talks regarding the Forest's cultural resources. 4. Professional cultural resource interpretation for presentation at meetings and/or dissemination through professional publications.	FW-CR-DC-5 FW-CR-G-2 FW-CR-m.a.-1 FW-CR-m.a.-5	Guidance has been retained.
FW-CR-Inventory & Plans-Standards and Guidelines-1	Cultural Resources Allocation Plans...The Forest will implement or seek to develop or participate in the development of Cultural Resources Allocation Plans. These plans will be available in the Supervisor's and Regional Offices. Data will be collected to implement the plan(s). In consultation with the SHPO, sites will be allocated to management categories and treated accordingly.	none	Plans do not compel agency action such as developing action plans (FSH 1909.12 sec 21). In compliance with Public Law 89-665, Federal agencies must seek the views of the State Historic Preservation Officer. (FSM 2360)
FW-CR-Inventory & Plans-Standards and Guidelines-2	More Intensive Inventory...All parts of the Forest not surveyed at the 100% level, and on which there is a likelihood that cultural resources exist, require more intensive inventory. Areas rated as highest priority for survey will be those that either (a) are expected to have high site densities, and/or (b) are important to understanding the historic or prehistoric occupations of the Forest. At a minimum, survey of such areas will be undertaken in conjunction with annual update training for para-professional archeologists.	FW-CR-m.a.-3	Guidance has been retained.

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FW-CR-Inventory & Plans-Standards and Guidelines-3	Research Permits...Consider use by permits for research by recognized archeological/paleontological institutes and professional groups.	none	Permitted research uses can be considered under the revised plan.
FW-CR-Inventory & Plans-Standards and Guidelines-4	Inspections...A cultural resources professional will inspect each site that may be affected by an undertaking, and each undertaking with the potential to affect cultural resources. At least one site, and not less than 20% of the sites designated for protection within each undertaking will be inspected by a cultural resources specialist, sale administrator, contracting officer's representative. or project inspector. All sites listed in, nominated to, or formally determined eligible for, the National Register will be inspected. Inspection will occur during the course of the undertaking, or at the close of undertakings with total duration of less than 72 hours. Inspection records will be provided to the SHPO.	none	The plan does not reiterate the requirement to follow law, policy, and regulation such as Public Law 89-665 and FSM 2360.
FW-CR-National Register of Historic Places-Standards and Guidelines-1	No Effect Finding...Sites listed in, nominated to, eligible for, or potentially eligible for the National Register will be managed during the conduct of undertakings to achieve a "No Effect" finding in consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.	FW-CR-S-1	Guidance has been retained.
FW-CR-National Register of Historic Places-Standards and Guidelines-2	Prioritized List...The Forest, through the cultural resources management planning assessment has developed a prioritized list and schedule for nominating eligible properties to the National Register of Historic Places (National Register).	none	This is a statement that does not provide management direction.
FW-CR-National Register of Historic Places-Standards and Guidelines-3	Eligibility...In consultation with the SHPO, identified sites will be evaluated for eligibility for the National Register. Sites considered eligible will be assigned a priority for nomination. Sites not yet evaluated will be managed as if eligible, unless consultation with the SHPO indicates otherwise.	FW-CR-S-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-CR-National Register of Historic Places-Standards and Guidelines-4	Nominations... - The National Register nominating criteria are contained in 36 CFR 60.4. These are further refined through the cultural resources management planning assessment. Nominations will be coordinated with the planning activities of the SHPO and the State Archeologist, and with the Allocation Plan(s). Priorities for nomination will be based on a consideration of these plans and the overall cultural resources program. - The Forest will nominate at least two individual sites per year for every full-time professional employed in the Forest's cultural resources management program. Alternatively, the Forest will submit at least one District, thematic, or multiple property nomination per year, or may cooperate with other forests in producing such a nomination. A different submission schedule for specific multiple property nominations may be proposed to the SHPO. Any nomination returned by the Keeper of the National Register for reasons of technical inadequacy will be revised and resubmitted within 90 days, weather permitting.	none	The plan does not reiterate the requirement to follow law such as 36 CFR 60.4. Sites are nominated for the National Register as appropriate.
FW-CR-National Register of Historic Places-Standards and Guidelines-5	Maintenance...Sites listed in or eligible for the National Register that need maintenance are described in detail in the cultural resources planning assessment.	none	This is a statement that does not provide management direction.

Table 140. Comparison of facilities and corridors guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Facilities & Corridors-Vision-1	There are enough well-maintained facilities to meet the need.	FW-FAC-DC-1 FW-FAC-G-1	Guidance has been retained.
FW-Facilities & Corridors- Vision-2	All utilities are concentrated within corridors. All needs are met with minimal environmental effects.	FW-FAC-DC-2 FW-FAC-DC-3 FW-FAC-G-1 FW-FAC-G-2	Guidance has been retained.
FW-Facilities & Corridors- Management Highlights-1	Develop a long-range building betterment program and when needed plan new construction.	FW-FAC-DC-1 FW-FAC-G-1	Guidance has been partially retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Facilities & Corridors- Management Highlights-2	Develop a long range water and sewage system betterment program.	none	Plans do not compel Agency action such as developing programs (FSH 1909.12 sec 21).
FW-Facilities & Corridors- Management Highlights-3	Avoid adverse impacts to the public, Government facilities, and uses in flood plains.	FW-WSW-G-2 FW-FAC-DC-1 FW-FAC-G-2	Guidance has been retained.
FW-Facilities & Corridors- Setting the Stage-1	Facilities consist of many different things, including administrative and fire buildings, warehouses, employee housing, water and waste water systems, to name a few. Maintenance of existing facilities must be sustained to be cost efficient and to meet the Forest Service mission. New construction/reconstruction must be well planned and designed to meet the growing demand for efficient operations.	FW-FAC-DC-1 FW-FAC-DC-2	Guidance has been retained.
FW-Facilities & Corridors- Setting the Stage-2	The Forest Service facilities and the employees are the foundation of the Forest Service mission. They enable the employees to provide the proper management of National Forest lands for the public. They house the Forest Service employees in an efficient and enjoyable atmosphere, and allow them to carry out their planning and programing for the various resources programs; i.e. reforestation, silvicultural treatments, stand improvements, fish and wildlife habitat improvements, recreation opportunities, etc.	FW-FAC-DC-1 FW-FAC-DC-2	Guidance has been retained.
FW-Facilities & Corridors- Standards and Guidelines-1	Energy Retrofits...Complete energy retrofit actions on existing administrative facilities to reduce energy use. Guideline: 10% per year (per energy retrofit plan)	FW-FAC-DC-2 FW-FAC-G-1	Guidance has been partially retained. Revised plan contains specific direction emphasizing energy efficiency and renewable energy.
FW-Facilities & Corridors- Standards and Guidelines-2	Maintenance...Maintain existing administrative facilities in a safe condition and prevent disinvestment.	FW-FAC-DC-1 FW-FAC-G-1	Guidance has been retained.
FW-Facilities & Corridors- Standards and Guidelines-3	Corridors of Use... - Designate existing communication, power, oil, and gas transmission rights of way as corridors. - Provide for joint use in corridors and combine uses, to the extent possible, in light of technical and environmental constraints. Guideline: Avoidance Areas (358,315 acres), Exclusion Areas (84,852 acres), Unclassified Areas (920,342 acres).	FW-SU-DC-3 FW-SU-G-1 FW-SU-G-2 FW-SU-G-3	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Facilities & Corridors- Standards and Guidelines-4	Waste Water Facilities... - The design, construction, management, operation and maintenance of wastewater facilities and activities under Forest control will take all necessary actions for the prevention, control and abatement of environmental pollution in full cooperation with State and Local governments. - Secure and comply with National Pollution Discharge Elimination System permits for all sewage treatment plants on the Forest including Forest Service facilities and plants under special use permit. Sewage storage and collection facilities will be operated and maintained in an environmentally acceptable manner. Septic tank, holding tank and sealed vault pumpings will be disposed of only in approved sites.	FW-FAC-G-2	Guidance references existing laws, policies, and regulations; revised plan also includes specific, relevant direction.
FW-Facilities & Corridors- Standards and Guidelines-5	Aggregate Sources...Management emphasis for aggregate sources, for all analysis areas, except riparian, will be as follows: - Utilize existing sources, where practical. - All sites will be rehabilitated to comply with prescribed visual quality objectives. - Development and rehabilitation plans will be approved prior to utilizing any sources.	FW-MM-DC-1 FW-MM-DC-2 FW-MM-DC-3 FW-FAC-DC-3	Guidance has been retained.

Table 141. Comparison of fire guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Fire- Vision-1	Fire is a friend -- it enriches our forests. Fire plays a key role in maintaining the diversity of our vegetation and as a consequence diversity in our wildlife. But we lay it down and put out before it gets catastrophic.	FW-FIRE-DC-1 FW-FIRE-DC-2 FW-FIRE-DC-4	Guidance has been retained.
FW-Fire- Management Highlights-1	Fire, as a critical natural process, is integrated into activities on a landscape scale and across agency boundaries. Wildland fire will be used to protect, maintain, and enhance resources and, as closely as possible, be allowed to function in its natural ecological role.	FW-FIRE-DC-2 FW-FIRE-G-1	Guidance has been retained.
FW-Fire- Setting the Stage-1	Since the dawn of time, lightening started most fires. Over many centuries, fire influenced the life cycle of plants and plant communities. Many plants adapted to fire effects, and some are even dependent upon fires for germination and growth.	FW-FIRE-DC-1 FW-FIRE-DC-2 FW-FIRE-DC-3	Guidance has been retained.
FW-Fire- Setting the Stage-2	Even as the smoke clears, the new forest is born in the ashes of fertile soils. The fire cycle of a forest leads from bare ground to fresh meadows to vigorous seedling and sapling trees, fast growing closed tree stands, and finally into mature and old growth forests. Along this cycle, various plants and animals, including ourselves, have their moments of glory.	FW-FIRE-DC-1 FW-FIRE-DC-2	Guidance has been retained.
FW-Fire- Setting the Stage-3	The best landscapes present a mix of opportunities and benefits. All kinds of plants and animals are found. Water is plentiful and pure. Different parts of the land are found in contrasting stages of the fire cycle. There is something for everyone.	FW-VEG-DC-1 FW- VEG-DC-2	Guidance has been retained.

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FW-Fire- Setting the Stage-4	Without fire, most of the forest would terminate in the last stage of the fire cycle. Everything would appear about the same. Plants and animals requiring other parts of the cycle would disappear.	FW-FIRE-DC-2 FW-DC-VEG-1	Guidance has been retained.
FW-Fire- Setting the Stage-5	Fire is the ignition key that starts the cycle again. It gives many plants and animals a chance to reproduce and grow again. There is renewed supply of water, wood, forage, wildlife, and places for you and me to enjoy.	FW-FIRE-DC-2	Guidance has been retained.
FW-Fire- Standards and Guidelines-1	Jicarilla Ranger District...On the Jicarilla District, unplanned natural ignitions will be managed in accordance with personnel constraints, weather and burning conditions, or suppressed when the ignition is within a 1/4 mile of an active gas well. As a guideline, remove slash to provide future protection from wildfire and for seedbed preparation. Unplanned ignitions will be suppressed in seedling and sapling stands.	FW-S-2 FW-S-3 FW-S-6	Guidance has been retained.
FW-Fire- Standards and Guidelines-2	Smoke Mgt Plans/Burn Permits...Prepare smoke management plans to coordinate and manage smoke dispersal with other agencies and with meteorological conditions. Obtain burning permits from New Mexico Environmental Division - Air Quality Bureau to ensure conformity with State Implementation Plans for emissions of regulated air pollutants from forest lands or facilities.	FW-AIR-DC-2 FW-AIR-DC-5 FW-AIR-G-1 FW-AIR-m.a.-1	Guidance has been retained.
FW-Fire- Standards and Guidelines-3	Fuels...Activity created fuels and natural fuels will be treated to a level that the maximum tolerable loss objective can be met.	FW-FIRE-DC-1 FW-FIRE-DC-3 FW-FFP-S-8 FW-VEG-DC-2	Guidance has been retained.
FW-Fire- Standards and Guidelines-4	Mgt Area Perspectives...A prescription for each management area will reflect the objectives and range of conditions that these objectives can be accomplished.	FW-AIR-G-1 GW-FIRE-m.a.-1	Guidance has been retained.
FW-Fire- Standards and Guidelines-5	Fire...Fire suppression response will be appropriate for each planned and unplanned fire ignition considering the fire environment and management area prescriptions. Every consideration will be given to use wildfire as prescribed fires to help meet the management area objectives while providing for public safety and property protection.	FW-FIRE-S-2 FW-FIRE-G-1 GW-FIRE-m.a.-1	Guidance has been retained.

Table 142. Comparison of lands guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Lands-Vision-1	The Forest has the lands it needs to fulfill its mission.	FW-LAND-DC-1	Guidance has been retained.
FW-Lands-Management Highlights-1	Acquire through land exchange those lands which are needed for landownership consolidation and more effective National Forest management.	FW-LAND-DC-1 FW-LAND-G-4 FW-LAND-m.a.-4	Guidance has been retained.
FW-Lands-Management Highlights-2	Acquire through purchase, those lands needed for developed and dispersed recreation.	FW-LAND-DC-1 FW-LAND-G-4	Guidance has been retained.
FW-Lands-Management Highlights-3	Acquire the road and trail rights-of-way necessary for administration of the National Forest and production of the resource outputs.	FW-LAND-DC-2 FW-LAND-DC-4 FW-LAND-m.a.-1	Guidance has been retained.
FW-Lands-Management Highlights-4	Maintain an up-to-date Forest Plan which states how the Carson will be managed.	none	Covered by law, policy, or regulation (Pub. L. 94-588, FSH 1909.12 sec 21.2)
FW-Lands-Management Highlights-5	Locate, sign, and protect survey monuments and property boundaries.	FW-LAND-DC-3	Guidance has been retained.
FW-Lands-Setting the Stage-1	There are about 138,000 acres of private lands within the boundaries of the Forest. Some of these lands remain natural and if under federal ownership could contribute to forest resource management. Also, private lands often provide road and trail access to Forest lands.	FW-LAND-DC-4 FW-LAND-m.a.-1 FW-LAND-m.a.-3	Guidance has been retained.
FW-Lands-Setting the Stage-2	Some private land boundaries are not adequately surveyed. Consequently, private development can inadvertently occur on Forest land. This would result in title claims, Small Tracts Act applications, or occupancy trespass.	none	This is a statement that does not provide management direction.
FW-Lands-Standards and Guidelines-1	Base-In-Exchange Lands... - Recommend no leasing on lands designated as base-in-exchange. - Do not issue special use permits for improvements that would place encumbrance on lands designated as base-in-exchange. - Investment in structural and non-structural improvements will not be made on lands designated as base-in-exchange, unless there is an overriding public need or a legitimate use that cannot be accommodated elsewhere on the Forest.	FW-LAND-DC-1 FW-LAND-m.a.-4	Guidance has been retained.

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FW-Lands-Standards and Guidelines-2	Review Withdrawals... Review existing withdrawals to ensure compliance with FLMPA by 1991 on 17, 134 acres.	none	Plans do not compel Agency action such as conducting reviews (FSH 1909.12 sec 21). The timeframe to achieve this guidance has passed. The plan does not reiterate the requirement to follow law such as the 1976 Federal Land Policy and Management Act.
FW-Lands-Standards and Guidelines-3	Criteria for Exchange...Exchange for lands that meet one or more of the following criteria: - Lands within designated wildernesses. - Lands that contain vital threatened and endangered species habitat, or vital wildlife habitat (i.e., calving areas). - Lands needed for developed and dispersed recreation. - Wetlands, riparian areas, and other water oriented lands. - Lands that contain unique, natural, or cultural values. - Lands that will improve public land management, meet specific administrative needs, or benefit other National Forest programs. - Lands that provide needed access, or protect public lands from fire, or trespass or prevent damage to public land resources. - Lands that need rehabilitation or stabilization to restore their productivity. - Lands that are needed to block up public land ownership or meet research needs. - Lands that are needed to meet programs prescribed or endorsed by acts, or reports of Congress, or the Department of Agriculture.	FW-LAND-DC-1 FW-LAND-G-4 FW-LAND-m.a.-4	Land exchange is best evaluated on a case-by-case basis, guided by plan direction listed but considering site and situation specific factors.
FW-Lands-Standards and Guidelines-4	Purchase Criteria...Purchase available lands as funding permits within the following categories: - Congressionally designated areas. - Private land within wilderness. - Land containing threatened and endangered species habitat and critical wildlife habitats. - Identified private land within recreation acquisition composites.	FW-LAND-DC-1 FW-LAND-G-4 FW-LAND-m.a.-4	Land purchase is best evaluated on a case-by-case basis, guided by plan direction listed above but considering site and situation specific factors.
FW-Lands-Standards and Guidelines-5	County Roads...Encourage counties to designate Forest roads as County roads when private landowners use exceeds 50%. Execute easements for operation and maintenance responsibilities when roads are designated on both systems.	FW-TFA-m.a.-3	Guidance has been retained.
FW-Lands-Standards and Guidelines-6	Boundaries... - Survey and mark boundaries. - Protect present corners or reference of same when the possibility of disturbance during lands use activities exists. - Locate boundaries near on-going resource projects and special management areas such as wilderness. - Resolve or prevent encroachments. - Maintain posted property boundaries and corners.	FW-LAND-DC-3	Guidance has been partially retained.

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FW-Lands-Standards and Guidelines-7	Rights of Way...Acquire rights-of-ways: - Acquire road and trail ROWs across non-National land in amounts and locations required to implement and support other resource management activities. - Cooperate with intermingled and adjacent landowners and local governments in developing roads or road systems that serve the needs of all parties.	FW-LAND-DC-4 FW-LAND-m.a.-1 FW-LAND-m.a.-3	Guidance has been retained.
FW-Lands-Standards and Guidelines-8	Land Acquisition...Forest lands are classified as desirable for acquisition (classes 1, 2 &3), undesirable for acquisition and base-in-exchange. Maps displaying these classifications are located at the District offices and in the Lands office at the Forest Supervisor's office.	none	This is a statement that does not provide management direction. The referenced maps are outdated and have not been carried forward in the revised plan.
FW-Lands-Standards and Guidelines-9	Title Claims/Small Tracts Act Applications...Process title claims and applications submitted under the Small Tracts Act.	none	The plan does not reiterate the requirement to follow law such as the 1983 Small Tracts Act (Public Law 97-465).

Table 143. Comparison of law enforcement guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Law Enforcement-Vision-1	People feel safe and comfortable while they are on the Forest. The shareholders in the Carson know that their natural resources are protected from loss and damage.	FW-FFP-DC-6 FW-REC-DC-8	The plan directs the Forest Service, not the public. It directs management to protect natural resources.
FW-Law Enforcement-Management Highlights-1	Provide safety for Forest visitors through use and enforcement of appropriate laws, closures, or other management techniques.	FW-TFA-DC-1 FW-TFA-DC-4 FW-FFP-DC-6 FW-REC-DC-8	Guidance has been retained.
FW-Law Enforcement-Management Highlights-2	Protect natural resources and Federal property from loss or damage through illegal acts and protect Forest Service employees while conducting their official duties.	FW-FFP-DC-6 FW-REC-DC-8	The plan guides Carson NF management, it does not guide federal law enforcement activities. It does direct management to minimize vandalism, theft, and illegal activity.
FW-Law Enforcement-Setting the Stage-1	Enforcement of Federal laws and regulations, on National Forest lands, is the responsibility of the U.S.D.A. Forest Service. However, State and local law enforcement agencies have the same authorities and responsibilities on National Forest lands as they do elsewhere in their respective jurisdictions.	none	This is a statement that does not provide management direction.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Law Enforcement-Setting the Stage-2	The Carson cooperates to the fullest extent possible with the various federal, state, county and local agencies within or adjacent to the Forest.	none	This is a statement that does not provide management direction.
FW-Law Enforcement-Standards and Guidelines-1	COOP... Cooperate with Taos and Rio Arriba Counties for law enforcement.	none	USFS law enforcement cooperates with multiple state, local, and federal entities. That cooperation is not dictated by the plan.
FW-Law Enforcement-Standards and Guidelines-2	Level Four Agents... Law enforcement support for six Ranger Districts	none	Law enforcement staffing levels are not determined by the Carson NF or dictated by the plan.

Table 144. Comparison of minerals guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Minerals- Vision-1	The Forest contributes to the nations demand for minerals by encouraging responsible mineral development.	FW-MM-DC-1 FW-MM-DC-4 FW-MM-DC-5	Guidance has been retained.
FW-Minerals-Management Highlights-1	Administer the mineral laws and regulations to minimize surface resource impacts while supporting sound energy and minerals exploration and development.	FW-MM-DC-1	Guidance has been retained.
FW-Minerals- Setting the Stage-3	For national forest land, which was obtained by donation or purchase, generally called "acquired" land, the Forest Service has a broader spectrum in which to mitigate environmental impacts. Although policy encourages mineral development, a proposal which can't be adequately mitigated can be disapproved on "acquired" land.	FW-MM-DC-1	Guidance has been retained.
FW-Minerals-Setting the Stage-4	When land became part of the national forest through exchange, the status of the land leaving government ownership in the exchange determines which laws apply.	none	This is a statement that does not provide management direction.
FW-Minerals-Standards and Guidelines-1	Administer Oil & Gas Cases... In addition to appropriate laws and regulations, use Memorandums of Understanding that have been developed between the Forest Service and the BLM to guide case processing.	FW-MM-DC-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Minerals-Standards and Guidelines-2	Surface Occupancy Restrictions... For proposed oil and gas leases, include additional stipulations for the protection of surface resources in the following categories: slopes over 40% (507.1 M Acres), to riparian areas (33.6 M Acres), critical wildlife habitats, and developed and proposed recreation sites (9.3M acres). When possible, classify these areas as available for leasing but with "limited surface occupancy". Develop site specific "limits" if needed. These should describe such requirements as restrictions on periods of permissible activity, access control, etc. If necessary, classify as "no surface occupancy" Use the same categories to develop appropriate mitigation measures or restrictions for all other mineral development proposals.	FW-MM-DC-1 MA-JICMA-DC-1 MA-JICMA-S-3 MA-JICMA-S-4 MA-JICMA-S-5 MA-JICMA-S-6	Guidance has been retained.
FW-Minerals-Standards and Guidelines-3	Pits... Administer and process mineral material cases. Complete pit development plans for all operating pits that address sound development and reclamation procedures. Top soil will be stockpiled. Pit bottoms will be graded to drain and slopes shall be reshaped to 3:1 where practical	FW-MM-DC-2 FW-MM-G-1 FW-MM-G-2	Guidance has been retained.
FW-Minerals-Standards and Guidelines-4	Validity Contests... Initiate validity contest on mining claims where there is unwarranted occupancy, detrimental surface disturbance, or the lands are needed for another National Forest program.	FW-MM-DC-1	Guidance has been retained.
FW-Minerals-Standards and Guidelines-5	Operating Plans... Require operating plans for mining claims when significant surface disturbance or occupancy is proposed.	FW-MM-DC-1	Guidance has been retained.
FW-Minerals-Standards and Guidelines-6	Withdrawals of Lands to the Provisions of the 1872 Mining Law...Withdraw from mineral entry such important areas as recreation facilities, designated recreation sites, etc.	FW-REC-DC-7	The plan does not reiterate the requirement to follow law such as the 1872 Mining Law.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-1	General Administration for Gas Development...Minimize surface disturbance on the Jicarilla Ranger District. Where feasible, encourage the use of unconventional drilling techniques, such as directional drilling, and well siting measures, such as co-location and twinning, to minimize impacts to surface resources. Encourage the use of existing well pads, roads, and pipeline corridors for new facilities. Same for new and existing leases.	MA-MM-DC-1 MA-JICMA-DC-2 MA-JICMA-S-7	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-2	Best Management Practices...Utilize established best management practices found in the most current version of the "Oil and Gas Surface Operating Standards for Oil and Gas Development" (Gold Book). Same for new and existing leases.	MA-JICMA-G-2	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-3	Areas of Resource Concern... The following areas (with resource values) are identified as areas of resource concern: - Bancos Canyon (cultural resources, watershed, wildlife habitat, and seclusion) - La Jara Canyon (undeveloped characteristics, cultural resources, wildlife security, seclusion) - Valencia Canyon (undeveloped characteristics, cultural resources, wildlife security, seclusion) - Fierro Mesa and Canyon (undeveloped characteristics) - Vaqueros Canyon (visual resources, wildlife habitat) Within these areas, apply current forest plan direction for Management Areas 4, 7, 8, 12, and 13 and manage for protecting, maintaining, and enhancing the resource values for which they are identified. Prior to developing any new well sites, associated roads, and pipelines within an area of resource concern, consider alternative drilling technology and various site locations to minimize the impacts to surface resources. A 5-year development strategy will be encouraged prior to proposed development in areas of resource concern. Applies to existing leases.	FW-MM-DC-1 MA-JICMA-DC-2 MA-JICMA-S-9 MA-JICMA-S-10 MA-JICMA-G-10	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-4	Timing Restriction...New drilling activity and completions is limited to April 1 through October 31. Normal recurring production and day-to-day operations will continue to occur year-round. Exceptions may be considered on a case-by-case basis. Applies as a condition of approval on existing leases to be negotiated with the operator. This limitation does not apply to maintenance and operation of producing wells.	MA-JICMA-S-3	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-5	Riparian Areas...Exclude well pad construction in riparian areas. Same for new and existing leases. If there are no other options other than to construct a well pad within a riparian area, additional NEPA analysis to approve a surface use plan of operations will be required and a site-specific amendment to the forest plan would be required.	MA-JICMA-S-4	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-6	Slopes Over 20 Percent...When possible, exclude well pad construction on slopes greater than 20 percent, with cuts over 15 feet. Same for new and existing leases.	MA-JICMA-S-10	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-7	Slopes Over 40 Percent...Avoid new roads crossing slopes greater than 40 percent. Require an engineering design approved by the Forest Service to support road construction on slopes greater than 40 percent. Same for new and existing leases.	MA-JICMA-S-5	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-8	Maximum Road Grades...Limit maximum grades to 8 percent for new roads, unless pitches are less than 300 feet (up to 10 percent permitted in some cases). Same for existing and new leases.	MA-JICMA-S-6	Guidance has been retained.

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FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-9	Pipelines...Locate pipelines to minimize surface disturbance, such as aligning along existing roads and corridors. Also minimize surface disturbance by putting pipes deep enough to allow other surface uses to occur on top of these lines. Same for new and existing leases.	MA-JICMA-S-7	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-10	Natural Gas Collection Points and Pipelines...Encourage centralization collection points and water pipelines for produced water. Same for new and existing leases.	MA-JICMA-G-8	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-11	New Lease Roads...Close all new lease roads over 300 feet in length to public motorized access, except where other resource needs dictate that a road should be left open to the public. Same for new and existing leases.	MA-JICMA-G-6	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-12	Loop Roads...Permit loop roads to access leases in cases only where a transportation proposal developed by the operator and approved by the Forest Service demonstrates that there would be a benefit to surface resources. Same for new and existing leases.	MA-JICMA-G-7	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-13	Restoration and Reclamation...Complete restoration and reclamation of surface disturbance to achieve 70 percent of the ground cover (compared to nearby undisturbed areas) with permanent native vegetation within 3 growing seasons. Bare ground necessary to conduct day-to-day operations must be kept to a minimum. Monitor the success of ground cover establishment until 70 percent of the ground cover is attained. Reclamation meeting the same standard is required for disturbance of vegetated areas. Same for new and existing leases.	MA-JICMA-S-11	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-14	Reclaimed Areas...Monitor and maintain reclaimed areas to minimize the establishment of invasive plants during the reclamation period. Same for new and existing leases.	MA-JICMA-G-9	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-15	Visual Quality Within Vaqueros Canyon...Manage Vaqueros Canyon for a visual quality objective (VQO) or scenic integrity level of partial retention. This objective may be reduced by one level to meet other resource goals on a case-by-case basis. Employ design criteria for visual elements that adhere to the natural characteristics dominating the landscape to the extent possible.	MA-JICMA-DC-2 MA-JICMA-G-10	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-16	Air Quality Mitigation...All newly developed facilities will utilize the air quality mitigations set forth by the New Mexico Air Quality Bureau. When existing facilities are updated, industry will also follow these mitigation measures. Same for new and existing leases.	MA-JICMA-S-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-17	Noise...Comply with BLM's management of sound generated by oil and gas production and transportation in the San Juan Basin described in the "Notice to Lessees and Operators on Onshore Oil and Gas Leases within the Jurisdiction of the Farmington Field Office." As changes occur over time, the Forest Service will continue to adopt the BLM standards as they develop. Same for new and existing leases. Current standards include, but are not limited to: - 48.6 dB(A)Leq will be achieved at Buzzard Parl and Cedar Springs Campgrounds, Gasbuggy, and Carracas Mesa Administrative Site - 48.6db(A)Leq will be achieved inside Middle Mesa Raptor Area, Ullbarri Raptor Area, and Munoz Canyon Raptor Area at 400 feet in all directions from the noise source. - Stricter noise standards may be applied to Gasbuggy, Buzzard Park and Cedar Springs Campgrounds, if warranted. - Additional noise sensitive areas, such as primary winter big game range or new camping, picnic, or trail areas, may be identified and/or developed by the Forest Service. Any new policy would be implemented after a 30-day notice to the affected parties.	MA-JICMA-S-2	Guidance has been retained.
FW-Minerals-Amend 13: Jicarilla RD-Standards and Guidelines-18	Leasing on the Jicarilla Ranger District...The following stipulations apply to new leases, including those pending, currently unleased, and any existing leases that become available for leasing in the future: - NO SURFACE OCCUPANCE (NSO): leasing with a no surface occupancy stipulation makes energy resources available for companies willing to employ unconventional drilling technology. Extraction of these energy resources without roads or well pads within the areas listed below allow the Forest Service to pursue the management objectives of protecting undeveloped characteristics, cultural resources, wildlife habitat, and seclusion. On the Jicarilla Ranger District, a NSO stipulation will be applied to new leases in: Banco's, La Jara, and Fierro Canyons, Valencia Canyon beyond 300 feet from existing roads, and in Mexican Spotted Owl habitat. - CONTROLLED SURFACE USE (CSU): Controlled surface use will be applied to new leases in order to minimize the potential for excessive erosion and loss of soil productivity on the Jicarilla Ranger District. With the exception of areas where a NSO stipulation is applied, new leases on the rest of the district are open to development subject to the following constraints: No well pad construction on slopes greater than 20 percent, with cuts over 15 feet in depth and no roads on side slopes greater than 40 percent. - TIMING RESTRICTION: New drilling activity or completion (e.g., construction, drilling, completions, swabbing, pump changes, tubing changes, replacing production equipment, or any other maintenance activity that requires heavy equipment) is limited to April 1 through October 31. This timing restriction applies only to all new leases and does not apply to maintenance and operation of producing wells.	MA-JICMA-S-10	Guidance has been retained.

Table 145. Comparison of people guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-People-Vision-1	The Forest Service logo is a tree, representing the land we care for, surrounded by U ... S, standing for us -- you and me -- the people we serve. Both are contained within a shield, symbolizing our mission of blending the land and us -- the people.	FW-PART-DC-2	Guidance has been retained.
FW-People-Vision-2	For this to happen, we expose ourselves to varied perspectives and viewpoints. We seek to understand and to be understood. Our workforce reflects the diversity of our nation -- diversity in perspective, actions and being.	FW-PART-DC-1 FW-PART-DC-2	Guidance has been retained.
FW-People-Management Highlights-1	We actively interact with people.	FW-PART-DC-2	Guidance has been retained.
FW-People-Management Highlights-2	We strive to be leaders in conservation and be high quality professionals.	FW-PART-DC-3 FW-PART-m.a.-1	Guidance has been retained.
FW-People-Management Highlights-3	We trust and respect all.	FW-PART-DC-2	Guidance has been retained.
FW-People-Management Highlights-4	Our actions reflect our convictions.	none	This section in the old plan is similar to the FS motto, vision, and guiding principles. "Responsibility and accountability for excellence are shared by employees and partners." "We are responsible and accountable for what we do."
FW-People-Setting the Stage-1	No Right Answers, No Wrong Answers: When it comes to figuring out what to do or not to do on the Carson National Forest, there are no right nor wrong answers. There are only different approaches with differing results. This is all the more reason we must continue to work together to figure what is the best blend of the people with the land. When we look at the land, we must look at the Carson National Forest and all the other lands affected by management of the Forest.	FW-PART-DC-1 FW-PART-DC-2 FW-FRT-DC-1 FW-RHC-DC-1	Guidance has been retained.
FW-People-Setting the Stage-2	We also must look at how management of other lands might affect the Carson and how management of the Carson might affect other lands. When we think of the people, we must look at those of us who are fortunate enough to live next to the Carson, those who come to visit, and those who live far away and benefit indirectly from the forest. We must "listen" to those who do not speak.	FW-PART-DC-2 FW-PART-DC-3 FW-FRT-DC-1 FW-RHC-DC-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-People-Setting the Stage-3	"But they are wrong": We often become too sure of our view. We convince ourselves we are right and "they" are wrong! Anyone who doesn't conform to our beliefs is the enemy. There are no enemies. We cannot afford them. We are just different people with different views because of different backgrounds. We are traveling through in the darkness of life, each carrying a candle. We see what we can see. Some spend their time telling others that what they see by their own candle is "wrong." "Just look over here by my candle light, and it will be obvious how it truly is," we say. A clearer answer is found by bringing all our candles together and sharing with each other what we each see. Together we light up new points of the darkness and can travel more confidently through life.	FW-PART-DC-1 FW-PART-DC-2	This is a statement that does not provide management direction. The plan provides direction on working with others.
FW-People-Standards and Guidelines-1	Actively Interact...Actively interact with people and other agencies. Work together as partners. Keep them aware of activities on the Forest.	FW-PART-DC-1 FW-PART-DC-2 FW-PART-m.a.-1	Guidance has been retained.
FW-People-Standards and Guidelines-2	Provide Information...Provide current and useful information to the Forest users about the Carson and other national forests. Be responsive to their needs.	FW-PART-DC-1 FW-CR-DC-5 FW-REC-DC-1 FW-SU-DC-2 FW-FIRE-DC-5 FW-FIRE-DC-6 FW-MM-DC-4	Guidance has been retained.
FW-People-Standards and Guidelines-3	Environmental Education...Educate people about the environment and mission of the Forest Service.	FW-PART-DC-1	Guidance has been retained.
FW-People-Standards and Guidelines-4	Respect It...Instill a respect for the land and the people.	FW-PART-DC-1	Guidance has been retained.

Table 146. Comparison of range guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Range- Vision-1	The Forest rangelands are diverse, healthy grasslands, open forests and woodlands, shrub lands, and riparian areas. These renewable rangeland resources are managed for a variety of uses including recreation, wildlife, water, and proper grazing by domestic livestock.	FW-PART-GRZ-3 FW-PART-GRZ-6	Guidance has been retained.
FW-Range-Management Highlights-1	Evaluate effectiveness of management and determine need for improvement or to change management system.	FW-PART-GRZ-S-1 FW-PART-GRZ-G-1 FW-PART-GRZ-G-2 FW-PART-GRZ-m.a.-1	Guidance has been retained.
FW-Range-Management Highlights-2	Adjust permitted numbers based on production utilization studies.	FW-PART-GRZ-S-1 FW-PART-GRZ-m.a.-7	Guidance has been retained.
FW-Range-Management Highlights-3	Maintain improvements to achieve project life.	FW-PART-GRZ-O-1	Guidance has been retained.
FW-Range-Management Highlights-4	Maintain wild horse populations to levels outlined in management plans for the area.	FW-WHT-DC-1 FW-WHT-G-1	Guidance has been retained.
FW-Range-Management Highlights-5	Provide forage to the extent benefits are commensurate with costs without impairing land productivity and within the constraints of social needs.	FW-GRZ-DC-1 FW-GRZ-DC-2 FW-GRZ-DC-5	Guidance has been retained.
FW-Range-Management Highlights-6	Provide cooperation with other agencies and private range owners to validate range management systems to reduce impacts of livestock grazing.	FW-PART-GRZ-m.a.-1 FW-PART-GRZ-m.a.-3 FW-PART-GRZ-m.a.-8	Guidance has been retained.
FW-Range-Management Highlights-7	Provide an average annual permitted use of 120,000 AUM's.	FW-GRZ-G-1	Guidance has been retained.
FW-Range- Setting the Stage-1	When grazing, we try to balance permitted use and grazing capacity in animal unit months (AUM's). An animal unit month is the quantity of forage required by a mature cow weighing 1,000 pounds or the equivalent for one month.	FW-GRZ-G-1	Guidance has been retained.
FW-Range-Setting the Stage-2	Grazing capacities may be adjusted by improving livestock management and forage production. On National Forest lands this is done on an allotment by allotment basis as opportunities to balance permitted use with capacities are apparent. Range analysis are conducted and evaluated to determine proper AUM stocking rates for adjusting permitted use with capacities.	FW-GRZ-G-1 FW-PART-GRZ-m.a.-4	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Range-Standards and Guidelines-1	Production Utilization Studies...Complete production utilization studies to evaluate effectiveness of management and determine need for improvement or to change current management system. Adjust permitted number based on Production Utilization Studies (P/U). Production Utilization Studies (P/U) by Allotment Management Intensity Level will be completed as needed:	FW-GRZ-G-1	Guidance has been retained.
FW-Range-Standards and Guidelines-4	Maintenance...Maintain structural and non-structural improvements to achieve project life. Permittees will maintain the structural improvement. Replacement of structural improvements will be planned in a 25-35 year cycle and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-O-1	Guidance has been retained.
FW-Range-Standards and Guidelines-7	Wildhorse Populations...Remove excess wild horse populations to levels outlined in management Plans.	DA-WHT-S-1	Guidance has been retained.
FW-Range-Standards and Guidelines-8	Improvements...Plan and accomplish structural and nonstructural improvement(s) needed to implement and maintain prescribed management intensity.	FW-GRZ-O-1	Guidance has been retained.
FW-Range-Grazing Management-Standards-1	Forage use by grazing ungulates will be maintained at or above a condition which assures recovery and continued existence of threatened and endangered species.	FW-GRZ-S-1	Guidance has been retained.
FW-Range-Grazing Management-Guidelines-2	Identify key ungulate forage monitoring areas. These key areas will normally be 1/4 to 1 mile from water, located on productive soils on level to intermediate slopes, and be readily accessible for grazing. Size of the key forage monitoring areas could be 20 to 500 acres. In some situations such as high mountain meadows with perennial streams, key areas may be closer than 1/4 mile from water and less than 20 acres. Within key forage monitoring areas, select appropriate key species to monitor average allowable use.	Monitoring Topic VII	Guidance has been retained.
FW-Range-Grazing Management-Guidelines-3	In consultation with the US Fish and Wildlife Service, develop site-specific forage use levels. In the event that site-specific information is not available, average key species forage utilization in key forage monitoring areas by domestic livestock and wildlife should not exceed levels in the above table during the forage growing season.	none	The tabled levels were based on sites below the Mogollon Rim. More specific use levels have been established through allotment specific NEPA decisions.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Range-Grazing Management-Guidelines-4	The above table is based on composition and climatic conditions typical of sites below the Mogollon Rim. On sites with higher precipitation and vegetation similar to sites above the Mogollon Rim, allowable use for ranges in poor to excellent condition under deferment or rest strategies may be increased by 5%. The guidelines established in the above table are applicable only during the growing season for the identified key species within key areas. Allowable use for key forage species during the dormant season is not covered in the above table. These guidelines are to be applied in the absence of more specific guidelines currently established through site specific NEPA analysis for individual allotments.	FW-GRZ-S-1 FW-GRZ-G-1	Guidance has been retained.
FW-Range-Grazing Management-Guidelines-5	Guidelines for allowable use for specific allotment(s) management or for grazing strategies not covered in the above table will vary on a site-specific basis when determined through the Integrated Resource Management (IRM) process.	FW-GRZ-S-1 FW-GRZ-G-1	Guidance has been retained.
FW-Range-Grazing Management-Guidelines-6	Allowable use guidelines may be adjusted through the land management planning revision or amendment process. Guidelines established through this process to meet specific ecosystem objectives, will also employ the key species and key area concept and will be monitored in this manner.	FW-GRZ-S-1 FW-GRZ-G-1	Guidance has been retained.

Table 147. Comparison of recreation guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-REC- Vision-1	The Carson provides leadership in quality outdoor recreation in New Mexico. The needs of people who come to visit and use the Forest are met with services and facilities which recognize and respect the Land of Enchantment's unique character information and interpretive services emphasize New Mexico's vast array of cultural and recreational opportunities. Visitors feel welcome by the service they receive from employees who exemplify the good host attitude.	FW-REC-DC-1 FW-REC-DC-2 FW-REC-DC-3	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-REC- Vision-2	We recognize and accommodate the different needs of our visitors by providing facilities for differing-and sometimes conflicting-recreation uses. We give emphasis to specialized types of recreation, such as trail networks for cross-country skiing, mountain biking, hiking, horseback riding, motorcycling, and snowmobiling. Special biological areas and unique resources, such as lakes and rivers, are managed to recognize and protect their fragile ecosystems. Day-use facilities are provided near local communities. Recreation sites are clean, safer, well maintained, and provide universal access.	FW-REC-DC-2 FW-REC-DC-3 FW-REC-DC-5 FW-REC-DC-7 FW-REC-DC-10	Guidance has been retained.
FW-REC- Vision-3	We actively work with communities and individuals to help them develop services and facilities which complement recreation opportunities on the National forests. Partners and opportunities are sought to provide National Forest Services and facilities.	FW-REC-DC-4 FW-REC-m.a.-3 FW-REC-m.a.-4	Guidance has been retained.
FW-REC-Vision-4	We employ a diverse, "people oriented" workforce with skills, education, and background to deliver quality service to our customers. Highly trained, equipped, and visible forest personnel and law enforcement officers insure that visitors have a safe, enjoyable, and enriching recreation experience.	none	This statement is similar to the FS motto, vision, and guiding principles. "We are recognized nationally and internationally as a leader in caring for the land and serving people." "We are a multicultural and diverse organization." The plan directs the Forest Service, not public perception.
FW-REC- Vision-5	We are charged with stewardship of some of our Nation's most precious resources. Carson National Forest lands will continue to meet the growing recreational needs far into the future.	FW-REC-DC-4 FW-REC-m.a.-1 FW-REC-m.a.-4	Guidance has been retained.
FW-REC- Management Highlights-1	Provide a balanced level of developed and dispersed recreation experiences (5 '15 MRVD's developed recreation and 390 MRVD's dispersed recreation).	FW-REC-DC-3	Guidance has been retained.
FW-REC- Management Highlights-2	Help the public enjoy their Forest visit and instill an understanding of the resources and uses of their National forests.	FW-REC-DC-1 FW-REC-DC-6 FW-REC-O-1 FW-REC-O-2 FW-REC-O-3	Guidance has been retained.
FW-REC- Management Highlights-3	Establish a full spectrum of trail opportunities, considering all modes of travel, ranging from opportunities for challenge and adventure to opportunities for people with disabilities, and give special emphasis to the protection, development and management of specially designated areas and trails	FW-REC-DC-3 FW-REC-DC-13 FW-REC-m.a.-7	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-REC- Management Highlights-4	Wilderness: - Maintain an enduring high quality wilderness and provide a quality recreational experience. - Allow wildfire to play a more natural role. - Protect the current status of air quality related values in wilderness areas. - Identify and protect areas that contain threatened, endangered, and sensitive species of plants.	FW-CRF-G-2 FW-CRF-G-3 FW-CRF-G-4 FW-WFP-G-1 FW-AIR-DC-1 MA-RWMA-DC-1 MA-RWMA-DC-2 DA-BOT-G-1 DA-BOT-G-2 DA-WILD-DC-1 DA-WILD-DC-2	Guidance has been retained.
FW-REC- Recreation Experience- Standards and Guidelines-2	Rural and Urban (R and U)... Location-manage areas within 1/4 mile of administrative sites, the Ghost Ranch Living Museum, winter sports sites, and other recreation sites adjacent to villages and towns to provide R and U recreation opportunities. Setting-The natural environment may be substantially modified. Timber harvest and other resource practices should enhance the associated recreation use. Sights and sounds of other users may be readily evident, and human interaction is high. Facilities should be provided for intensified motorized recreational use. Experiences and Activities-Group and individual interaction are emphasized, as are user conveniences. Controls, regulations, and law enforcement are obvious. Associated activities are motorized and mechanical in nature. Developed recreation activities predominate.	MA-DEVRES-DC-1 MA-DEVRES-DC-2 MA-DEVRES-DC-6 MA-DEVRES-DC-7	Guidance has been retained.
FW-REC- Recreation Experience- Standards and Guidelines-3	Road Natural (RN)... Location-Manage areas within 1/2 mile of paved highways and Forest all weather and heavily used dirt roads to provide a RN recreation opportunity. This will include most of the recreation sites that are not near villages and towns. Setting-The environment should be predominantly natural appearing with moderate evidence of human intervention. Resource modification and utilization practices may be evident but should be in harmony with the natural environment. Interaction between users should be low to moderate, but evidence of other users may be prevalent. Facilities should be designed for conventional motorized use, ranging from travel trailers to passenger cars to moderate clearance two wheel drive trucks. Experience and Activities-Manage for a high opportunity for interaction with the natural environment, both passive (sightseeing) and active activities. Both motorized and non-motorized forms of recreation are possible and should be accommodated by convenience facilities. Regulations on user behavior is high at recreation sites and along heavy use corridors, but less than in the Rural/Urban class.	FW-REC-DC-9 FW-REC-DC-11 FW-REC-DC-13 FW-TFA-DC-1 MA-DEVRES-DC-4	Guidance has been retained.

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FW-REC-Recreation Experience-Standards and Guidelines-4	Semi-Primitive Motorized (SPM)... Location-Manage areas within 1/2 mile of lower standard Forest roads and areas where off road vehicles are permitted to provide a SPM recreation opportunity. This includes Forest system roads where use is light and maintenance levels are low. Remote recreation sites where few facilities are provided are also included in this category (Goose Lake and Middle Fork fishing sites, etc.). Areas designated on the Travel Management Map as Area 2 may change from Semi-Primitive Non-Motorized (SPN) to SPM during the winter season. Setting-The areas should be predominately natural appearing. Resource modifications should blend with the surrounding landscape character. User interaction should be low, but evidence of other users may be apparent. On-site controls and restrictions of use may be present but are subtle. Facilities should be designed for four wheel drive and/or high clearance rugged vehicles. Experience and Activities-There should be a high opportunity for interaction with the natural environment and a moderate opportunity for isolation from other people. User conveniences should be limited, users should experience self-reliance, challenge, and risk. Associated activities may be motorized, nonmotorized, including jeep driving, bicycle riding, horseback riding, and foot travel transportation modes. Dispersed recreation activities predominate.	FW-REC-DC-9 FW-REC-DC-12 FW-REC-DC-13 FW-REC-S-2	Guidance has been retained.
FW-REC-Recreation Experience-Standards and Guidelines-5	Semi-Primitive Non-Motorized (SPN)... Location-Manage areas for an SPN recreation experience that are farther than 1 /2 mile from motorized use roads, trails and areas. These areas are shown on the travel management map. Except for the road corridors, Area 1 on the map should be SPN year round. Except for the road corridors, Area 2 should be SPN in the spring, summer and fall. Snowmobiles are permitted in Area 2. Area 9 is SPN from January 1 to August 15, and SPM the remainder of the year. Setting-The environment should be natural appearing with little or no evidence of human intervention. No resource manipulation projects will occur in Management Area 20. In other areas, resource modification and utilization practices should emphasize recreation and wildlife concerns. Recreation user interaction should be low but there may be evidence of other users. Facilities should be designed for nonmotorized uses, including foot travel, horseback travel and bicycles. On site controls and restrictions of use should be subtle. Experience and Activities-There should be a high opportunity for isolation from other people, independence, closeness to nature, tranquility, self-reliance, challenge and risk. Activities may be mechanical but must be no motorized. Dispersed activities predominate.	FW-REC-DC-9 FW-REC-DC-12 FW-REC-DC-13 FW-REC-S-2	Guidance has been retained.

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FW-REC-Recreation Experience-Standards and Guidelines-6	Primitive (P)...No primitive experiences are provided outside of the wildernesses.	MA-RWMA-DC-1 DA-WILD-DC-1	Guidance has been retained.
FW-REC-Opps & Cont-Standards and Guidelines-1	Maintain the Forest environment to provide the full range of recreation opportunities. Make public contacts during the peak use season(s) for visitor education and provide for clean-up and public safety at dispersed use sites.	FW-REC-DC-3 FW-REC-DC-6 FW-REC-DC-10	Guidance has been retained.
FW-REC-Opps & Cont-Standards and Guidelines-2	Recreation Opportunity Guide... Complete a Recreation Opportunity Guide for each Ranger District..	none	Plans do not compel Agency action such as completing guides (FSH 1909.12 sec 21).
FW-REC-Opps & Cont-Standards and Guidelines-3	Motor Vehicle Use Map (MVUM)... Provide a Forest MVUM for the public	FW-TFA-DC-2	Guidance has been retained.
FW-REC-Opps & Cont-Standards and Guidelines-4	Signing... Install and maintain signing in conjunction with the Forest Travel Management Plan.	FW-REC-DC-6 FW-TFA-DC-2 FW-TFA-DC-3	Guidance has been retained.
FW-REC-Opps & Cont-Standards and Guidelines-5	Patrols... During peak use season provide regular patrols to provide public education and law enforcement in travel restriction areas. Provide occasional patrols during other periods of the year	FW-TFA-DC-3 FW-TFA-S-1 FW-REC-m.a-2 FW-REC-m.a-3	Guidance has been retained.
FW-REC-Opps & Cont-Standards and Guidelines-6	Volunteers... Provide supervision, training and incidental needs to develop and maintain an active volunteer program in connection with dispersed recreation programs such as trail maintenance, sign installation and maintenance, clean-up, and monitoring of use.	FW-REC-m.a.-3 FW-REC-m.a.-8 DA-WILD-m.a.-2	Guidance has been retained.
FW-REC-O&G-Standards and Guidelines-1	Capacities... Establish capacities when needed for outfitter guides and limit use to the established capacity. Species Outfitters/Guides Service Days mule deer 10 500 elk 7 300 mountain lion 7 350 Barbary sheep not limited at this time not limited at this time If conditions warrant, the permitted outfitter/guide and service days can be adjusted up or down. Permits will be converted to "priority use permits" when possible.	FW-SU-DC-7 FW-SU-DC-8	Limits on outfitter guides are addressed. Plans do not compel Agency action such as establishing capacities (FSH 1909.12 sec 21).
FW-REC-O&G-Standards and Guidelines-2	Applications... Encourage applications for outfitter guides to provide needed recreation opportunities, issue permits, monitor activities, make performance evaluations, and issue priority use permits when warranted.	FW-SU-DC-6 FW-SU-m.a.-1	Guidance has been retained.
FW-REC-O&G-Standards and Guidelines-3	Educate Public... Enlist outfitters to exercise responsibility to educate the public they guide and serve about natural resources management and protection.	FW-SU-DC-7 FW-SU-m.a.-3 DA-WILD-S-2	Guidance has been retained.

Table 148. Comparison of special uses guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Special Uses-Vision-1	All acceptable requests for special use permits are met.	FW-SU-DC-6 FW-SU-m.a.-1	Guidance has been retained.
FW-Special Uses-Management Highlights-1	Administer non-recreation special use permits to minimize adverse impacts on other uses and resources. Issue new permits when in the best interest of the public	FW-SU-DC-2 FW-SU-DC-8	Guidance has been retained.
FW-Special Uses-Setting the Stage-1	National Forest lands are adjacent to and surround many small communities and private lands. Therefore, there are demands and needs on Forest land for cemeteries, landfills, solid waste transfer stations, access roads, telephone and electric transmission lines, irrigation ditches, pipelines, electronic sites, and other uses. These uses can be authorized by special use permits or easements to local governments, corporations, or individuals.	FW-SU-DC-3 FW-SU-DC-4	Guidance has been retained.
FW-Special Uses-Standards and Guidelines-1	Process & Administer Permits...Process applications and administer non-recreation permits.	none	Covered by law, policy, or regulation (FSM 2700).
FW-Special Uses-Standards and Guidelines-2	Solid Waste Sites...Cooperate with local governments in the planning to close existing landfill sites by December 31, 1999, to comply with resource management objectives and applicable State and Federal regulations. New landfill sites will not be permitted on Forest lands. Local governments can secure lands needed for new locations through land exchanges or the Town site Act.	none	Covered by law, policy, or regulation (FSM 2700)
FW-Special Uses-Standards and Guidelines-3	Electronic sites...Management emphasis for electronic sites (Table Special Uses-1) will be: - Encourage formation of user improvement associations and administer sites in cooperation with associations. - Incorporate site operation technical standards developed by user groups and reviewed and recommended by Forest Supervisor in permits. - Develop site plans for each electronic site. - Implement cooperatively developed site management standards for each site to provide for frequency and power separation. - Manage structural density at electronic sites to meet electronic requirements. - Interconnecting and cellular systems involving other forests will be coordinated at the Regional level. - Electronic uses within the Canon, San Antonio Mountain, Mogote Peak and Sawmill Mountain electronic sites will be limited to microwave, UHF and VHF communications, -TV translators and booster stations. The effective radiated power (ERP) for omnidirectional transmission will be limited to 1000 watts. Directional transmission's having greater than 1000 watts ERP will be considered when compatible with existing uses. TABLE SPECIAL USES-1. ELECTRONIC SITES	FW-SU-DC-3 FW-SU-S-1	Guidance has been partially retained.

Table 149. Comparison of sustainable forest guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Sustainable Forest-Vision-1	We focus on the forest--a total ecological system--a recycling system. It is a system involving birth, growth, maturity, death, and a rebirth. We acknowledge the need to manage for the whole cycle, the part we see and the unseen.	FW-VEG-DC-1 FW-VEG-DC-2 FW-VEG-DC-3	Guidance has been retained.
FW-Sustainable Forest-Vision-2	The focus is on a sustainable forest, versus sustained yield--the total forest cycle versus a product from one phase of the cycle. It is critical to keep the whole cycle healthy and stable. Only through a sustainable forest can we sustain options for the future.	FW-VEG-DC-1 FW-VEG-DC-2 FW-VEG-DC-3	Guidance has been retained.
FW-Sustainable Forest-Vision-3	Understanding the whole forest cycle is much like putting together a jigsaw puzzle--a puzzle with many pieces--a puzzle of pieces within pieces. We often overlook the pieces we don't readily see--the soil and the soil's inhabitants. Fortunately, we are gaining a better understanding, acceptance, and support as to what the different pieces are and how they interrelate--the air, birds, trees, fallen leaves, streams, soil, ants, fungi, micro-organisms, chemical processes, and yes, human beings.	FW-VEG-DC-1 FW-VEG-DC-3 FW-VEG-DC-9	Guidance has been retained.
FW-Sustainable Forest-Vision-4	But of all the pieces, there is one that is by far the largest, the most obvious, the most multicolored, the most complex, has the greatest impact on all the other pieces and can, in fact, rearrange or destroy the other pieces-- yet is the least understood. We ask you to join us in increasing our understanding of the proper place in the sustained forest puzzle for us HUMAN BEINGS. Let's do something today to help all to better understand how the puzzle fits together, to interact within the puzzle, and to work within the larger global puzzle.	FW-VEG-m.a.-7 FW-VEG-m.a.-8 FW-VEG-m.a.-9 FW-VEG-m.a.-10	Guidance has been retained.
FW-Sustainable Forest- Management Highlights-1	We focus on the forest -- a total ecological system -- a recycling system. It is a system involving birth, growth, maturity, death, and a rebirth. We acknowledge the need to manage for the whole cycle, the part we see and the unseen. The focus is on a sustained forest, versus sustained yield--the total forest cycle versus a product from one phase of the cycle.	FW-VEG-DC-1 FW-VEG-DC-2	Guidance has been retained.
FW-Sustainable Forest- Management Highlights-2	Maintain options for the future -- invest in the future versus squandering our inheritance while allowing sound uses for today.	FW-VEG-DC-2 FW-VEG-DC-5 FW-VEG-DC-10	Guidance has been retained.
FW-Sustainable Forest- Management Highlights-3	Maintain genetic and ecological diversity, and soil productivity.	FW-VEG-DC-5 FW-VEG-DC-9 FW-VEG-DC-10	Guidance has been retained.
FW-Sustainable Forest- Management Highlights-4	Consider an area's position within the landscape in making all decisions. Develop diverse forest types and stand conditions, similar to that which occurred under prehistoric conditions.	FW-VEG-DC-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Sustainable Forest- Management Highlights-5	A key to the sustainable forest is old growth. We will manage old growth to provide the following values: blueprint and sustainability; habitat diversity, recreation and aesthetics; opportunities for spiritual nourishment; high quality products.	FW-VEG-DC-4	Guidance has been retained.
FW-Sustainable Forest-Management Highlights-6	Over time, we will have old growth well distributed throughout the Forest.	FW-VEG-DC-4	Guidance has been retained.
FW-Sustainable Forest-Ecological Cycle-Setting the Stage-1	Recent evidence suggests some applications of intensive forest management to maximize products may lead to conditions which result in unsustainable forests. Sometimes intense management breaks the ecological cycle. Some scientists feel that every forested acre needs to periodically pass through an old-growth cycle to maintain soil productivity.	FW-VEG-DC-4	Guidance has been retained.
FW-Sustainable Forest-Ecological Cycle-Setting the Stage-2	The current situation on the Carson is that most timber harvesting is still in essentially native stands of trees and soils. Our stands are similar to but more simple than an unmanaged, totally native forest.	FW-VEG-DC-15	Guidance has been retained.
FW-Sustainable Forest-Ecological Cycle-Setting the Stage-3	The essence of our native forest is still in its soils and gene pools. The process is still intact. Our forest is NOT like the totally restructured, managed stands in plantation forestry. It is the plantation forest management approach that appears to be giving Europe and other parts of the country problems. They break the ecological cycle through the removal of too much material, disruption of soil and stream processes, and replacement of the native, genetically diverse trees.	FW-VEG-DC-1 FW-VEG-DC-2 FW-VEG-DC-5 FW-VEG-DC-7	Guidance has been retained.
FW-Sustainable Forest-Ecological Cycle-Standards and Guidelines-1	Maintain Diversity...Maintain the numerous natural processes, genetic and biological diversity, and soil productivity, which equates to ecological diversity.	FW-VEG-DC-1 FW-VEG-DC-5 FW-VEG-DC-10	Guidance has been retained.
FW-Sustainable Forest-Ecological Cycle-Standards and Guidelines-2	Follow Nature's Patterns...Harvest of forest products will be designed to resemble natural patterns of the landscape.	FW-FFP-DC-4	Guidance has been retained.

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FW-Sustainable Forest-Old Growth-Setting the Stage-1	There are many reasons to manage for old growth: - Blueprint and Sustainability...They contain diverse genetic seeds for future forests. Old-growth forests are also places where we and future generations can study what makes forests sustainable. It is the key to having the long-term forest survivors for future generations. - Habitat Diversity...Old growth constitutes optimum habitat for some plants and animals. It is a part of the diversity of living organisms and processes that are the forest. - Recreation and Aesthetics...Many people like to hike, take photos, and look for wildlife in old-growth stands. Old-growth stands can also be among the most scenic areas of the forest. - Spiritual...Some people value old-growth stands for contemplation and spiritual renewal. - High Quality Wood...The quality of wood from old-growth trees is high and valued.	FW-VEG-DC-4	Guidance is retained. Old growth characteristics are defined in the plan glossary.
FW-Sustainable Forest-Old Growth-Setting the Stage-2	Users of the Carson have expressed similar thoughts on the value of old-growth forests: - They are banks of knowledge about the intricate, complex inter relationships occurring in the forest ecosystem. They serve as blueprints for the natural forest processes. - They ensure that future generations will have the opportunity to enjoy the benefits of ancient forest and continue to expand our knowledge and make informed decisions. They guarantee that our children will have options regarding the future of our forest ecosystem. - They represent a high degree of biological diversity that is essential for plant, animal, and human survival. - They mirror our feelings, values, ethics, and attitudes toward our environment. The condition of our environment reflects our ability to co-exist in harmony with our environment. Our ancient forests are a favorable reflection. - They are an important part of our national heritage, which we will pass on to future generations. - They are a source of inspiration, a place to reflect on ourselves and on the natural wonders and mysteries of nature. They challenge us to think about our role in nature. - They provide a living story of nature in balance, a story of life and death, predator and prey, change and stability. - They produce healthy feelings and emotions which tend to bind us with nature. Through the ancient forest, nature communicates with us in a spiritual sense that is non-verbal and seems to reach directly into our souls.	none	This is a statement that does not provide management direction.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Sustainable Forest-Old Growth-Setting the Stage-3	Defining old growth is not easy, however, old growth is different things to different people. Conceptually, we can think of stands of trees being somewhere along a line. At one end are the old-growth characteristics that many people agree about. At the other end there is less agreement about the characteristics.	Old growth characteristics are defined in the plan glossary.	The definition of old growth has been clarified.
FW-Sustainable Forest-Old Growth-Setting the Stage-6	While we recognize there is no way to develop a mix that would satisfy everyone, there is a need to establish a "best definition at this point in our understanding" to guide the old-growth inventory and allocation processes in which we decide what areas to set aside and save.	FW-VEG-DC-4FW-VEG-m.a.-1	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Setting the Stage-7	In developing definitions, the following factors were considered: - Different areas have different inherent capabilities to produce the characteristics associated with old growth. - Recurring disturbances, such as wildfires and insect epidemics, may have limited the establishment of large, contiguous stands of big, old trees. This is especially true in the mixed conifer and spruce-fir types, as well as on poorer sites and steep slopes. - Stands with the big, old trees tend to be in the most limited supply and take the longest time to recreate. They also provide unique wildlife habitat and have high values for commercial products.	Old growth characteristics are defined in the plan glossary	The definition of old growth has been clarified.
FW-Sustainable Forest-Old Growth-Setting the Stage-12	Since it is hard to say, "This is old growth" and "This is not," we have set up three conditions to guide the old- growth inventory and allocation processes. - Old growth--stands dominated by trees that are large and old for the capability of the site. - Possible old growth--stands not meeting the "old-growth" definition but with potential to develop into old growth within 50-i 00 years. - Undisturbed--stands not meeting the "old growth" or "potential old growth" condition, but that have no history of human disturbance for at least 50 years.	FW-VEG-DC-4 FW-VEG-m.a.-1	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Standards and Guidelines-1	Distribution...Old growth sites will be scattered throughout the Carson in all forest types, stand sizes, and landscape positions except in areas where uneven-aged management is used. (Amendment 11)	FW-VEG-DC-4	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Standards and Guidelines-2	Old, Overstory Trees...In diversity units where old-growth or potential old-growth stands occur on less than 6 percent of the land scheduled for harvest, consider maintaining some of the old, over story trees. This will provide some of the old-growth structural characteristics for some wildlife species and provide future managers with the option of managing these trees to become large snags and down logs.	FW-VEG-m.a.-1	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Standards and Guidelines-3	Treatments Permissible... Treatments, such as prescribed fire or thinning, may be done in stands allocated to old growth if it will enhance old-growth characteristics. Stands not allocated to old growth, but which meet the old growth definition, may be harvested, where an interdisciplinary team determines it will contribute to management objectives for a diversity unit.	FW-VEG-m.a.-1	Guidance has been retained.

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FW-Sustainable Forest-Old Growth-Standards and Guidelines-5	Moving Old Growth Around...It is recognized that, over time, old growth will move around the Forest as the natural processes of growth and disturbance have always caused it to do or will be an integral part of uneven- aged management. For the old growth to continue, it must give way to the young. A Forest is a living cycle with birth, maturity, death and a rebirth. (Amendment 11)	FW-VEG-DC-4	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Standards and Guidelines-6	Tracking Decisions...Areas allocated to old growth will be tracked in the Carson stand data base and on a map atlas at each ranger district. The atlas tracking system will be replaced by Geographic Information System once it is operable.	none	The Carson NF has adopted a Geographic Information System.
FW-Sustainable Forest-Old Growth - Allocation-Objectives-1	Objectives...Select old-growth stands to meet these following objectives. Attempt to meet as many of the old- growth management objectives as possible with each allocation. For instance, a 20-acre stand with old-growth characteristics may meet some aesthetic and recreation objectives. Allocation of surrounding stand(s) with potential old-growth characteristics may accomplish additional wildlife habitat objectives, now or in the future. - Safeguard options for the future. - Serve as genetic blueprints for unknown futures needs--needs of the forest and of the people. - Contribute to the long term sustainability of the forest, realizing that it is hard to predict all the various types of stress the forest system may have to face. - Maintain the soil productivity. -Contribute to the diversity of vegetation on the Carson and the greater Southwestern United States landscape. - Provide unique wildlife and fish habitats. - Provide recreation opportunities. - Maintain and add to the visual quality on the Carson. - Enable spiritual strength and support. - Recognize and respect special, local needs for old growth. - Realize that there are local human interactions with the forest, often tied to historical and cultural heritages, which affect what old growth means. - Produce high-quality wood.	FW-VEG-m.a.-1	Guidance has been retained.
FW-Sustainable Forest-Old Growth - Allocation-Standards and Guidelines-1	Priority...First priority for allocation will be stands meeting old-growth conditions, then potential old growth, then stands with characteristics close to old growth/potential old growth undisturbed. No stands allocated to old growth will be harvested this planning period. In the future, stands allocated to old growth should not be planned for harvest until similar replacement stands are allocated.	FW-VEG-DC-4 FW-VEG-m.a.-1	Guidance has been partially retained.

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FW-Sustainable Forest-Old Growth - Allocation-Standards and Guidelines-2	Undisturbed Stands...Undisturbed stands, which have not attained old growth or potential old growth characteristics, might not be the best stands to allocate for old -growth. They often occur on poor sites where trees will never attain the sizes specified in the definitions. These stands may often be worthy of protection for other values, such as very old trees or their untrammelled nature.	none	This is a statement that does not provide management direction.
FW-Sustainable Forest-Old Growth - Allocation-Standards and Guidelines-3	Wildlife & Vegetation Diversity Units...Allocate at least 6 percent of land scheduled for harvest and 18 percent total forested acres within each wildlife and vegetation diversity unit to old growth/potential old growth. (The 6 percent old-growth allocations will not be relegated solely to wilderness, sites not planned for harvest and semi- primitive areas. This allocation figure may change as the old-growth inventory is completed or the definition is refined.)	FW-VEG-DC-4	Guidance has been partially retained.
FW-Sustainable Forest-Old Growth-Standards and Guidelines-4	Genetic interchange...Consider landscape position in making old-growth allocations to promote genetic interchange.	FW-VEG-DC-4 FW-VEG-DC-5	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Standards-1	Until the forest plan is revised, allocate no less than 20percent of each forested ecosystem management area to old growth as depicted in the table on page 96.	none	The forest plan is being revised by the current decision.
FW-Sustainable Forest-Old Growth-Standards-2	In the long term, manage old growth in patterns that provide for a flow of functions and interactions at multiple scales across the landscape through time.	FW-VEG-DC-4 FW-VEG-m.a.-1	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Standards-3	Allocations will consist of landscape percentages meeting old growth conditions and not specific acres.	FW-VEG-DC-4	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Guidelines-1	All analyses should be at multiple scales-one scale above and one scale below the ecosystem management areas. The amount of old growth that can be provided and maintained will be evaluated at the ecosystem management area level and be based on forest type, site capability, and disturbance regimes.	FW-VEG-DC-4	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Guidelines-2	Strive to create or sustain as much old growth compositional, structural, and functional flow as possible over time at multiple area scales. Seek to develop or retain old growth function on at least 20 percent of the naturally forested area by forest type in any landscape.	FW-VEG-DC-4 FW-VEG-m.a.-1	Guidance has been partially retained.
FW-Sustainable Forest-Old Growth-Guidelines-3	Use information about pre-European settlement condition sat the appropriate scales when considering the importance of various factors.	FW-VEG-DC-1	Guidance has been retained.

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FW-Sustainable Forest-Old Growth-Guidelines-4	Consider the effects of spatial arrangement on old growth function, from groups to landscapes, including de facto allocations to old growth such as goshawk nest sites, Mexican spotted owl protected activity centers, sites protected for species behavior associated with old growth, wilderness, research natural areas, and other forest structures managed for old growth function.	FW-VEG-SFF-13 FW-VEG-SFF-G-4 FW-VEG-MCW-DC-10 FW-VEG-MCW-DC-5 FW-VEG-MCD-DC-12 FW-VEG-MCD-G-5 FW-VEG-PPF-DC-13	Guidance has been retained.
FW-Sustainable Forest-Old Growth-Guidelines-5	In allocating old growth and making decisions about old growth management, use appropriate information about the relative risks to sustaining old growth function at the appropriate scales, due to natural and human-caused events. Use quantitative models at the appropriate scales when considering the importance of various factors. These models may include, but are not limited to: Forest Vegetation Simulator, BEHAVE, and FARSITE. Forested sites should meet or exceed the structural attributes to be considered old growth in the five primary forest cover types in the southwest as depicted in the table on page 96	none	Allocation of old growth is not required under the new plan.
FW-Sustainable Forest-Landscape Management-Setting the Stage-1	We cannot just look at a stand of trees or an open meadow by itself. It is important to know how they interrelate with other stands and meadows, and how large areas of the forest interact with other large areas. Landscape management looks at the broad picture.	FW-VEG-DC-1	Guidance has been retained.
FW-Sustainable Forest-Landscape Management-Standards and Guidelines-1	Prehistoric Conditions...Develop diverse forest types and stand sizes, similar to the diversity of stand sizes that occurred under prehistoric conditions.	FW-VEG-DC-1	Guidance has been retained.
FW-Sustainable Forest-Landscape Management-Standards and Guidelines-2	Interrelationships of Stands...The biological value of stands is highest when they are positioned on the landscape so that there is plant and animal genetic interchange among stands. It is likely that stream courses and stringers of vegetation are key avenues for genetic interchange. Management of these areas and adjacent upland stands should be considered key to prevent fragmentation.	FW-VEG-DC-5 FW-VEG-DC-10 FW-WSW-DC-4 FW-WSW-DC-6	Guidance has been retained.
FW-Sustainable Forest-Landscape Management-Standards and Guidelines-3	Resemble Nature...Harvest of forest products will be designed to resemble natural patterns in the landscape.	FW-FFP-DC-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Sustainable Forest-Ecological Restoration-Setting the Stage-1	The processes that produced old growth forests have been altered, particularly by putting out all fires and past harvest activities. These changes are often subtle but profound. Controlling fire in the ponderosa pine type has favored the establishment of dense understories (plants under the tree canopy), which sets these stands up for infrequent catastrophic fires. The pre-historic forests had frequent ground fires.	None	This is a statement that does not provide management direction.
FW-Sustainable Forest-Ecological Restoration-Setting the Stage-2	Another example -- a combination of fire control and livestock grazing has caused many pinon-juniper stands to develop denser over stories, while losing grass cover. As a result, soil loss has accelerated.	FW-VEG-PJO-DC-5 FW-VEG-PJO-DC-6	Guidance has been retained.
FW-Sustainable Forest-Ecological Restoration-Standards and Guidelines-1	Demonstration Site...Develop ecological restoration demonstration sites. The sites will demonstrate the effects of using prescribed fire, thinning, or other management techniques to re-establish natural processes.	none	Plans do not compel Agency action such as developing demonstration sites (FSH 1909.12 sec 21). This is a possible approach that would be allowed under the plan.
FW-Sustainable Forest-Ecological Restoration-Standards and Guidelines-2	The Minimum Criteria for the Structural Attributes Used to Determine Old-Growth (see table)	none	Desired conditions by vegetation community are included in the vegetation section.

Table 150. Comparison of timber guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Timber-Vision-1	The forest is healthy and will continue on and on. A wide variety of useful products come from the forest such as, firewood to cook and heat with, pinon nuts for nourishment, wood to build our homes, golden aspen leaves to look at and walk through in the fall, and large majestic trees to "be a part of."	FW-VEG-DC-3 FW-FFP-DC-1 FW-FFP-DC-2 FW-REC-DC-1	Guidance has been retained.
FW-Timber-Management Highlights-1	Provide a non-declining sustained yield of timber consistent with land capabilities and other resource values.	FW-FFP-S-7	Guidance has been retained.

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FW-Timber-Management Highlights-2	Improve site productivity through management.	none	The plan focuses on ecosystem components, process, and function rather than timber production.
FW-Timber-Management Highlights-3	Provide green and dead firewood and other forest products on a sustained yield basis.	FW-FRT-DC-3 FW-RHC-DC-3 FW-FFP-DC-1 FW-FFP-DC-5 FW-FFP-S-7	Guidance has been retained.
FW-Timber-Management Highlights-4	Design timber resource activities with emphasis on benefits to wildlife, watershed, and recreation while maintaining productive timber stands and providing wood products.	FW-FFP-DC-1 FW-FFP-DC-4	Guidance has been retained.
FW-Timber-Management Highlights-5	Protect the forest resources from destructive insects and diseases using integrated pest management.	FW-VEG-DC-2 FW-FFP-m.a.-10	Guidance has been retained.
FW-Timber- Setting the Stage-6	Table Timber-1 below, describes the present and planned future condition of the Forest. Most of the figures for present conditions are based on Forest-wide averages from our 1985 inventory. Conditions for the future are based on a combination of 1985 inventory data and modeling of data from the 1976 inventory. (see Table Timber-1. Present and planned future Forest conditions)	Table 4 Table 5	Projected harvest levels have been updated.
FW-Timber-Setting the Stage-1	There has been a long term historic demand for firewood. Its use continues to this day for cooking and heating.	FW-FRT-DC-2 FW-RHC-DC-2 FW-FFP-DC-2	This is a statement that does not provide management direction. The plan recognizes firewood demand.
FW-Timber-Setting the Stage-2	The forest has had a history and often cyclic problem with insects and diseases, such as budworm and mistletoe.	FW-VEG-DC-12	This is a statement that does not provide management direction. The plan manages for endemic levels of insects and disease.
FW-Timber-Setting the Stage-3	Most of the aspen is generated from sucking off roots versus establishing from seeds. Aspen also serves as nurse trees for conifers which eventually outgrow the aspen and take over the site. Many aspen stands are lost this way.	FW-VEG-DC-8 FW-VEG-ASP-DC-1	This is a statement that does not provide management direction. The plan manages aspen as a shifting mosaic.
FW-Timber-Setting the Stage-4	Much of the natural processes have been altered by people's activities over the years, such as the putting out of all fires. Timber harvesting provides an opportunity to maintain or enhance the vegetation diversity and forest health.	FW-FFP-DC-4	Guidance has been retained.

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FW-Timber-Setting the Stage-5	Much of the current road network was put in conjunction with timber harvest activity. This is a definite asset for access throughout the forest but can contribute to problems in other resource areas, such as human activity within wildlife habitat areas. Much of the current harvest activities uses existing roads.	none	This is a statement that does not provide management direction.
FW-Timber-Standards and Guidelines-1	Standards and guidelines applicable to all Management Areas or groups of Management Areas are included in this "Forest-wide" section. For emphasis or clarification a few standards and guidelines are repeated in sections for specific Management Areas.	none	The timber suitability process is documented in Appendix D of the environmental impact statement.
FW-Timber-Standards and Guidelines-2	Except as specifically noted within the text or in [brackets] at the end of the text, standards and guidelines listed are applicable to the "suitable" timber land base. Areas within the "suitable" classification include the following Management Areas on general slope areas of 40% gradient or less: MA-1, Spruce; MA-3, Mixed Conifer; and MA-4, Ponderosa Pine.	none	The timber suitability process is documented in Appendix D of the environmental impact statement.
FW-Timber-Standards and Guidelines-3	[All forested land] applies to all forested lands in all Management Areas.	none	The timber suitability process is documented in Appendix D of the environmental impact statement.
FW-Timber-Standards and Guidelines-4	[Forest-wide] applies to forest areas within the Management Areas classified as "suitable," "not appropriate for timber production" or most other "unsuitable" categories. Management areas not included are: MA-15, Potential Recreation Sites; MA-16, Existing Recreation Sites; MA-17, Wilderness; MA-18, Wild and Scenic River; and MA-19, Special Areas. Standards and guidelines for these are covered under the specific Management Areas. Management Areas 17 and 18 would be technically classed as "withdrawn".	none	The timber suitability process is documented in Appendix D of the environmental impact statement.
FW-Timber-Standards and Guidelines-5	[Not Appropriate and Other Unsuitable] applies to forested lands technically classified as "not appropriate for timber production" or most of the other "unsuitable" categories (FSH 2409.13). These lands may be identified as forested Management Areas or may be included as stringers or patches within non-forested Management Areas. Included are MA-2, Spruce over 40% slope; MA-5, Mixed Conifer and Ponderosa Pine over 40% slope; MA-6, Aspen; MA-7, Unsuitable Timber; MA-8, Pinon-Juniper; MA-13, Oak; MA-14 Riparian, and MA-20, Semi-Primitive Areas. Also included are the forested patches and stringers within: MA-9, High-Elevation grassland; MA-10, Low Elevation Grassland; and MA-12, Sage.	none	The timber suitability process is documented in Appendix D of the environmental impact statement.

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FW-Timber-Standards and Guidelines-6	Index Maps and Stand Records...Prior to annual updates and using available Stage-I and Stage-II Inventory data, complete index maps and stand records for sale planning areas associated with the ten-year sale schedule [Forest-wide].	none	Stand record keeping has been modernized.
FW-Timber-Standards and Guidelines-7	Inventory...Reinventory (Stage-I) the timber resource in 1995. [Forest-wide]	none	This guidance is no longer applicable.
FW-Timber-Standards and Guidelines-8	Silvicultural Exams...Complete silvicultural exams to track site specific Forest conditions and to provide information for project analysis and design. As a guideline complete 38,000 acres/yr. on suitable forest land (1/10 of area in each Management Area per year). In coordination with wildlife management complete an inventory of MA-6, Aspen, during the ten year period. Complete 7,000 acres per year on pinon-juniper and other forested areas to meet specific project needs. [Forest-wide]	none	Silvicultural exams are conducted on a project-by-project basis.
FW-Timber-Standards and Guidelines-9	IRM...As further described in the ""Wildlife"" section, develop and prescribe treatments through Integrated Resource Management (IRM). In applying IRM cross-check all resource areas for standards and guidelines. [Forest-wide]	Plan concepts	Guidance has been retained. Integrated resource management is an overarching plan concept.
FW-Timber-Standards and Guidelines-10	Vegetative Manipulation and Timber Methods...Both even-aged and uneven-aged harvest cutting methods are permitted for use in the Southwestern Region. Uneven-aged management is the most appropriate for managing suitable timber producing lands. Even-aged management may be used for special purposes. In all cases, the cutting method will be selected to best fit the abiotic, economic and management objectives that apply to a particular area. (Amendment 11) all cases, the harvest cutting method will be selected to best fit the abiotic, biotic, economic, and management objectives that apply to a particular area. The Regional Guide (Table 3-2) displays the appropriate silvicultural system and cutting methods to be used for each forest type.	FW-FFP-S-4 FW-FFP-S-6 FW-FFP-S-8	Guidance has been retained.
FW-Timber-Standards and Guidelines-11	Shelterwood...As a guideline, the shelterwood method will be a regeneration cut followed in 20 years by one removal cut. Preparatory cuts may be applied to meet specific situations.	none	This is a statement that does not provide management direction.
FW-Timber-Standards and Guidelines-12	Thinning...Stands may be treated with one precommercial thinning and one or more intermediate harvest designed to meet management objectives. Stocking guidelines are provided in FSH 2409.26a. Thinning should not be performed where there is a mistletoe infected over story of the same species: Chapter 70, FSH 2409.26a. When accessible, make thinning slash available for firewood or other convertible products.	FW-VEG-m.a.-1 FW-VEG-m.a.-4 FW-FFP-DC-3	Guidance has been retained.

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FW-Timber-Standards and Guidelines-13	Diameter Class Distribution...Where uneven-aged management is used a ""Q"" factor that best meets the site-specific area objectives will be selected. Where even-aged management is used, the rotation age for regulated stands will be selected to improve the diversity with the surrounding diameter class distribution of uneven-aged areas as well as the unit's management objectives. (Amendment 11)	FW-FFP-S-4 FW-FFP-S-6 FW-FFP-G-1	Guidance has been retained.
FW-Timber-Standards and Guidelines-14	Regeneration...Within limits established in 36 CFR 219.16, stands may be regenerated at 95% of CMAI as determined by individual stand examination, or earlier for use of sound silvicultural practices to attain multiple use objectives. Examples include improving age-class distribution within a diversity unit or reducing insect or disease problems. Regeneration harvest will have an objective of creating a new stand. Artificial reforestation will be scheduled for all clear-cuts where natural regeneration is inadequate. Except for treatment of insect or disease conditions and/or when planting has been prescribed, final removal harvest will not be made until adequate regeneration is established.	FW-FFP-G-1	Guidance has been retained.
FW-Timber-Standards and Guidelines-15	Not Appropriate and Other Unsuitable...Lands classed as 'not appropriate...,' or other 'unsuitable' may be managed to meet specific resource objectives for the appropriate Management Area. [Not Appropriate and Other Unsuitable]	FW-FFP-G-2	Guidance has been retained.
FW-Timber-Aspen-Standards and Guidelines-1	Standards and guidelines for managing aspen within the suitable timber land base are included in this section; they primarily relate to MA-1, Spruce; and MA-3, Mixed Conifer. Aspen is included in these MA's if it is mixed as a component with conifer, or if an aspen dominated over story has a stocked or nearly stocked conifer understory. Other aspen stands are included in MA-6; (Aspen) and MA-7 (unsuitable); reference these sections for management direction.	FW-ASP	Aspen management is addressed in the FW-ASP section of the plan
FW-Timber-Aspen-Standards and Guidelines-2	Improve Distribution...Inventory and manage aspen in all forested areas to improve age class distribution, and to improve the forest-wide distribution of the component. [Forestwide, on appropriate habitat types.]	FW-VEG-SFF-DC-1 FW-VEG-SFF-DC-10 FW-VEG-ASP-DC-1 FW-VEG-MCW-DC-1 FW-VEG-MCW-DC-11 DA-VFSYU-DC-5	Guidance has been retained.
FW-Timber-Aspen-Standards and Guidelines-3	Minimum 10%...Within a diversity unit, create or maintain aspen stands on a minimum of ten percent of the timbered area that is capable of supporting the aspen-type as a major seral species. This applies to existing aspen with stocked or nearly stocked conifer understories and conifer stands with the capability to produce aspen if the conifer stand is clear-cut.	FW-VEG-SFF-DC-1 FW-VEG-MCW-DC-1	The plan describes aspen as a shifting seral state in other vegetation communities.

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FW-Timber-Aspen-Standards and Guidelines-4	Distribution...Determine aspen stand size and location primarily to meet wildlife habitat and visual quality objectives. Consider the aspen distribution in adjacent diversity units when planning treatments.	FW-VEG-ASP-DC-3 FW-VEG-ASP-G-1 FW-VEG-MCW-DC-11	Guidance has been retained.
FW-Timber-Aspen-Standards and Guidelines-5	Create Stands...The guideline will be to create or maintain 200 acres of aspen per year within Management Areas 1 and 3. Created aspen stands will be managed under standards and guidelines for Management Area 6, Aspen. As described in the MA-6 section, clearcutting is the primary harvest method for regenerating a stand of aspen.	FW-VEG-ASP-DC-1	The plan describes aspen as a shifting seral state in other vegetation communities.
FW-Timber-Aspen-Standards and Guidelines-6	Release Conifer...Index Maps and Stand Records...On aspen areas with stocked or nearly stocked conifer understories, harvest aspen to release the conifer stand.	FW-VEG-ASP-DC-3	This guidance is not carried forward. Aspen is managed for healthy tree regeneration and decadence.
FW-Timber-Aspen-Standards and Guidelines-7	Encourage Regeneration... Inventory...In mixed conifer stands that contain aspen, encourage aspen regeneration as a minor stand component (less than 50% of total stocking) through location of skid trails, landings, and temporary roads.	FW-VEG-SFF-DC-1 FW-VEG-MCW-DC-1	The plan describes aspen as a shifting seral state in other vegetation communities.
FW-Timber-Forest Pest Mgt-Standards and Guidelines-1	Integrate Surveys...Integrate Forest Pest Management Surveys into Silvicultural Exams when practical. Primary emphasis is on dwarf mistletoe surveys, western spruce budworm risk rating, and spruce bark beetle risk rating. [Forest-wide]	Monitoring Topic II	Insect and disease surveys are conducted annually.
FW-Timber-Forest Pest Mgt-Standards and Guidelines-2	Timber Harvest...Most control action on suitable lands will be through timber harvest and other treatments to improve or maintain stand vigor and composition resistant to insect and disease conditions. Prioritize treatment of stands with existing or potential for insect or disease problems. Apply priority to sales within the 10-year sale schedule, and to stands within a given sale planning area.	FW-VEG-DC-12	The plan does not prioritize treatments but does address endemic levels of insects and disease.
FW-Timber-Forest Pest Mgt-Standards and Guidelines-3	Manage to Play Role in Succession...When consistent with Management Area objectives and objectives for adjacent Areas that might be affected, insect and disease conditions may be managed to play their role in forest succession through their interaction with host organisms and natural predators. [Not appropriate and other unsuitable]	FW-VEG-DC-12	Guidance has been retained.
FW-Timber-Forest Pest Mgt-Standards and Guidelines-4	Pesticides...Use pesticides when they are the most biologically sound, environmentally acceptable and most cost efficient means of preventing or suppressing pest outbreaks that threaten the attainment of objectives.	FW-FFP-m.a.-10	Guidance has been retained.
FW-Timber-Forest Pest Mgt-Standards and Guidelines-5	Coordinate...Coordinate insect and disease evaluations and control measures with the appropriate State Agencies and other Federal Agencies.	FW-VEG-m.a.-7	Guidance has been retained.

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FW-Timber-Forest Pest Mgt-Standards and Guidelines-6	Help Public...Index Maps and Stand Records...Assist individuals in analyzing trees with insect and disease problems and/or refer them to the appropriate agency for technical assistance.	FW-VEG-m.a.-7	Guidance has been retained.
FW-Timber-Forest Pest Mgt-Standards and Guidelines-7	Cutting Prescriptions...Integrate the following pest management prescriptions into the cutting prescriptions for stands scheduled for treatment: - Dwarf Mistletoe - Following seed cuts, remove the infected over story as soon as regeneration is accomplished. Following removal of infected over stories, thin infected understories to densities which will maximize fiber production or meet other management objectives over the length of the rotation. Use yield simulation models as guides. When yield simulation indicates stands will not reach maturity because of mistletoe, eliminate the mistletoe by clearcutting (in conformance with Regional Standards for clear-cut size). In treated stands, girdle or otherwise induce mortality in infected cull trees left to meet wildlife habitat objectives. - Spruce Beetle -Salvage wind throw spruce trees and treat accumulated slash. Schedule high risk stands for harvest first. Treat spruce slash by removing all material over 6" in diameter. - Western Spruce Budworm - In the highly susceptible mixed conifer type, even-aged stands dominated by Douglas-fir, ponderosa pine, and/or aspen will be created. As appropriate for specific habitat-types, this can be accomplished by use of the silvicultural prescription below: - Patch cutting followed by site preparation, broadcast burning, and planting a mixture of ponderosa pine and Douglas-fir. - Regeneration cuts which retain a uniformly spaced over story, composed principally of dominant and co-dominant Douglas-fir or Ponderosa pine. Advance regeneration is destroyed by tractor scarification or under burning. - Regeneration is accomplished by planting ponderosa pine and Douglas-fir. The over story is removed as soon as the regeneration becomes established. Regeneration cuts which retain a mixture of species in the over story. Dominant and co-dominant, mistletoe-free or lightly infested trees are used for seed trees;	none	This guidance is not carried forward. Cutting prescriptions will be developed on a case-by-case basis, consistent with plan components specific to each vegetation community.

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FW-Timber-Reforestation-Standards and Guidelines-1	Inventory, Diagnosis, Rx, Monitor...Complete inventory, diagnosis, prescription, and monitoring for reforestation projects. Certification of natural and artificial reforestation areas is in accordance with FSM 2470 and 2490.	none	Plans do not compel Agency action such as conducting inventories (FSH 1909.12 sec 21). The plan does not reiterate the requirement to follow policies such as FSM 2470 and 2490.
FW-Timber-Reforestation-Standards and Guidelines-2	Natural Regeneration...Natural regeneration will be the preferred stand regeneration procedure.	FW-VEG-DC-3	Guidance has been retained.
FW-Timber-Reforestation-Standards and Guidelines-3	Planting... Planting is used where needed to establish a new timber stand. The number of trees planted varies by site according to stocking needs. Satisfactory stocking will be in accordance with the standards established in FSM 2472.03, R-3 Supplement.	none	The plan focuses on ecosystem components, process, and function rather than timber production and stocking.
FW-Timber-Reforestation-Standards and Guidelines-4	Understocked/Unstocked... Lands classified as suitable but currently unstocked or understocked, that may not achieve minimum levels, are evaluated for reforestation potential and are regenerated if environmentally and economically feasible, otherwise, these lands become unsuitable.	none	Lands with low reforestation potential were not classified as suitable for timber production.
FW-Timber-Reforestation-Standards and Guidelines-5	Site Prep...Site preparation by mechanical, prescribed fire, or chemical means will be done as needed following the regeneration cut (seed cut or clear-cut). The method to be used will be selected based on situation and economics.	FW-FFP-S-8	The plan focuses on ecosystem components, process, and function rather than timber production.
FW-Timber-Reforestation-Standards and Guidelines-6	Limit Grass Seeding...No grass is seeded during the regeneration period unless it is necessary for erosion control.	none	This guidance is not carried forward.
FW-Timber-Reforestation-Standards and Guidelines-7	Slash....Slash disposal during the regeneration period will be done as necessary to facilitate site preparation and meet protection standards, but Slash may be left as needed for seedling protection.	none	The plan focuses on ecosystem components, process, and function rather than timber production.
FW-Timber-Reforestation-Standards and Guidelines-8	Protection...Regeneration areas will be adequately protected from domestic livestock grazing to ensure establishment of the trees, in accordance with FSM 2470, and FSH 2409.26b. Reforestation projects will include rodent control where needed.	FW-VEG-ASP-m.a.-3 FW-GRZ-S-1	The plan does not reiterate the requirement to follow policy such as FSM 2470 or FSH 2409.26b. It does address reforestation.

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FW-Timber-Reforestation-Standards and Guidelines-9	On Other Areas...Reforestation on other areas may be completed as needed to meet specific Management Area objectives. [Not appropriate and other unsuitable]	none	Reforestation is allowed under the new plan.
FW-Timber-Reforestation-Standards and Guidelines-10	Seed Collection...To support reforestation needs, collect sufficient tree seed by species to maintain a 10-year supply by seed zone.	FW-FFP-DC-7	Guidance has been retained.
FW-Timber-SalePrep&Admin-Standards and Guidelines-1	Do Resource Improvements...Use sale area improvement plans as an opportunity to accomplish resource improvements within the timber sale area.	FW-FFP-DC-4	Guidance has been retained.
FW-Timber-SalePrep&Admin-Standards and Guidelines-2	Minimum Cut Volumes...For commercial sales minimum cut volumes per acre are usually between 300 and 500 board feet of saw timber and/or 160 cubic feet for products.	none	The plan focuses on ecosystem components, process, and function rather than timber production.
FW-Timber-SalePrep&Admin-Standards and Guidelines-3	Firewood...Where feasible, slash created by timber harvest activities will be made available for firewood.	FW-FFP-DC-3	Guidance has been retained.
FW-Timber-SalePrep&Admin-Standards and Guidelines-4	Bark Beetle... Treat all green spruce slash over 6-inches DIB to make it unsuitable for bark beetle habitat.	FW-VEG-DC-12	Guidance intent has been carried forward.
FW-Timber-SalePrep&Admin-Standards and Guidelines-5	Ground Skidding/Skyline Yarding...Timber harvest will be accomplished by the use of ground skidding equipment, and advanced methods like skyline yarding if needed to meet other management objectives like soil or stream course protection.	FW-FFP-S-2 FW-FFP-S-8	Guidance has been retained.
FW-Timber-SalePrep&Admin-Standards and Guidelines-6	Exceptions to 40% Slopes...Timber harvest activities are limited to slopes less than 40 percent gradient with very minor exceptions, these include: - Minor inclusions or short pitches mixed within general slope areas of 40% gradient or less, that can be operated within acceptable environmental limits. - Areas within the clearing limits specified for road construction and reconstruction. - Areas adjacent to roads that can be operated by hand for minor amounts of firewood, vigas, or other convertible or non-convertible products.	FW-FFP-S-2	This guidance is not carried forward. The plan prevents damage to soil, slopes, and watersheds.

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FW-Timber-SalePrep&Admin-Standards and Guidelines-7	Treatment on Unsuitable/Not Appropriate Lands...When vegetative treatment is needed to meet specific Management Area objectives on lands classed ""not appropriate for timber production"" and other ""unsuitable"" areas, consider commercial timber sales for saw timber and products. To the extent possible, incorporate these treatments with harvest scheduled for surrounding or adjacent ""suitable"" lands. Meet Integrated Resource Goals...The harvest volumes will not count toward the allowable sale quantity. [Not appropriate and other unsuitable]	FW-FFP-S-1 FW-FFP-G-2	Guidance has been retained.
FW-Timber-SalePrep&Admin-Standards and Guidelines-8	Administer Contracts...Administer commercial timber sale contracts for saw timber, products, and non- convertible products. This activity includes accountability, financial management, field inspections, contract interpretation and enforcement.	none	Contract administration is not described in the plan.
FW-Timber-SalePrep&Admin-Standards and Guidelines-9	Permits...Plan, prepare, sell and administer commercial and personal use permits for smaller quantities of saw timber, products or non-convertible products.	FW-FFP-m.a.-2	Guidance has been retained.
FW-Timber-SalePrep&Admin-Standards and Guidelines-10	Meet Integrated Resource Goals...Forest-wide sales for products and non-convertible products will be planned to meet integrated resource goals	Plan concepts	Integrated resource management is an overarching plan concept.
FW-Timber-SalePrep&Admin-Standards and Guidelines-11	Firewood... - Firewood will consist of dead and down, or designated green timber. A permit is required. Reference the wildlife management section for information on snags and down wood. - Priority will be placed on personal-use firewood permits. Commercial permit sales are appropriate to meet any of these conditions: * Personal use demand has been met. * The character of the product is not expected to attract personal use demand. * Accessibility, operability, timing requirements, or other constraints require the material be harvested through a commercial permit or contract. - The free-use program for personal use of dead and down firewood will be reviewed annually. The Forest Supervisor may approve sales for dead and down in accordance with Regional policy.	FW-FRT-DC-3 FW-RHC-DC-3 FW-FFP-DC-3 FW-FFP-DC-5 FW-FFP-m.a.-5	Guidance has been retained.

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FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-1	The Vallecitos Federal Sustained Yield Unit was established on January 1, 1948, on the El Rito Ranger District in accordance with section 3 of the Sustained Yield Forest Management Act of March 29, 1944. The Unit includes about 73,400 acres of National Forest, of which, about 61,400 acres is classed as suitable timber land.	none	This is a statement that does not provide management direction.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-2	In addition to providing multiple-use benefits as derived from the National Forest as a whole, the purpose of the unit is to maintain a stable community or communities where such maintenance is primarily dependent upon the sale of timber or other forest products from federally owned or administered lands. To help maintain community support through a stable timber industry, exceptions to competitive bidding may be authorized within the VFSYU; timber is then sold at appraised value. Additional support is provided by requirements specifying primary manufacturing be performed with the Unit, and by specifying most employees be local residents.	DA-VFSYU-DC-1 DA-VFSYU-DC-2 DA-VFSYU-DC-3 DA-VFSYU-DC-4	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-3	Primary management direction for the Vallecitos Federal Sustained Yield Unit (VFSYU) is provided by standards and guidelines established for the Management Areas. Standards and guidelines listed in this subsection relate more specifically to administration, and are intended in support of existing law and Forest Service policy regarding Federal Sustained Yield Units. Appropriate references include FSM 241 O; and as specified there, the following laws: - Sustained-Yield Act of March 29, 1944, (16 USC 583-583i). - 36 CFR 223.117, Administration of Cooperative or Federal Sustained-Yield Units. - 36 CFR 221.3, Disposal of National Forest Timber According to Management Plans.	DA-VFSYU-G-1	The plan generally does not reiterate the requirement to follow law, policy or regulations but does mention the Vallecitos policy statement.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-4	While it is appropriate to incorporate the VFSYU Policy Statement into the Forest Plan, and to review and revise both on a 10-year time frame; the intent of the Forest Plan is to establish the Policy Statement (and related standards and guidelines) within the framework of authorities defined in the afore mentioned references. As prescribed, additional reviews and subsequent changes to the Policy Statement may be made by the appropriate authority; these will not constitute a major amendment or revision to the Forest Plan.	DA-VFSYU-G-1	The plan includes the policy statement by reference.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-5	The following standards and guidelines form the Policy Statement for the continuation of the VFSYU.	DA-VFSYU-G-1	The plan includes the policy statement by reference.

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FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-6	Provisions for Community Support...The primary purpose for establishment of the Vallecitos Federal Sustained Yield Unit is to provide the maximum feasible, permanent support to the Vallecitos community and nearby areas from forest products industries obtaining a wood products supply from the national Forest Lands of the Unit. Wood products from the Unit will, therefore, be sold under conditions designed to promote the following objectives: - Provide local residents with an opportunity to establish a wood products business. - Maintenance of steady employment opportunities in the Vallecitos community and nearby areas both within each year and from year to year. - Employment of local resident work force. - Opportunity for those living within and near the Unit to obtain lumber for their local requirements. - Efficient operation and maintenance of plant facilities; and, as supported by the economics of the Unit and Northern New Mexico area, additions to plant facilities to keep them in step with technical advances in forest products utilization and manufacture.	DA-VFSYU-DC-1 DA-VFSYU-DC-2 DA-VFSYU-DC-3 DA-VFSYU-DC-4	Guidance has been retained.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-7	Individual timber sale agreements will contain such provisions as are deemed advisable by the Regional Forester to attain these objectives. The Chief may designate an approved responsible operator or operators to whom wood products may be sold without competition and may, within his discretion, rescind such designation or designations.	DA-VFSYU-G-1	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-8	Harvest Level...Silvicultural Exams...The harvest level for the VFSYU is defined as part of the Forest-wide allowable sale quantity and has been set at an average 7.6 MMBF/YR. The intent is to split this into 6.5 MMBF/YR saw timber and 1.1 MMBF/YR products. Allocation to approved responsible operators is defined in subsequent paragraphs. The harvest level is based on a suitable timber land base of approximately 61,400 acres.	DA-VFSYU-G-1	Harvest levels are included in the policy statement. The plan includes the policy statement by reference.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-9	Harvest levels for the next decade will be made following a Forest-wide inventory and in conjunction with revision of the Forest Plan.	none	This guidance is outdated.

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FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-10	Employment Requirements... Vegetative Manipulation and Timber Methods...The following standards and guidelines relate to employment of persons engaged in harvesting, transporting material to manufacturing sites, and manufacturing material from the VFSYU. Employment areas shown are generally defined as follows: - Area 'A' includes areas around the communities of Vallecitos, La Petaca, Las Tablas, La Madera, Canon Plaza, and Servilleta Plaza. - Area 'B' reaches out farther and includes communities of El Rita, Ojo Caliente, Canjilon, and Tres Piedras. - Outside - All areas not included in areas A and B. These employment areas are more specifically defined on a map on file in the Carson National Forest Supervisor's Office and at the El Rita District Ranger's Office.	DA-VFSYU-G-1	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-13	Provided qualified applicants are available and except as specifically noted in subsequent paragraphs the following employment requirements apply to all responsible operators on the VFSYU. (Percent of Employees)	DA-VFSYU-G-1	Hiring requirements are included in the policy statement. The plan includes the policy statement by reference.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-14	Exceptions to the employment requirements include: - Specialists employed temporarily for not more than two weeks. - Owners and supervisory positions approved as exempt by the Forest Service. - Non-residents, if local applicants are not available as described in subsequent paragraphs. These cases must be fully supported by documentation. Supervisory positions approved as exempt for the present single approved responsible operator (5.5MMBF/YR) include: Mill Yard Foreman, Millwright, Shop Foreman or Sawyer, Sales Manager, Logging Manager, Logging Superintendent, Log Cutting Foreman, Skidding and Road Construction Foreman To facilitate determination of compliance with local labor requirements the Forest Supervisor may designate work group of local citizens. The determination of whether qualified applicants are available shall be made by the Employment Security Commission (ESC).	DA-VFSYU-G-1	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-18	Approved responsible operators will use the services of the ESC to obtain qualified local employees if needed to meet employment requirements. When required by sale contract or permit provisions, approved responsible operators will submit to the Forest Supervisor, the Chairman of the local work-group, and the office of the Employment Security Commission, a list of employees on his payroll on the last working day of the prior month, with their resident addresses.	DA-VFSYU-G-1	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.

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FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-20	Utilization Standards...Utilization standards for the VFSYU are the same as defined for the Forest as a whole and specified in FSM 2450. Conifer saw timber: 9.0' - DBH to a 6" - d.i.b. top Aspen sawtimber:10.0" - DBH to an 8" - d.i.b. top Products:5.0 to 8.9" - DBH to a 4" - d.i.b. top Other convertible products: competitive basis to new responsible operators approved by the Forest Supervisor. Approval will be based on meeting "provisions for community support," "employment requirements," and specific manufacturing requirements. Manufacturing requirements for this material are: No facility is required for sales that produce a product directly in the woods, but employment requirements must still be met. Examples might be Christmas trees, wildings, and in some cases firewood or vigas. A facility within employment area "A" is required for sale of material that may require a wood yard for splitting, viga peeling plant, or similar plant facility.	DA-VFSYU-G-1	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-23	1.0 MMBF/YR saw timber will be allocated on a non-competitive basis in individual quantities ranging from50 to 500 MMBF/YR to new approved responsible operators, approved by the Chief of the Forest Service or through delegation to the Forest Supervisor. These new responsible operators must establish and maintain primary manufacturing facilities within employment area ""A."" Primary manufacturing means production of lumber. A planer facility is not required but appraisal will be based on finished lumber. This allocation of saw timber will be exclusively for smaller-scale operations.	DA-VFSYU-G-1	Responsible operator requirements are included in the policy statement. The plan includes the policy statement by reference.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-25	The following materials may be sold or otherwise provided, on an equal basis, to the public for their personal use: - small amounts of the 1.0 MMBF/YR saw timber and 1 .1 MMBF/YR products, - convertible products from trees less than 5-inch DBH, - non-convertible products, - green firewood from non-commercial species, and - dead/dry firewood. Exceptions can be made for salvage unanticipated timber losses, National emergencies or other significant factors.	DA-VFSYU-G-1	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-26	The Regional Forester can provide exception to manufacturing requirements and associated employment requirements for salvage material which cannot be given primary manufacture within the unit before the material deteriorates.	DA-VFSYU-G-1	This restates policy. The plan reiterates that the Vallecitos FSYU policy be followed.

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FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-27	The harvest level for the unit may be changed at any time due to unanticipated timber losses, national emergencies, or other significant factors upon recommendation of the Regional Forester and approval of the Chief.	DA-VFSYU-G-1	Harvest level adjustments are included in the policy statement. The plan includes the policy statement by reference.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-28	Other Standards and Guidelines...All new road construction will be local-terminal and designed for closure after harvest, treatments (TSI and Reforestation) and firewood slash cleanup are completed.	FW-TFA-S-3	This guidance is not carried forward. Road design will be determined based on project-specific factors.
FW-Timber-Vallecitos Fed Sus Yield-Standards and Guidelines-29	Forest Rds. 244 and 44 (existing) will be improved to single lane with turnouts commensurate with user safety, resource protection, and efficient maintenance.	none	This guidance has been superseded by travel management decisions.

Table 151. Comparison of travel guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Travel-Vision-1	The Carson has a well-planned, well-built, well-managed transportation system. People are able to get where they need to by various modes of travel, yet the wildlife, vegetation, soil, water and air are high-quality and well managed for today's and future generations. There are no unnecessary roads and trails.	FW-TFA-DC-1 FW-TFA-DC-4 FW-TFA-DC-5	Guidance has been retained.
FW-Travel-Management Highlights-1	All roads and trails will be inventoried and decisions made about their intended uses.	FW-TFA-DC-5 FW-TFA-m.a.-6	Guidance has been retained.
FW-Travel-Management Highlights-2	Roads and trails not needed will be closed and the land managed for natural resource purposes. They may be seeded with grass or, in low-use areas, simply abandoned and left to return to a natural condition on their own. An average of 70 miles will be obliterated each year.	FW-TFA-O-1 FW-TFA-G-3 FW-TFA-G-4 FW-TFA-DC-5	Guidance has been retained. Objectives are based on recent and expected capacity.
FW-Travel-Management Highlights-3	Needed roads and trails may be relocated to more desirable locations.	FW-TFA-DC-1 FW-TFA-G-2	The plan allows road relocation.
FW-Travel-Management Highlights-4	Construction standards for permanent roads and trails will be the minimum needed to meet intended uses.	FW-TFA-DC-1 FW-TFA-DC-3 FW-TFA-DC-4 FW-TFA-G-1 FW-TFA-G-3	Road and trail design will be based on site specific factors.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Travel-Management Highlights-5	Traffic management methods, such as closures, restrictions on use, and information signs, will be applied to roads and trails to provide for the safety of users, to minimize user conflicts and to protect resources such as soil, vegetation, wildlife habitat and water quality.	FW-TFA-DC-1 FW-TFA-DC-2 FW-TFA-DC-3 FW-TFA-S-1 FW-TFA-S-2 FW-TFA-G-9	Guidance has been retained.
FW-Travel-Management Highlights-6	It is from roads and trails that forest visitors gain visual impressions of the forest landscape. Roads and trails should be managed considering the view from the road and the visitor's enjoyment and should provide functional access requirements.	FW-SCEN-DC-1 FW-SCEN-DC-3 FW-SCEN-DC-4	Guidance has been retained.
FW-Travel-Management Highlights-7	Roads and trails will be managed to provide a variety of opportunities for all users.	FW-TFA-DC-1	Guidance has been retained.
FW-Travel-Setting the Stage-1	Roads and trails in the national forests enable movement of people and resources in and out of the forests. Roads provide access for recreationists, allowing hikers to reach trail heads to Wilderness Areas. For example, roads provide access for management of timber resources, allowing Forest Service workers to carry out silvicultural treatments, stand improvement, reforestation, and brush and weed control, and for protection for all resources through control of fire, insects, and disease. Roads are also necessary for production of timber, livestock, and minerals.	FW-TFA-DC-1	Guidance has been retained.
FW-Travel-Setting the Stage-2	With so many uses and users, conflicts and concerns develop that lead to questions about road suitability: Why are roads/trails needed? How many roads/trails are needed? Where are roads/trails needed? How much will they cost? How will the roads/trails affect the environmental quality of the area? What are appropriate road/trail standards? Why are roads open or closed to vehicular traffic? Which roads/trails are no longer needed? Why is motorized treatment not allowed or allowed? All these questions need to be answered before the first stake goes into the ground.	FW-TFA-DC-1 FW-TFA-m.a.-1 FW-TFA-m.a.-2	Guidance has been retained.
FW-Travel-The Major Transportation Challenges-Setting the Stage-1	Most of the arterial and collector roads are already in place. Therefore, most of the Forest Service planning for the future focuses on what is needed most in today's forest--local road construction and reconstruction. These shorter roads will be built for a specific short-term activity and then will be managed to meet other resource needs.	none	This guidance has been superseded by travel management decisions.
FW-Travel-Limited Access Is A Positive Method of Resource Management-Setting the Stage-1	More attention is being given to closing roads as a means of protecting resources. Roads and trails will be closed periodically to protect wildlife and reduce maintenance cost or be closed simply because the roads are no longer needed for recurrent resource activities.	none	This guidance has been superseded by travel management decisions.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Travel-Limited Access Is A Positive Method of Resource Management-Setting the Stage-2	Whether a road should be closed is determined by examining the objectives in the Forest Plan. If it is determined that constant vehicle use is unnecessary, the Forest Service closes the road and puts it in storage, so to speak, until it is needed for another planned resource activity. During the closure period, the road is usually available for such uses as hiking, horseback riding, and hunting. In some cases, roads are obliterated and seeded with grass when they are no longer needed. Local roads not needed until later may be closed with earthen berms.	FW-TFA-DC-5 FW-TFA-S-3 FW-TFA-G-1 FW-TFA-G-3 FW-TFA-G-4	Guidance has been retained.
FW-Travel-Limited Access Is A Positive Method of Resource Management-Setting the Stage-3	In some instances, when weather (such as during spring thaw) or road conditions cannot provide for year-round use, or in periods critical to wildlife (such as elk calving), roads can be closed temporarily. These closures may range from a few weeks each year to several years. Some roads are closed to avoid soil erosion and preserve water quality, then reopened some years later when necessary for timber harvester other use.	none	This is a statement that does not provide management direction.
FW-Travel-Travel Opportunities and Restrictions-Setting the Stage-1	Authority for management of the road and trail system and other areas of the Forest is Secretary of Agriculture Regulations Title 36 Parts 261.12, 261.13, 261.54, 261.55, 261.56 and 295. Wilderness areas are closed to mechanical use under 36 CFR 293.6. Parts of the Rio Grande Wild and Scenic River are closed to motorized use under Executive Order 11644 and 11989 and 83 CFR Part 8340.	none	The plan does not reiterate existing regulations.
FW-Travel-Travel Opportunities and Restrictions-Setting the Stage-2	Most of the closure areas are closed or restricted in the sense that cross-country vehicle travel is not permitted. Insofar as possible, opportunities have been identified for use by jeeps, motorcycles, snowmobiles, ATVs, horseback riders and cross-country skiers.	FW-TFA-DC-2 FW-TFA-DC-3	Guidance has been retained.
FW-Travel-Travel Opportunities and Restrictions-Setting the Stage-3	The areas restricted or closed will not necessarily remain unchanged in the years to come. The processor regulating use is designed to change and meet new public needs and demands. It will be "fine-tuned" to reflect new information about vehicle impacts on wildlife, watershed, range and timber, as well as effects on other kinds of recreation and changing patterns of use.	FW-TFA-O-1 FW-TFA-DC-5	Guidance has been retained.
FW-Travel-Travel Opportunities and Restrictions-Setting the Stage-4	Outside of restricted areas, many roads constructed for timber harvesting and other purposes have been "put to bed". Drainage and vegetation measures have been installed to permit these roads to heal and stabilize. These situations can be recognized by physical barriers, such as earth berms, ditches, or signs.	none	This is a statement that does not provide management direction.
FW-Travel-Travel Opportunities and Restrictions-Setting the Stage-5	When fire danger is extreme, travel on the Forest may be restricted to certain roads or areas.	none	The plan allows temporary closures.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Travel-Standards and Guidelines-1	Motor Vehicle Use Map (MVUM)...Motor vehicle use off the designated system of roads, trails, and areas is prohibited, except as identified on the motor vehicle use map or unless specifically authorized under a written authorization issued under Federal law or regulations by an authorized officer. Roads and trails open to motor vehicle use are designated by vehicle class and, if appropriate, by time of year pursuant to 36 CFR 212.51. Designated roads, trails, and areas shall be identified on a motor vehicle use map that is available to the public pursuant to 36 CFR 212.56.	FW-TFA-DC-2 FW-TFA-S-1	Guidance has been retained.
FW-Travel-Standards and Guidelines-2	Transportation Analysis... Transportation investments by individuals, other agencies or the Forest Service will be located and constructed to meet long term needs based on a transportation analysis which considers planned resource objectives.	FW-TFA-DC-1 FW-TFA-m.a.-5 FW-TFA-m.a.-6	Guidance has been retained.
FW-Travel-Standards and Guidelines-3	Local Terminal Roads...Local terminal roads shall be drained and closed promptly after the end of resource management activities. Temporary roads shall be drained, obliterated, and vegetated immediately after the timber purchaser has finished using it.	FW-TFA-S-3	Guidance has been retained.
FW-Travel-Standards and Guidelines-4	Road Maintenance... - Maintain the transportation system at a cost efficient level in terms of operations, and reconstruction. Road maintenance activities will generally be conducted primarily for protection of forest resources, road investment, user safety, and only secondarily for user comfort. When roads in need of maintenance cannot be serviced, they will be closed if unacceptable resource damage is occurring or if they are unsafe. - Evaluate all travel ways to determine if they are needed and should be on the Forest Development Road or Trail System and whether their use is covered under an approved operating plan or special use permit. Road management plans will be reviewed or developed for all Forest Development Roads every five years and will include updating transportation maps and inventory. Where appropriate, roads will be covered under either a special use permit or operating plan.	FW-TFA-DC-1 FW-TFA-DC-5 FW-TFA-m.a.-6	Guidance has been retained.
FW-Travel-Standards and Guidelines-5	Double Lane STDS...Reconstruct roads to a double lane standard only when traffic analysis indicates that a single lane will not safely and economically handle the projected traffic	FW-TFA-DC-1	Road design will be based on site specific factors.
FW-Travel-Standards and Guidelines-6	Road Grades...Arterial and collector road grades will not normally exceed 10% unless justified from the standpoint of savings and user cost or to protect the investment and adjacent resources. Likewise, local road grades normally will not exceed 12% (best management practices).	FW-TFA-DC-1 FW-WSW-G-1	Guidance has been retained.

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FW-Travel-Standards and Guidelines-7	Reseeding...Reseed road cut and fill slopes with grasses and forbs which are adapted to the area and provide effective erosion control (Best Management Practices).	FW-WSW-G-1	Guidance has been retained.
FW-Travel-Standards and Guidelines-8	Road Width...Construct local roads to a 12-foot width, except where accessing possible future (next planning period) cable logging areas where the minimum width will be 14 feet.	FW-TFA-DC-1	Road design should be based on project and site specific factors. This guidance is not carried forward.
FW-Travel-Standards and Guidelines-9	Elk Calving...Do not conduct timber management activities, develop or utilize the road system in elk calving areas from May 1 to July 25. (Management Areas 1-14)	FW-WFP-DC-7	Guidance has been retained.
FW-Travel-Standards and Guidelines-10	Elk Migration and Cover... - Identify elk migration routes and provide elk cover along ridges, drainages, and transition areas when locating and designing roads. (Management Areas 1-14) - Do not locate arterial, collector, or local service roads through identified elk migration routes unless no feasible alternative exists, as determined by interdisciplinary team review.	FW-TFA-DC-4 FW-TFA-G-7 FW-TFA-G-8	Guidance has been retained.
FW-Travel-Trails-Standards and Guidelines-1	Maintenance...Maintain all system trails at a level that corrects unsafe conditions and minimizes unacceptable resource and trail damage. Prepare an annual trail management plan that identifies planned standards. Provide maintenance to restore the trail to those design standards. Pursue opportunities to develop ""barrier free"" trails on present and new locations to provide for use by the handicapped, young, and elderly.	FW-REC-DC-3 FW-TFA-DC-1	Guidance has been retained.
FW-Travel-Trails-Standards and Guidelines-2	Opportunities...Consider trail opportunities for motorized/non-motorized, summer/winter activities when planning road closures or obliteration projects.	FW-REC-m.a.-1	Trail location will be based on site specific factors.
FW-Travel-Trails-Standards and Guidelines-3	Continental Divide National Scenic Trail...Maintain or enhance the existing visual quality recreation potential and possibilities for a trail along the corridor that has been identified as a possible location for the Continental Divide National Scenic trail on the Tres Piedras, El Rita, and Canjilon Ranger Districts.	DA-NTRL-DC-6 DA-NTRL-DC-7	Guidance has been retained.
FW-Travel-Trails-Standards and Guidelines-4	Canjilon Mtn Loop Trail...Construct the Canjilon Mountain Loop Trail (13 miles).	none	This guidance is outdated.

Table 152. Comparison of visual quality guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-VisualQuality-Vision-1	The forest is visually attractive, and while providing for the various demands and needs, it appears natural.	FW-SCEN-DC-1 FW-SCEN-DC-2	Guidance has been retained.
FW-VisualQuality-Management Highlights-1	Manage the visual resources on the Forest according to the Visual Quality Objectives listed on the inventory maps.	FW-SCEN-G-2	Visual quality objectives have been replaced by scenic integrity objectives.
FW-VisualQuality-Management Highlights-2	Utilize forest management activities to increase visual variety.	FW-SCEN-DC-3	The plan manages toward scenic values.
FW-Visual Quality-Management Highlights-3	Instill an awareness of, and an appreciation for the visual resource at all employee levels.	FW-SCEN-G-2	Guidance has been retained.
FW-VisualQuality-Setting the Stage-1	"The American people are concerned about the quality of their visual environment. Because of this concern, it has become appropriate to establish the 'visual landscape' as a basic resource, to be 'treated as an essential part of and receive equal consideration with the other basic resources of the land' (FSM2380). At the same time, public demand has increased for goods and services produced on much of the same land. It has thus become necessary to both inventory the visual resource and provide management of it." [from The Visual Management System, Chapter 1. USDA-Forest Service. Agricultural Handbook No.462.]	none	This guidance is not carried forward. The visual management system has been replaced with the scenery management system.

Table 153. Comparison of watershed guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Watershed-Vision-1	Clean, clear and sustained water flows through the streams and into the rivers.	FW-WSW-DC-1	Guidance has been retained.
FW-Watershed-Management Highlights-1	Best management practices are followed when doing all projects and activities.	FW-WSW-G-1	Guidance has been retained.
FW-Watershed-Management Highlights-2	Water rights are secured for all projects.	none	This guidance is not carried forward. Water rights are only required for water withdrawal and are managed by the State of NM.
FW-Watershed-Management Highlights-3	Watershed condition is monitored, and problem areas restored. An average of 300 acres per year will be improved.	Monitoring topic 1 FW-WSW-O-1	Guidance has been retained.
FW-Watershed-Management Highlights-4	An estimated 345,000 acre-feet of water will come off the Forest and will meet water quality standards.	FW-WSW-DC-7	The plan cannot guarantee stream runoff.
FW-Watershed-Standards and Guidelines-1	Watershed Condition Inventory...Complete watershed condition inventory on all watersheds by end of first decade. Complete two watersheds annually.	none	This guidance is outdated.
FW-Watershed-Standards and Guidelines-2	Terrestrial Ecosystem Inventory...Conduct terrestrial ecosystem survey where detailed site specific information is required.	none	This guidance is outdated.
FW-Watershed-Standards and Guidelines-3	Best Management Practices... Minimize the effects of planned activities on the water and soil resources through the use of best management practices (BMP).	FW-WSW-G-1	Guidance has been retained.
FW-Watershed-Standards and Guidelines-4	Watershed Condition...Upgrade those watersheds in unsatisfactory condition to satisfactory by 2020. Watersheds in satisfactory condition will be maintained in that condition.	FW-WSW-DC-1 FW-WSW-O-1	Guidance has been retained.
FW-Watershed-Standards and Guidelines-5	Maintain Improvements...Maintain soil and water improvement projects.	FW-WSW-DC-1 FW-WSW-O-1 FW-WSW-RMZ-SNS-O-1	Guidance has been retained.
FW-Watershed-Standards and Guidelines-6	Stream gauges...Cooperate with U.S. Geological Survey on maintaining stream gauges.	FW-PART-m.a.-2	Guidance has been retained.
Guidance has been retained.	Water Rights Adjudication...Participate in State water right adjudications.	none	This guidance is not carried forward.
FW-Watershed-Standards and Guidelines-8	File for Water Rights...File for water rights on water developments.	none	This is a requirement under NM State law.
FW-Watershed-Standards and Guidelines-9	Snow Surveys...Conduct snow surveys as per agreement with Soil Conservation Service.	FW-PART-m.a.-2	Guidance has been retained.

Table 154. Comparison of wildlife and fish guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Wildlife & Fish-Vision-1	The forest is biologically rich due to the very diverse vegetation. This provides the habitats for the diverse wildlife and fishes. The various vegetation conditions are well distributed and evenly mixed to assure a continued biodiversity.	FW-WFP-DC-1 FW-WFP-DC-2 FW-WFP-DC-8	Guidance has been retained.
FW-Wildlife & Fish-Management Highlights-1	Maintain habitat for viable populations of all wildlife and fish species found on the Forest and improve habitat for selected species. This will be accomplished indirectly through intensive coordination of habitat manipulation with other resource activities, and directly through intensive habitat management.	FW-WFP-DC-3 FW-WFP-DC-4	Guidance has been retained.
FW-Wildlife & Fish-Management Highlights-2	Support New Mexico Game and Fish Department in meeting its objectives of the New Mexico Comprehensive Wildlife Plan and in the reintroduction of native wildlife and fish species. Favor native species over new exotic species in stocking and introductions whenever possible.	FW-WFP-O-3 FW-WFP-m.a.-1 FW-WFP-DC-6	Guidance has been retained.
FW-Wildlife & Fish-Management Highlights-3	Maintain and/or improve habitat for presently listed or endangered species of animals and other species as they are classified as threatened or endangered. Work toward the eventual recovery and delisting of species by the year 2000.	FW-WFP-DC-3 FW-WFP-O-1 FW-WFP-m.a.-2	Guidance has been retained.
FW-Wildlife & Fish-Setting the Stage-1	There is competition among wildlife species themselves as well as with other forest users. The wide variety of species, each with specific habitat requirements, will continue to add to the complexity of management. The number of different wildlife & fish species on the Carson are 7 Amphibian, 15 Reptiles, 72 Mammals, 223 Birds and 12 Fish.	none	This is a statement that does not provide management direction.
FW-Wildlife & Fish-Setting the Stage-2	One of the keys to managing wildlife is understanding their homes --wildlife habitat. Their habitat is the interrelationship of vegetation, water, animals and people. Ultimately, to have diverse wildlife levels and healthy animals/fish, the habitat needs to be diverse --large variety throughout the forest. A key element to wildlife is the riparian habitat --the area along our streams and around our lakes and marshes. The riparian is also in demand by most other users of the Forest.	FW-WFP-DC-8 FW-WFP-DC-10	Guidance has been retained.
FW-Wildlife & Fish-Setting the Stage-3	Insufficient quantity or quality of winter range has continued to be a limiting factor in managing big game. People are also concerned about the decline in deer populations. It is unclear as to exactly why, but often poaching and habitat problems are raised as possibilities. A "put and take" fisheries is required on many streams and lakes due to the high demand.	none	This is a statement that does not provide management direction.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
FW-Wildlife&Fish-MIS-Standards and Guidelines-1	Management Indicator Species...Provide quality habitat for the Management Indicator Species for the Carson National Forest.	none	This guidance is not carried forward.
FW-Wildlife&Fish-MIS-Standards and Guidelines-2	Table: Management Area--Management Indicator Species	none	This guidance is not carried forward.
FW-Wildlife &Fish-TES-Standards and Guidelines-1	Implementation Plans...Inventory, evaluate, and prepare implementation plans for proposed, threatened and endangered (T&E), and sensitive plant and animal species in the first decade or as species are proposed. Monitor approved plans and effects of management activities within threatened, endangered, sensitive species habitats.	FW-WFP-G-1 FW-WFP-G-2 FW-WFP-G-3 FW-WFP-m.a.-1 FW-WFP-m.a.-2 Monitoring topic IV	Guidance has been retained.
FW-Wildlife&Fish-TES-Standards and Guidelines-2	Biological Evaluations...Evaluate potential resource impacts on T&E and sensitive species habitat on projects and activities through a biological assessment and evaluation (FSM 2670) and conduct appropriate consultation (FSM 2670) when necessary. (Amendment 11) Habitat management for federally listed species will take precedence over unlisted species. Habitat management for endangered species will take precedence over threatened species. Habitat management for sensitive species will take precedence over non-sensitive species. (Amendment 11)	none	The plan does not reiterate the requirement to follow law such as the Endangered Species Act or associated Forest Service policy.
FW-Wildlife &Fish-TES-Standards and Guidelines-3	Confidentiality...Habitat locations for some listed plant and animal species remain confidential to prevent unnecessary disturbances, theft, or mortality.	FW-WFP-DC-7	Guidance has been retained.
FW-Wildlife &Fish-TES-Standards and Guidelines-4	Improve Habitat...Improve T&E and sensitive species habitat. Improvement projects give priority to recovery of threatened and endangered species and conform to approved recovery plans.	FW-WFP-G-1 FW-WFP-m.a.-1 FW-WFP-m.a.-2	Guidance has been retained.
FW-Wildlife &Fish-TES-Standards and Guidelines-5	Recovery... Identify forest portions of recovery objectives in conjunction with the New Mexico Department of Game and Fish and U.S. Fish and Wildlife Service for federally listed threatened or endangered species. Refine habitat requirements and identify specific habitat projects needed to achieve recovery objectives for individual species habitats. Accomplish recovery projects included in approved recovery plans. Projects will be coordinated through integrated resource management practices.	FW-WFP-DC-3 FW-WFP-G-1 FW-WFP-G-2	Guidance has been retained.
FW-Wildlife &Fish-TES-Standards and Guidelines-6	Delisting...Manage threatened, endangered, and sensitive animal, fish and plant habitats to achieve delisting in a manner consistent with the goals established with the U.S. Fish and Wildlife Service and the New Mexico Department of Game and Fish in compliance with approved recovery plans.	FW-WFP-DC-3 FW-WFP-G-1 FW-WFP-G-2	Guidance has been retained.

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FW-Wildlife & Fish-TES- Standards and Guidelines-7	NM Natural Heritage Program...Cooperate with New Mexico Natural Heritage Program to achieve management objectives for threatened, endangered, and sensitive flora.	FW-WFP-m.a.-6	Guidance has been retained.
FW-Wildlife & Fish-TES- Standards and Guidelines-8	Reintroduction...Studies will be conducted to ascertain suitability for reintroduction of endangered, threatened, proposed, and state listed native species into suitable habitats. This will be accomplished in conjunction with development and approval of recovery plans.	FW-WFP-G-1 FW-WFP-G-2 FW-WFP-m.a.-1 FW-WFP-m.a.-2 FW-WFP-m.a.-5	Guidance has been retained.
FW-Wildlife & Fish-TES- Standards and Guidelines-9	Sensitive Species...Manage sensitive species not already on federal list, to sustain viability and prevent the need for listing as threatened or endangered. Recovery activities will be pursued where pertinent. If a species is proposed for listing, monitoring actions to determine effect of management practices on habitat and the need for conference with U.S. Fish and Wildlife Service. Identify areas where sensitive species occur and manage to maintain or enhance habitat in occupied territory.	none	This guidance is outdated. Sensitive species are not included in the plan.
FW-Wildlife&Fish-TES- Standards and Guidelines-10	Consultation...Consultation will be initiated for situations where federally listed or proposed listed species may be affected. Review all planned, funded, executed, or permitted programs and activities to determine needs for consultation or conference with the Fish and Wildlife Service and the New Mexico Department of Game and Fish.	none	Covered by law, policy, or regulation (16 U.S.C. § 1531 et seq)

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FW-Wildlife & Fish-TES- Standards and Guidelines-11	Peregrine Falcon...Continue to identify habitats necessary to the conservation and recovery of the peregrine falcon. Complete inventories and habitat management plans for those breeding habitats identified as necessary to the recovery of the species. Monitor management practices within designated habitats and evaluate the effects of management. Activities likely to cause disturbance, including public use, will be prohibited in the vicinity of suitable peregrine falcon nesting habitat between March 1st and August 15th, unless a biological evaluation and determination of "no effect" has been made. Should peregrines remain attached to nesting habitat after August 15th, this period may be extended; or should young peregrines disperse earlier than August 15th this period may be shortened. Seasonal restrictions will apply to all suitable nesting habitat unless the biological evaluation determines that the proposed activity will have no effect after May 15th. Activities likely to cause disturbance may include but are not limited to; human presence within 3/4 mile, light trucks, passenger vehicles, ATVs and trailbikes within one mile, and heavier motorized equipment including aircraft, within two miles. In addition, land-use practices and development which significantly alter or eliminate the character of suitable peregrine falcon hunting habitat or prey base (generally within six miles of nest site) will be prohibited. All activities proposed within six miles of suitable nesting habitat will be evaluated for potential short-term impacts and long-term cumulative effects.	FW-CRF-DC-1 FW-CRF-G-1 FW-CRF-G-2 FW-CRF-m.a.-2 FW-WFP-G-3	Guidance has been retained.
FW-Wildlife & Fish-TES- Standards and Guidelines-12	Bald Eagle...Develop habitat management plans for wintering bald eagle habitats as specified in approved recovery plans. Maintain bald eagle winter roost and perch trees. Accomplish riparian and fisheries improvements to maintain and enhance prey base for wintering bald eagles.	FW-WFP-G-1 FW-VEG-G-1	This guidance is not carried forward.
FW-Wildlife & Fish-TES- Standards and Guidelines-13	Prairie Dog Towns/ Black-Footed Ferret...Proposed control and other activities which may disturb the integrity of prairie dog towns must be fully evaluated and managed to perpetuate the species. All such activities will be preceded by approved inventory procedures to determine the occurrence of the black-footed ferret.	FW-VEG-MSG-DC-4 FW-VEG-MSG-DC-10 FW-VEG-SAGE-DC-3 FW-WFP-m.a.-8 FW-WFP-m.a.-10 MA-GMMA-DC-3	Guidance has been retained.

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FW-Wildlife&Fish-TES-Standards and Guidelines-14	Mexican Spotted Owl...REPLACE with Alternative G, Mexican Spotted Owl Standards and Guidelines (Amendment 11).	FW-WFP-G-1	This guidance is outdated. Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-TES-Standards and Guidelines-16	Pine Marten...Identify areas where pine marten occur and manage to maintain or enhance habitat in occupied territory. Complete Forest-wide surveys.	none	The plan manages for overall ecological conditions that support self-sustaining populations of terrestrial and aquatic plant and animal species instead of managing for individual species.
FW-Wildlife &Fish-TES-Standards and Guidelines-17	Rio Grande Cutthroat...Continue activities to improve Rio Grande Cutthroat habitat with the objective of securing the species. Develop Rio Grande Cutthroat trout fisheries within selected areas identified in conjunction with the New Mexico Department of Game and Fish.	FW-WFP-DC-1 FW-WFP-DC-3 FW-WFP-G-1 FW-WFP-G-2	Guidance has been retained.
FW-Wildlife &Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-1	Integration...Establish and maintain stand diversity through integrated stand management to maintain and improve wildlife habitat diversity and specific habitat components in lands suitable for timber and firewood production. Selected cutting units will average 10-100 acres except as needed to accomplish specific wildlife habitat improvement objectives.	FW-VEG-DC-1 FW-VEG-DC-8 FW-VEG-DC-14 FW-VEG-DC-20 FW-VEG-DC-21 FW-VEG-G-1 FW-VEG-G-2 FW-VEG-G-3 FW-VEG-m.a.-6	Guidance has been retained. Unit planning will be done on a case-by-case basis.
FW-Wildlife&Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-2	Stand Mgt. Principles...Apply stand management principles to commercial timber sales, reforestation, timber stand improvement, firewood and fuels management, and other resource activities which result in vegetative management of timberlands.	FW-FFP-DC-1 FW-FFP-DC-4	Guidance has been retained.
FW-Wildlife&Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-3	Diversity Unit Size...Combine timber compartments, and wherever possible, big game seasonal ranges, to form an identifiable diversity unit averaging 8,000–12,000 acres.	none	This guidance is not carried forward.

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FW-Wildlife&Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-4	Standards & Guidelines and Diversity Units...Standards and guidelines are applied to, and monitored on, a diversity unit or larger basis rather than on an individual project basis.	none	Desired conditions in the plan apply at the landscape-, mid-, or fine-scale.
FW-Wildlife &Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-5	Habitat Objectives...Wildlife habitat objectives for each diversity unit are evaluated on an individual stand basis. This means that in designing timber sales and other projects the size, shape, juxtaposition, age, and crown closure of each stand will be evaluated against the wildlife habitat objectives established for the diversity unit.	FW-VEG-DC-5 FW-VEG-DC-16	Guidance intent has been retained. The plan does not include diversity units.
FW-Wildlife &Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-6	Exceptions...Minimum management requirements may be exceeded where it is good management to do so, such as potential snags adjacent to meadows, riparian areas, and other water sources.	FW-VEG-DC-4 FW-VEG-DC-8 FW-VEG-DC-20 FW-VEG-G-1	Guidance intent has been retained. The plan does not include minimum management requirements.
FW-Wildlife &Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-7	Big Game Summer Ranges...On big game summer ranges manage suitable timberlands to achieve a diversity of vegetative conditions by balancing timber age and canopy cover classes.	FW-VEG-DC-1	Seral state proportions are defined by vegetation community.
FW-Wildlife&Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-8	Age and Canopy Cover Class Distribution...The objective will be to achieve the following conditions (Table 32) on 70 percent of the suitable timberlands by the end of the 20th decade. (To be monitored by each Diversity Unit) (see table wildlife)	none	Seral states distributions are defined for each vegetation community.
FW-Wildlife&Fish-App.C-1	Establish protected activity center at all Mexican spotted owl sites located during surveys and all management territories established since 1989.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C-2	Delineate an area of not less than 600 acres around the activity center using boundaries of known habitat polygons and/or topographic features. Written justification for boundary delineation should be provided.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C-3	The Protected Activity Center boundary should enclose the best possible owl habitat configured in as compact a unit as possible, with the nest or activity center located near the center."	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.

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FW-Wildlife&Fish-App.C-4	"The activity center is defined as the nest site. In the absence of a known nest, the activity center should be defined as a roost grove commonly used during breeding In the absence of a known nest or roost, the activity center should be defined as the best nest/roost habitat."	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C-5	"Protected Activity Center boundaries should not overlap."	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C-6	"Submit protected activity center maps and descriptions to the recovery unit working group for comment as soon as possible after completion of surveys."	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C-7	As the foregoing example shows, the guidelines are the detailed information about implementation of the standards. While standards and guidelines both specify the management bounds and constraints, the standards contain no discretionary elements and the guidelines may occasionally contain discretionary elements. For example, one of the Mexican spotted owl guidelines is "The Protected Activity Center should enclose the best possible owl habitat ... " The terms "should" and "best" imply some discretion on the part of the person implementing the guideline.	none	This is a statement that does not provide management direction.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl- Standards-1	Provide three levels of habitat management-protected, restricted, and other forest and woodland types to achieve a diversity of habitat conditions across the landscape.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife &Fish-App.C/ Mexican Spotted Owl- Standards-2	Protected areas include delineated protected activity centers; mixed conifer and pine-oak forest with slopes greater than 40% where timber harvest has not occurred in the last 20 years; and reserved lands which include wilderness, research natural areas, wild and scenic rivers, and congressionally recognized wilderness study areas.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl- Standards-3	Restricted areas include all mixed-conifer, pine-oak, and riparian forest outside of protected areas.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.

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FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-4	Other forest and woodland types include all ponderosa pine, spruce-fir, woodland, and aspen forest outside protected and restricted areas.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-5	Survey all potential spotted owl areas including protected, restricted, and other forest and woodland types within an analysis area plus the area 1/2 mile beyond the perimeter of the proposed treatment area.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-6	Establish a protected activity center at all Mexican spotted owl sites located during surveys and all management territories established since 1989.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-7	Allow no timber harvest except for fuelwood and fire risk abatement in established protected activity centers. For protected activity centers destroyed by fire, windstorm, or other natural disaster; salvage timber harvest or declassification may be allowed after evaluation on a case by- case basis in consultation with the US Fish and Wildlife Service.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-8	Allow no timber harvest except for fire risk abatement in mixed conifer and pine-oak forest on slopes greater than 40% where timber harvest has not occurred in the last 20 years.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-9	Limit human activity in protected activity centers during the breeding season.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-10	In protected and restricted areas, when activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with the U.S. Fish and Wildlife Service to resolve the conflict.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl-Standards-11	Monitor changes in owl populations and habitat needed for delisting.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.

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FW-Wildlife&Fish-App.C/Mexican Spotted Owl/A.General-Guidelines-1	Conduct surveys following Region 3 survey protocol.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife &Fish- App.C/ Mexican Spotted Owl/ A.General-Guidelines-2	Breeding season is March 1 to August 31.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife &Fish-App.C/ Mexican Spotted Owl/ B.Protected Areas-Guidelines-1	Protected Activity Centers: Delineate an area of not less than 600 acres around the activity center using boundaries of known habitat polygons and/or topographic features. Written justification for boundary delineation should be provided. The Protected Activity Center boundary should enclose the best possible owl habitat configured in as compact a unit as possible, with the nest or activity center located near the center. The activity center is defined as the nest site. In the absence of a known nest, the activity center should be defined as a roost grove commonly used during breeding. In the absence of a known nest or roost, the activity center should be defined as the best nest/roost habitat. Protected Activity Center boundaries should not overlap. Submit protected activity center maps and descriptions to the recovery unit working group for comment as soon as possible after completion of surveys. Road or trail building in protected activity centers should be avoided but may be permitted on a case-by-case basis for pressing management reasons. Generally, allow continuation of the level of recreation activities that was occurring prior to listing. Require bird guides to apply for and obtain a special use permit. A condition of the permit shall be that they obtain a sub permit under the U.S. Fish and Wildlife Service Master endangered species permit. The permit should stipulate the sites, dates, number of visits and maximum group size permissible. Harvest fuelwood when it can be done in such a way that effects on the owl are minimized. Manage within the following limitations to minimize effects on the owl: - Retain key forest species such as oak. - Retain key habitat components such as snags and large downed logs. - Harvest conifers less than 9 inches in diameter only within those protected activity centers treated to abate fire risk as described below.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.

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FW-Wildlife&Fish-App.C/Mexican Spotted Owl/B.Protected Areas-Guidelines-2	Steep Slopes (Mixed conifer and pine-oak forest outside protected activity centers with slopes greater than 40% that have not been logged within the past 20 years): No seasonal restrictions apply. Treat fuel accumulations to abate fire risk: - Use combinations of thinning trees less than 9 inches in diameter, mechanical fuel removal, and prescribed fire. - Retain woody debris larger than 12 inches in diameter, snags, clumps of broad-leafed woody vegetation, and hardwood trees larger than 10 inches in diameter at the root collar. - Pre- and post- treatment monitoring should occur within all steep slopes treated for fire risk abatement (See monitoring guidelines)."	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/B.Protected Areas-Guidelines-3	Reserved Lands (Wilderness, Research Natural Areas, Wild and Scenic Rivers, and Congressionally Recognized Wilderness Study Areas): Allow prescribed fire where appropriate.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.

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FW-Wildlife&Fish-App.C/Mexican Spotted Owl/C.Restricted Areas-Guidelines-1	Mixed Conifer and Pine Oak (See glossary definition): Manage to ensure a sustained level of owl nest/roost habitat well distributed across the landscape. Create replacement owl nest/roost habitat where appropriate while providing a diversity of stand conditions across the landscape to ensure habitat for a diversity of prey species. The following table displays the minimum percentage of restricted area which should be managed to have nest/roost characteristics. The minimum mixed conifer restricted area includes 10% at 170 basal area and an additional amount of area at 150 basal area. The additional area of 150 basal area is +10% in BR-E and +15% in all other recovery units. The variables are for stand averages and are minimum threshold values and must be met simultaneously. In project design, no stands simultaneously meeting or exceeding the minimum threshold values should be reduced below the threshold values unless a district-wide or larger landscape analysis of restricted areas shows that there is a surplus of restricted area acres simultaneously meeting the threshold values. Management should be designed to create minimum threshold conditions on project areas where there is a deficit of stands simultaneously meeting minimum threshold conditions unless the district-wide or larger landscape analysis shows there is a surplus. Table: minimum percentage of restricted area which should be managed to have nest/roost characteristics. Attempt to mimic natural disturbance patterns by incorporating natural variation, such as irregular tree spacing and various patch sizes, into management prescriptions. Maintain all species of native trees in the landscape including early seral species. Allow natural canopy gap processes to occur, thus producing horizontal variation in stand structure. Emphasize uneven-aged management systems. However, both even-aged and uneven-aged systems may be used where appropriate to provide variation in existing	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/C.Restricted Areas-Guidelines-2	Riparian Areas: Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should move degraded riparian vegetation toward good condition as soon as possible. Damage to riparian vegetation, stream banks, and channels should be prevented.	FW-WSW-RMZ-DC-2 FW-WSW-RMZ-O-1 FW-WSW-RMZ-G-2	Mexican spotted owl is managed according to the USFWS recovery plan.

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FW-Wildlife&Fish-App.C/Mexican Spotted Owl/C.Restricted Areas-Guidelines-3	Domestic Livestock Grazing: Implement forest plan forage utilization standards and guidelines to maintain owl prey availability, maintain potential for beneficial fire while inhibiting potential destructive fire, maintain and restore riparian ecosystems, and promote development of owl habitat. Strive to attain good to excellent range conditions.	FW-GRZ-DC-4 FW-GRZ-S-1 FW-GRZ-G-1 FW-GRZ-G-2	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/C.Restricted Areas-Guidelines-4	Old Growth: Except where otherwise noted, implement forest plan old growth standards and guidelines to maintain and promote development of owl habitat.	FW-VEG-DC-4 FW-VEG-m.a.-6	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/D.Other Forest and Woodland Types-Guidelines-1	Apply ecosystem approaches to manage for landscape diversity mimicking natural disturbance patterns, incorporating natural variation in stand conditions and retaining special features such as snags and large trees, utilizing appropriate fires, and retention of existing old growth in accordance with forest plan old growth standards and guidelines.	FW-VEG-DC-1 FW-VEG-DC-2 FW-VEG-DC-4	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/E.Guidelines for Specific Recovery Units-Guidelines-1	Colorado Plateau: No special additional guidelines apply.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/E.Guidelines for Specific Recovery Units-Guidelines-2	Southern Rocky Mountain -New Mexico: No special additional guidelines apply.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife &Fish-App.C/ Mexican Spotted Owl/E.Guidelines For Specific Recovery Units-Guidelines-3	Upper Gila Mountains: No special additional guidelines apply.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/E.Guidelines For Specific Recovery Units-Guidelines-4	Basin and Range -West: Emphasize restoration of lowland riparian habitats.	none	This guidance is not carried forward. The plan does not prioritize restoration of specific riparian areas.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/E.Guidelines For Specific Recovery Units-Guidelines-5	Management activities necessary to implement the Mt. Graham red squirrel recovery plan, which may conflict with standards and guidelines for Mexican spotted owl, will take precedence and will be exempt from the conflicting Mexican spotted owl standards and guidelines.	none	Not applicable on the Carson NF.

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FW-Wildlife&Fish-App.C/Mexican Spotted Owl/E.Guidelines For Specific Recovery Units-Guidelines-6	Basin and Range -East: Emphasize restoration of lowland riparian habitats.	none	This guidance is not carried forward. The plan does not prioritize restoration of specific riparian areas.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/E.Guidelines For Specific Recovery Units-Guidelines-7	Management activities necessary to implement the Sacramento Mountain thistle recovery plan, which may conflict with standards and guidelines for Mexican spotted owl, will take precedence and will be exempt from the conflicting Mexican spotted owl standards and guidelines.	none	Not applicable on the Carson NF.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/F.Monitoring Guidelines-Guidelines-1	Monitoring and evaluation should be collaboratively planned and coordinated with involvement from each national forest, USFWS Ecological Services Field Office, USFWS Regional Office, USDA Forest Service Regional Office, Rocky Mountain Research Station, recovery team, and recovery unit working groups.	FW-WFP-m.a.-2 FW-WFP-m.a.-5	Guidance has been retained.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/F.Monitoring Guidelines-Guidelines-2	Population monitoring should be a collaborative effort with participation of all appropriate resource agencies.	FW-WFP-m.a.-2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/F.Monitoring Guidelines-Guidelines-3	Habitat monitoring of gross habitat changes should be a collaborative effort of all appropriate resource agencies.	FW-WFP-m.a.-2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/F.Monitoring Guidelines-Guidelines-4	Habitat monitoring of treatment effects (pre- and post-treatment) should be done by the agency conducting the treatment.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/F.Monitoring Guidelines-Guidelines-5	Prepare an annual monitoring: and evaluation report covering all levels of monitoring done in the previous year. The annual report should be forwarded to the Regional Forester with copies provided to the recovery unit working groups, USFWS Ecological Services field offices, and the USFWS Regional Office.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.

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FW-Wildlife&Fish-App.C/Mexican Spotted Owl/F.Monitoring Guidelines-Guidelines-6	Range wide: Track gross changes in acres of owl habitat resulting from natural and human caused disturbances. Acreage changes in vegetation composition, structure, and density should be tracked, evaluated, and reported. Remote sensing techniques should provide an adequate level of accuracy. In protected and restricted areas where silvicultural or fire abatement treatments are planned, monitor treated stands pre- and post-treatment to determine changes and trajectories in fuel levels; snag basal areas; live tree basal areas; volume of down logs over 12 inches in diameter; and basal area of hardwood trees over 10 inches in diameter at the root crown.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Mexican Spotted Owl/F.Monitoring Guidelines-Guidelines-7	Upper Gila Mountain, Basin and Range East, and Basin and Range West Recovery Units: Assist the recovery team and recovery unit working groups to establish sampling units consisting of 19 to 39 square mile quadrats randomly allocated to habitat strata. Quadrats should be defined based on ecological boundaries such as ridge lines and watersheds. Quadrat boundaries should not traverse owl territories. Twenty percent of the quadrats will be replaced each year at random. Using the sample quadrats, monitor the number of territorial individuals and pairs per quadrat; reproduction; apparent survival; recruitment; and age structure. Track population density both per quadrat and habitat stratum.	FW-WFP-G-1	Mexican spotted owl is managed according to the USFWS recovery plan.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats-Applicability-1	The northern goshawk standards and guidelines apply to the forest and woodland communities described below that are outside of Mexican spotted owl protected and restricted areas. Within Mexican spotted owl protected and restricted areas, the Mexican spotted owl standards and guidelines take precedence over the northern goshawk standards and guidelines. One or the other set of standards and guidelines apply to all forest and woodland communities, but the Mexican spotted owl standards always take precedence in areas of overlap.	FW-WFP-G-1 FW-WFP-m.a.-2	Plan components are not in conflict.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats-Standards-1	Survey the management analysis area prior to habitat modifying activities including a 1/2 mile beyond the boundary.	none	Plans do not compel Agency action such as conducting surveys (FSH 1909.12 sec 21).

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FW-Wildlife&Fish-App.C/Northern Goshawk Habitats-Standards-2	Establish, and delineate on a map, a post-fledging family area that includes 6 nesting areas per pair of nesting goshawks for known nest sites, old nest sites, areas where historical data indicates goshawks have nested there in the past, and where goshawks have been repeatedly sighted over a 2 year or greater time period but no nest sites have been located. Manage for uneven-age stand conditions for live trees and retain live reserve trees, snags, downed logs, and woody debris levels throughout woodland, ponderosa pine, mixed conifer and spruce- fir forest cover types. Manage for old age trees such that as much old forest structure as possible is sustained over time across the landscape. Sustain a mosaic of vegetation densities (over story and understory), age classes and species composition across the landscape. Provide foods and cover for goshawk prey.	FW-VEG-G-1 FW-VEG-G-3 FW-VEG-SFF-DC-13 FW-VEG-SFF-G-2 FW-VEG-SFF-G-3 FW-VEG-SFF-G-4 FW-VEG-ASP-G-2 FW-VEG-ASP-G-3 FW-VEG-MCW-G-3 FW-VEG-MCW-G-4 FW-VEG-MCW-G-5 FW-VEG-MCD-G-3 FW-VEG-MCD-G-4 FW-VEG-MCD-G-5 FW-VEG-PPF-DC-13 FW-VEG-PPF-G-5 FW-VEG-PPF-G-6 FW-VEG-PPF-G-7	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats-Standards-3	Limit human activity in nesting areas during the breeding season.	FW-VEG-SFF-G-5 FW-VEG-ASP-G-4 FW-VEG-MCW-G-6 FW-VEG-MCD-G-6	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats-Standards-4	Manage the ground surface layer to maintain satisfactory soil conditions i.e., to minimize soil compaction; and to maintain hydrologic and nutrient cycles.	FW-SL-G-2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats-Standards-5	When activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with US Fish and Wildlife Service to resolve the conflict.	FW-VEG-G-1	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats-Standards-6	Within the ranges of the Kaibab pincushion cactus, <i>Pediocactus paradine~</i> and the Arizona leather flower, <i>Clematis hirsutissima arizonica</i> , management activities needed for the conservation of these two species that may conflict with northern goshawk standards and guidelines will be exempt from the conflicting northern goshawk standards and guidelines until conservation strategies or recovery plans (if listed) are developed for the two species.	none	Not applicable on the Carson NF.

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FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/General-Guidelines-1	Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with forest plan riparian standards and guidelines. Management strategies should restore degraded riparian areas to good condition as soon as possible. Damage to riparian vegetation, stream banks, and channels should be prevented.	FW-WSW-RMZ-O-1 FW-WSW-RMZ-G-1 FW-WSW-RMZ-G-2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/General-Guidelines-2	Refer to USDA Forest Service General Technical Report RM-217 entitled ""Management Recommendations for the Northern Goshawk in the Southwestern United States"" for scientific information on goshawk ecology and management which provide the basis for the management guidelines. Supplemental information on goshawk ecology and management may be found in ""The Northern Goshawk: Ecology and Management"" published by the Cooper Ornithological Society as Studies in Avian Biology No. 16. In woodland forest cover types, use empirical data to determine desired habitat conditions.	FW-VEG-G-1	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Inventory-Guidelines-1	Use the R3 survey protocol to get complete coverage of the management analysis area (Kennedy and Stahlecker 1993, as modified by Joy, Reynolds, and Leslie 1994). Management analysis areas should be entire ecosystem management areas if possible.	FW-VEG-G-1	The plan does not include ecosystem management areas.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Inventory-Guidelines-2	Complete at least 1 year of survey, but 2 years of survey should be done to verify questionable sightings, unconfirmed nest sites, etc. If nesting goshawks are found during the first year of inventory, a second year of inventory is not needed in that territory.	none	Plans do not compel Agency action such as conducting surveys (FSH 1909.12 sec 21).
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Inventory-Guidelines-3	For areas where complete inventories cannot be done, use aerial photographs to locate vegetative structural stages (VSS) 4-6 within the project area and inventory just those sites for goshawk nest areas using R3 inventory protocol. All uninventoried areas (VSS 1-3) will be managed to post fledging family area (PFA) specifications while in that stage. If while using this inventory option evidence suggests goshawks are present (such as finding plucking perches or molted goshawk feathers), conduct a complete inventory as outlined above.	none	Plans do not compel Agency action such as conducting surveys (FSH 1909.12 sec 21).

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FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Inventory-Guidelines-4	If forests have goshawks commonly nesting in stands classified as VSS 1-3, use the complete inventory methods for those areas. There may be situations where an area is classified as a VSS 3, based on the predominant VSS class, but in actuality a combination of VSS 4 & 5 predominate the area. For those situations, use the complete inventory methods.	none	Plans do not compel Agency action such as conducting surveys (FSH 1909.12 sec 21).
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Home Range Establishment-Guidelines-1	Post-fledging family areas (PFA) will be approximately 600 acres in size. Post-fledging family areas will include the nest sites and consist of the habitat most likely to be used by the fledglings during their early development.	FW-SFF-G-3 FW-ASP-G-3 FW-MCW-G-4 FW-MCD-G-4 FW-PPF-G-4	Guidance has been carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Home Range Establishment-Guidelines-2	Establish a minimum of 3 nest areas and 3 replacement nest areas per post-fledging family area. The nest areas and replacement nest areas should be approximately 30 acres in size. A minimum total of 180 acres of nest areas should be identified within each post-fledging family area.	FW-SFF-G-2 FW-ASP-G-2 FW-MCW-G-3 FW-MCD-G-3 FW-PPF-G-3	Guidance has been carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Home Range Establishment-Guidelines-3	Nest site selection will be based first on using active nest sites followed by the most recently used historical nest areas. When possible, all historical nest areas should be maintained.	FW-SFF-G-2 FW-ASP-G-2 FW-MCW-G-3 FW-MCD-G-3 FW-PPF-G-3	Guidance has been carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Home Range Establishment-Guidelines-4	Manage for nest replacement sites to attain sufficient quality and size to replace the three suitable nest sites.	FW-SFF-G-2 FW-ASP-G-2 FW-MCW-G-3 FW-MCD-G-3 FW-PPF-G-3	Guidance has been carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Management Scale-Guidelines-1	Distribution of habitat structures (tree size and age classes, tree groups of different densities, snags, dead and down woody material, etc.) should be evaluated at the ecosystem management area level, at the mid-scale such as drainage, and at the small scale of site.	Habitat structure is described for each vegetation community by scale.	Guidance has been carried forward.

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FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Landscapes Outside Goshawk Post-fledging Family Areas-Guidelines-1	General: The distribution of vegetation structural stages for ponderosa pine, mixed conifer and spruce-fir forest is 10% grass/forb/shrub (VSS 1), 10% seedling-sapling (VSS 2), 20% young forest (VSS 3), 20% mid-aged forest (VSS 4), 20% mature forest (VSS 5), 20% old forest (VSS 6). NOTE: The specified percentages are a guide and actual percentages are expected to vary + or - up to 3%. The distribution of VSS, tree density, and tree age are a product of site quality in the ecosystem management area. Use site quality to guide in the distribution of VSS, tree density and tree ages. Use site quality to identify and manage dispersal PF A and nest habitat at 2 to 2.5 mile spacing across the landscape. Snags are 18" or larger dbh and 30 feet or larger in height, downed logs are 12 inches in diameter and at least 8 feet long, woody debris is 3 inches or larger on the forest floor, canopy cover is measured with vertical crown projection on average across the landscape. The order of preferred treatment for woody debris is: 1) prescribed burning, 2) lopping & scattering, 3) hand piling or machine grapple piling, and 4) dozer piling.	FW-VEG-SFF-DC-1, 4, 13 FW-VEG-MCW-DC-1, 5, 10 FW-VEG-MCD-DC-1, 11, 12 FW-VEG-PPF-DC-1, 10, 13	Forest structure is described for each vegetation community.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Landscapes Outside Goshawk Post-fledging Family Areas-Guidelines-2	Canopy Cover: Canopy cover guidelines apply only to mid-aged to old forest structural stages (VSS 4, VSS 5, and VSS 6) and not to grass/forb/shrub to young forest structural stages (VSS 1, VSS 2, and VSS 3).	FW-VEG-SFF-DC-1 FW-VEG-MCW-DC-1 FW-VEG-MCD-DC-1 FW-VEG-PPF-DC-1	Canopy cover is described for each vegetation community.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Landscapes Outside Goshawk Post-fledging Family Areas-Guidelines-3	Spruce-Fir: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60% and 2/3 40%, mature forest (VSS 5) should average 60+%, and old forest (VSS 6) should average 60+%. Maximum opening size is 1 acre with a maximum width of 125 feet. Provide two groups of reserve trees per acre with 6 trees per group when opening size exceeds 0.5. Leave at least 3 snags, 5 downed logs, and 10-15 tons of woody debris per acre.	FW-VEG-SFF-DC-1 FW-VEG-SFF-DC-4 FW-VEG-SFF-DC-8 FW-VEG-SFF-DC-13 FW-VEG-SFF-G-4	Guidance has been carried forward.

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FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Landscapes Outside Goshawk Post-fledging Family Areas-Guidelines-4	Mixed Conifer: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60+% and 2/3 40+%, mature forest(VSS 5) should average 50+%, and old forest (VSS 6) should average 60+%. Maximum opening size is up to 4 acres with a maximum width of up to 200 feet. Retain one group of reserve trees per acre of 3-5 trees per group for openings greater than 1 acre in size. Leave at least 3 snags, 5 downed logs, and 10-15 tons of woody debris per acre.	FW-VEG-MCW-DC-1 FW-VEG-MCW-DC-5 FW-VEG-MCW-DC-8 FW-VEG-MCW-DC-10 FW-VEG-MCW-G-5 FW-VEG-MCD-DC-1 FW-VEG-MCD-DC-8 FW-VEG-MCD-DC-11 FW-VEG-MCD-DC-12 FW-VEG-MCD-G-5	Guidance has been carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Landscapes Outside Goshawk Post-fledging Family Areas-Guidelines-5	Ponderosa Pine: Canopy cover for mid-aged forest (VSS 4) should average 40+%, mature forest (VSS 5) should average 40+%, and old forest (VSS 6) should average 40+%. Opening size is up to 4 acres with a maximum width of up to 200 feet. One group of reserve trees, 3-5 trees per group, will be left if the opening is greater than an acre in size. Leave at least 2 snags per acre, 3 downed logs per acre, and 5-7 tons of woody debris per acre.	FW-VEG-PPF-DC-1 FW-VEG-PPF-DC-8 FW-VEG-PPF-DC-10 FW-VEG-PPF-DC-12 FW-VEG-PPF-DC-16 FW-VEG-PPF-G-7	Guidance has been carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Post-fledging Family Area	General: Provide for a healthy sustainable forest environment for the post-fledging family needs of goshawks. The principal difference between ""within the post-fledging family area"" and ""outside the post-fledging family area"" is the higher canopy cover within the post fledging family area and smaller opening size within the post-fledging family area. Vegetative structural stage distribution and structural conditions are the same within and outside the post-fledging family area.	FW-VEG-DC-21 FW-VEG-SFF-DC-13 FW-VEG-MCW-DC-10 FW-VEG-MCD-DC-12 FW-VEG-PPF-DC-13	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Post-fledging Family Area	Spruce-Fir: Canopy cover for mid-aged forest (VSS 4) should average 60+% and for mature (VSS 5) and old forest (VSS 6) should average 70+%.	FW-VEG-SFF-DC-1, 2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Post-fledging Family Area	Mixed Conifer: Canopy cover for mid-aged (VSS 4) to old forest (VSS 6) should average 60+%.	FW-VEG-MCW-DC-1, 2 FW-VEG-MCD-DC-1, 2	Guidance has been retained.

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FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Post-fledging Family Area	Ponderosa Pine: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60+% and 2/3 50+%. Mature (VSS 5) and old forest (VSS 6) should average 50+%.	FW-VEG-PPF-DC-1, 2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Post-fledging Family Area	Woodland: Maintain existing canopy cover levels.	FW-VEG-PJO-G-1	This guidance is not carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Nesting Areas-Guidelines-1	General: Provide unique nesting habitat conditions for goshawks. Important features include trees of mature to old age with high canopy cover. The structure of the vegetation within nest areas is associated with the forest type, and tree age, size, and density, and the developmental history of the stand. Table 5 of RM-217 presents attributes required for goshawks on locations with "low" and "high" site productivity. Preferred treatments to maintain the desired structure are to thin from below with non-uniform spacing and use of hand tools and fire to reduce fuel loads. Lopping and scattering of thinning debris is preferred if prescribed fire cannot be used. Piling of debris should be limited. When necessary, hand piling should be used to minimize compaction within piles and to minimize displacement and destruction of the forest floor and the herbaceous layer. Do not grapple or Dozer pile debris. Manage road densities at the lowest level possible to minimize disturbance in the nest area. Use small, permanent skid trails in lieu of roads for timber harvesting."	FW-VEG-DC-14 FW-VEG-DC-21 FW-VEG-G-1 FW-VEG-G-2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Nesting Areas-Guidelines-2	Spruce-fir, Mixed Conifer and Ponderosa Pine Cover Types: The nesting area contains only mature to old forest (VSS 5 & 6) having a canopy cover (measured vertically) between 50-70% with mid-aged VSS 6 trees 200-300 years old. Non-uniform spacing of trees and dumpiness is desirable.	FW-VEG-SFF-DC-1, 2, 13 FW-VEG-MCW-DC-1, 2, 10 FW-VEG-MCD-DC-1, 2, 12 FW-VEG-PPF-DC-1, 2, 13	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Vegetation Management/Within Nesting Areas-Guidelines-3	Woodland: Maintain existing canopy cover levels.	none	This guidance is not carried forward.

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FW-Wildlife&Fish-App.C/ Northern Goshawk Habitats/Vegetation Management-Guidelines-4	Woodland: Maintain existing canopy cover levels.	FW-VEG-PJO-G-1	This guidance is not carried forward.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Ground Surface Layer-Guidelines-1	Manage road densities at the lowest level possible. Where timber harvesting has been prescribed to achieve desired forest condition, use small skid trails in lieu of roads.	FW-TFA-G-6	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Ground Surface Layer-Guidelines-2	Piling of debris should be limited. When necessary, hand or grapple piling should be used to minimize soil compaction within piles and to minimize forest floor and herbaceous layer displacement and destruction.	FW-SL-G-1 FW-SL-G-2	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Ground Surface Layer-Guidelines-3	Limit dozer use for piling or scattering of logging debris so that the forest floor and herbaceous layer is not displaced or destroyed.	FW-SL-G-1	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Human Disturbance- Guidelines-1	Limit human activities in or near nest sites and post fledgling family areas during the breeding season so that goshawk reproductive success is not affected by human activities.	FW-VEG-SFF-G-2 - 5 FW-VEG-ASP-G-2 - 4 FW-VEG-MCW-G-3 - 6 FW-VEG-MCD-G-3 - 6 FW-VEG-PPF-G-5 - 8	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Human Disturbance- Guidelines-2	The breeding season extends from March 1 through September 30.	FW-VEG-SFF-G-5 FW-VEG-ASP-G-4 FW-VEG-MCW-G-6 FW-VEG-MCD-G-6 FW-VEG-PPF-G-8	Guidance has been retained.
FW-Wildlife&Fish-App.C/Northern Goshawk Habitats/Human Disturbance- Guidelines-3	Low intensity ground fires are allowed at any time in all forested cover types, but high intensity crown fires are not acceptable in the post-fledging family area or nest areas. Avoid burning the entire home range of a goshawk pair in a single year. For fires planned in the occupied nest area, a fire management plan should be prepared. The fire management plan should minimize the risk of goshawk abandonment while low intensity ground fire burns in the nesting area. Prescribed fire within nesting areas should be planned to move with prevailing winds away from the nest tree to. Minimize smoke and risk of crown fire developing and driving the adults off or consuming the nest tree.	FW-FIRE-G-8	Guidance has been retained.

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FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-1	Natural Openings...A natural opening is an area with less than 10 percent crown cover that has never supported a higher tree density, for example, a meadow, rock slide, or swamp.	FW-VEG-DC-1	This guidance is not carried forward. Openings may be dynamic and are expected to shift on the landscape over time.
FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-2	Created Openings...A created opening is a contiguous area greater than two acres in size that was created by vegetative manipulation and that does not meet tree height and stocking requirements. When an opening results from a natural occurrence, such as wildfire or windstorm, the opening will be treated as a created opening.	FW-VEG-DC-1	This guidance is not carried forward. Openings may be dynamic and are expected to shift on the landscape over time.
FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-3	No Longer Opening...A created opening will no longer be considered an opening when the following conditions are met:(see Table Wildlife-2. Conditions When Created Openings Are No Longer Openings.)	Non tree openings are described under plan concepts as part of the seral state definition.	Guidance is revised.
FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-4	PJ Openings...PJ Openings...An area is no longer considered an opening in the pinon-juniper type if one of the following conditions is met: There are at least 35 trees per acre that are 10 feet or taller. There are at least 80 trees per acre that are 6 feet or taller. The minimum distance between newly created openings will be 660 feet in the pinon-juniper type.	Non tree openings are described under plan concepts as part of the seral state definition.	Guidance is revised.

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FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-5	Clearcut Size...Clear-cuts may not be larger than 40 acres without Regional Forester approval. The standards shown in table 34 also apply, except in the following situations: - In the harvest of salvageable wood in areas subjected to catastrophic conditions, such as fire, insect and disease attack, or windstorm. - In the harvest of dwarf-mistletoe-infested over story trees that threaten the established regeneration. A biological evaluation by Regional forest pest management experts is required. - For non-timber species, such as the pinon-juniper, oak and sagebrush, standards and guidelines are established for the maximum size, dispersal, and duration of created openings. These standards and guidelines are designed to address concerns for wildlife and plant species. - In the pinon-juniper type, created openings in areas that have been identified as big-game winter range will be designed so that an animal will be no more than 600 feet from hiding cover at any location within the opening. - Limitations in the above table apply to newly created openings in the pinon-juniper type. Improve the interspersation of vegetated areas in existing openings. - Limitations in the above table apply to newly created permanent openings in the oak and sagebrush types. A permanent opening is an area that is maintained with no more than 50 percent of the potential natural crown cover. (see Table Wildlife-3. Forested Land Permitted in Created Openings)	FW-FFP-S-6	Guidance has been retained.
FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-6	Diversity Edge Index...Newly created openings will be designed so they have a diversity edge index of at least 1.41. (41 percent greater circumference than a circle of equal size)	FW-VEG-PJO-G-2 FW-VEG-PJS-G-3	Guidance has been carried forward.

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FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-7	Summer Big Game Cover...The following cover standards and guidelines will apply in areas where threatened, endangered, or sensitive species habitat requirements do not conflict. Threatened, endangered, or sensitive species habitat requirements take precedence over cover requirements (Amendment 11). - Ecological Management Unit dominated by forested vegetation types, including pinon-juniper will be managed so that no less than 40 percent summer big game cover will be maintained over time (Amendment 11). - Ecological Management Unit dominated by non-forested vegetation types will be managed to minimize impacts to summer big game cover. The standards in Table 4 will apply (Amendment 11). (see Table Wildlife-4. Forage Cover Ratios)	Cover is described by seral state proportion and desired conditions for each vegetation community.	This guidance is not carried forward. Cover is described by seral state proportion and desired conditions for each vegetation community.
FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-8	Summer Big Game Thermal Cover...On suitable timberlands manage for no less than 10 percent summer big game thermal cover within each diversity unit. The allocation of thermal cover will be stands of at least 30 acres in the sapling-pole stage or older, with canopy closures of 70 percent or greater. Stands on north-facing aspects should receive priority in the allocation of thermal cover.	FW-VEG-MSG-DC-10	Guidance has been retained. The plan does not include diversity units.

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FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-9	Summer Big Game Hiding Cover... Manage suitable timberlands, and pinon-juniper, so that no less than 10 percent hiding cover is maintained on big game summer ranges that occur within each diversity unit. Stands allocated for cover should have at least a 450-foot radius from the stand center to any point on the exterior perimeter (approximately 20 acres). In forested management areas, including pinon-juniper, the objective will be to maintain summer big game hiding cover on 60 percent or more of the perimeter of all natural and created openings, and along at least 75 percent of the edge of arterial and collector roads. - Summer big game hiding cover will be maintained or improved adjacent to special features (seeps, springs, wet meadows, wallows, salt licks, water developments). The following standards will apply: - Timber cutting within a minimum radius of 300 feet of the feature will be accomplished only if big game cover can be maintained or improved. - Cutting unit boundaries will be designed so that at least one third of the perimeter around the feature is contiguous to adjacent forest cover. - Permanent roads will not be constructed within 200 feet of special features unless there is no feasible alternative to build the road in another location. - Temporary roads will not be constructed within 100 feet of special features. - Skidding equipment will be authorized to within 75 feet of the feature and logging debris removed from all trails leading to the feature. Forested areas, including pinon- juniper, within at least 1,200 feet of primary big game winter and calving and fawning forage areas, will be managed to maintain or improve the integrity of hiding and thermal cover. All other summer range cover standards and guidelines will apply to winter ranges and big game calving and fawning areas.	FW-VEG-MSG-DC-10 FW-WFP-DC-4 FW-WFP-G-4 FW-TFA-G-8	Guidance has been retained.
FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-10	Big Game Cover...Big game cover requirements may be reduced temporarily during periods when stands are being regenerated to meet cover standards, to correct tree disease, to rejuvenate aspen stands, or where wind throw or wildfire has occurred.	FW-VEG-MSG-DC-10	This guidance is not carried forward.

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FW-Wildlife&Fish-Cover and Openings-Standards and Guidelines-11	Big Game Hiding and Thermal Cover Levels...In planning for the cover requirements of big game on each diversity unit utilize table 36 in conjunction with available timber stand data. Refinement of the stand conditions suitable to meeting cover requirements will be made as a result of field verification on an individual stand basis. As specific information is developed on the Forest this table may be modified if needed to reflect the appropriate range of cover conditions. (see Table Wildlife-5. Big game hiding and thermal cover levels In ponderosa pine (pipo), mixed conifer (me) and Spruce-Fir (sf).)	Cover is described by seral state proportion and desired conditions for each vegetation community.	This guidance is not carried forward. Cover is described by seral state proportion and desired conditions for each vegetation community.
FW-Wildlife&Fish-Snags and Down Logs-Standards and Guidelines-1	Number and Size of Snags...Snags will. not be felled on major sales as a fire protection measure. Manage for at least 300 snags/100 acres on 60 percent of suitable timberlands not determined by interdisciplinary team review to be highly vulnerable to fuelwood collection. The guideline is: - Conifers: 12 inch DBH and 15 feet tall. - Aspen: 10 inch DBH and ; 2 feet tall.	Number and size of snags are described by desired conditions for each vegetation community.	This guidance is not carried forward. Number and size of snags are described by desired conditions for each vegetation community.
FW-Wildlife&Fish-Snags and Down Logs-Standards and Guidelines-2	Snag Recruitment...During stand treatment retain for snag recruitment disease-free cull or poor form trees within at least 100 feet of ponds, lakes, springs, seeps, wet meadows, and openings for snag replacement. Trees may be girdled or otherwise treated if needed to achieve future stand condition objectives. Stands that are biologically incapable of producing this quantity of snags, or are highly vulnerable to fuelwood cutting, are excluded as determined by interdisciplinary team review. The guidelines to retain at least three culls per acre (100 feet x 440 feet) around the perimeter of the feature.	Number and distribution of snags are described by desired conditions for each vegetation community.	This guidance is not carried forward. Number and distribution of snags are described by desired conditions for each vegetation community.
FW-Wildlife&Fish-Snags and Down Logs-Standards and Guidelines-3	Diameter and Length...Retain sufficient size and length per 100 acres of down logs (where biologically feasible) on 75 percent of suitable timberlands not determined to be highly vulnerable to fuelwood collection. The guideline includes: Conifers: 12-inch minimum diameter and 5,000 linear feet per 100 acres. Aspen: 10-inch minimum diameter and 3,300 linear feet per 100 acres.	Amount of coarse woody debris is described by desired conditions for each vegetation community.	This guidance is not carried forward. Amount of coarse woody debris is described by desired conditions for each vegetation community.
FW-Wildlife&Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-9	Cover Needs...On primary big game winter ranges and primary calving and fawning areas, manage to achieve identified cover requirements to meet big game population goals and objectives. The remaining suitable timberlands will be managed to provide habitat diversity.	FW-VEG-DC-5 FW-WFP-G-4	Guidance has been retained.

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FW-Wildlife&Fish-Stand Management & Wildlife Habitat-Standards and Guidelines-10	Edge Contrast...Maintain at least a medium amount of edge contrast between stands and cutting units created by even-age management. This means that cutting units prescribing regeneration cuts shall be placed at least 75 percent of the time adjacent to stands which will result in at least two age class difference after treatments, unless stands are being regenerated to manage aspen or to correct insect and disease or other natural catastrophes.	FW-FFP-S-5	Guidance has been retained.
FW-Wildlife&Fish-Timing, Size & Period of Timber MGMT Activities-Standards and Guidelines-1	Displacement...Minimizing the displacement of big game and other sensitive wildlife, and providing sufficient security areas will be emphasized in the planning and implementation of the Forest wide timber sale program.	FW-VEG-DC-14 FW-WFP-G-3 FW-WFP-G-4	Guidance has been retained.
FW-Wildlife&Fish-Timing, Size & Period of Timber MGMT Activities-Standards and Guidelines-2	Activities Not Adjacent...The objective will be to arrange timber sales over time and space so that concurrent activities do not occur adjacent to one another. Manage adjacent areas at least as large as the affected area of activity for wildlife security habitat.	FW-VEG-DC-14 FW-WFP-G-4	Guidance has been retained.
FW-Wildlife&Fish-Timing, Size & Period of Timber MGMT Activities-Standards and Guidelines-3	Activities Within Drainages... When designing timber sales attempt to keep activity perimeters within one major drainage at a time. Utilize subdivision design and contract stipulations (such as requiring the completion of a block before beginning activities in another area of the sale) as necessary to minimize impacts on security habitat.	FW-WFP-G-4	Guidance has been retained.
FW-Wildlife&Fish-Timing, Size & Period of Timber MGMT Activities-Standards and Guidelines-4	Three Year Limit...Timber sales will be designed so that activity time frames will minimize displacement of wildlife. A primary objective will be to limit logging disturbance in an activity area to no more than three years whenever possible on each timber sale.	FW-WFP-DC-7	Guidance has been retained.
FW-Wildlife&Fish-Timing, Size & Period of Timber MGMT Activities-Standards and Guidelines-5	Winter Logging...On big game summer ranges where winter logging operations are environmentally and economically feasible encourage operations during this period.	FW-WFP-DC-7	Guidance has been retained.
FW-Wildlife&Fish-Turkey Habitat-Standards and Guidelines-1	Slash Piles...Within actual or potential turkey nesting areas (Ponderosa pine and mixed conifer) develop over time 200 slash piles or unlopped tree tops per 100 acres within one-half mile of dependable waters. Piles should be approximately three feet high and 10 feet in diameter and preferably loosely piled by hand.	FW-VEG-MCW-G-1 FW-VEG-MCD-G-1 FW-VEG-PPF-G-3	Guidance has been retained.

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FW-Wildlife&Fish-Turkey Habitat-Standards and Guidelines-2	Roost Tree Groups...Retain and/or develop an average of two turkey roost tree groups per section in actual or potential summer turkey habitat (8-11 trees of at least one-tenth acre in size). Retain and/or develop an average of four turkey roost tree groups per section in actual or potential winter turkey habitat.	none	Plan components that provide ecosystem integrity and diversity also provide the ecological conditions necessary to maintain persistence of most native species within the area, including turkeys. (FSH 1909.12 sec 23.12)
FW-Wildlife&Fish-Squirrel Habitat-Standards and Guidelines-1	Abert's and Red Squirrel...By creating a diversity of stand conditions and providing juxtaposition of stands over time and space, suitable habitat components of Abert's and red squirrels will be maintained over time. During the intensive reconnaissance phase of integrated stand management State and Federal biologists should identify those stands where squirrel activity is especially high and recommend deferment of cutting during the entry.	none	Plan components that provide ecosystem integrity and diversity also provide the ecological conditions necessary to maintain persistence of most native species within the area, including turkeys. (FSH 1909.12 sec 23.12)
FW-Wildlife&Fish-Raptor Habitat-Standards and Guidelines-1	Nest Trees...Protect active raptor nest tree groups and maintain inventory of nest locations. Nest group consists of nest tree and adjacent trees and is maintained as follows: Goshawk: DELETE (Amendment 11) Coopers hawk: 15 acres of uncut area around active nests. Other raptors: 10 acres of uncut area around active nests.	FW-WFP-G-3	Guidance has been retained.
FW-Wildlife&Fish-Raptor Habitat-Standards and Guidelines-2	Perch and Roost Trees... Adequate perch and roost trees for raptors will be managed adjacent to cliffs, major ridges, and openings. Trees should be open-crowned, either living or dead, and be maintained over time.	FW-VEG-DC-3 FW-VEG-DC-5 FW-WFP-G-3	Guidance has been retained.
FW-Wildlife&Fish-Raptor Habitat-Standards and Guidelines-3	Rock Talus...Protect rock talus as a unique habitat component and because it provides a major prey base for raptors and other predators. Requests for rock from these locations will receive interdisciplinary team review.	FW-CRF-DC-2 FW-WFP-G-1	Guidance has been retained.

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FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-1	Road Management...Emphasize road management and resource/wildlife protection as a primary Forest policy. Focus media attention on road management at least biannually, especially management to provide wildlife security and reduce impacts to soil, water, and fisheries.	FW-WFP-DC-5 FW-WFP-m.a.-3 FW-TFA-DC-1 FW-TFA-DC-3	Guidance has been retained. The plan directs the Forest Service, not media attention.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-2	Migration Routes...Do not construct permanent roads across major big game migration routes unless no feasible alternative exists, as determined by interdisciplinary team review.	FW-WFP-O-4 FW-WFP-G-8 FW-TFA-DC-4	Guidance has been retained.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-3	Road Densities...Road management will provide for an environment relatively free from human disturbances to wildlife. Manage over time to achieve the following guidelines for maintaining or improving effective big game habitat: - Summer big game range: 60% habitat effectiveness (approximately 1.0 mile/square mile of roads open to public use). - Winter big game range: 75% habitat effectiveness (approximately .5 mile/square mile of roads open to public use during the period December 15 - April 15). - Primary winter big game forage and associated cover areas: 90% habitat effectiveness (approximately .1 mile/square mile of roads open to public use during the period December 15 - April 15).	FW-WFP-G-8 FW-TFA-DC-4 FW-TFA-G-8	Guidance is obsolete based on travel management decisions. The plan does address road impacts on wildlife habitat.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-4	Effective closures... Whenever possible, design roads so they can be easily and effectively closed (either permanently or temporarily) at a low cost.	None	Road design is a project level decision based on site specific factors.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-5	Avoidance Areas...Permanent roads will be designed to avoid saddles, meadows, ridge tops, and riparian areas whenever economically and physically possible."	FW-TFA-DC-4 FW-WSW-RMZ-G-2 FW-WSW-RMZ-G-3	Guidance has been retained.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-6	Closures...Install gates or other effective closure methods at onset of road building activity when the objective is to prevent human use patterns from becoming established. Closures will be implemented during any period of inactivity exceeding 24 hours. During big game hunting seasons closures will be implemented full-time if necessary, to provide additional wildlife security areas.	FW-WFP-G-4	Road design is a project level decision based on site specific factors.

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FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-7	Signing...Include signs where appropriate on gates and other closure devices indicating the reasons for and dates of all road closures.	FW-TFA-DC-3 FW-TFA-m.a.-1	Guidance has been retained.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-8	Closure Time Frames...All local terminal roads will be completely closed to public use by no later than two years following completion of a timber sale contract. All other temporary roads will be closed and/or obliterated upon completion of the activity.	FW-TFA-S-3	Guidance has been retained.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-9	Big Game Winter Range & Forage/Cover Areas...On big game winter ranges authorize new permanent road construction only if needed to meet priority objectives outside the winter range, as determined by interdisciplinary team review. Minimize impacts by locating roads outside of identified primary forage and cover areas.	FW-WFP-G-4	Guidance has been retained.
FW-Wildlife&Fish-Road Management/Wildlife Integration-Standards and Guidelines-10	Calving and Fawning Areas...Locate new arterial, collector and local service roads outside of primary big game calving and fawning areas. Close other roads as needed during periods of calving and fawning activity May 1 - July 25.	FW-WFP-G-4	Guidance has been retained.
FW-Wildlife&Fish-Travel Management/Wildlife Integration-Standards and Guidelines-1	The following wildlife-related criteria will be used to evaluate the need for future travel closures and restrictions including over-the-snow vehicles: - Habitat for threatened, endangered, or sensitive species is threatened. - Meadows and other forage areas likely to be or being damaged. - Key wildlife areas being threatened or damaged. - Areas important to wildlife reproduction, such as calving and nesting areas, where disturbance is causing, or likely to cause, significant stress and/or reduction of reproductive success. - Important seasonal security areas, such as big game winter ranges, where disturbance would result in significant displacement and/or loss of habitat values. - Riparian areas which are being threatened or damaged.	FW-WFP-G-3 FW-WFP-G-4 FW-TFA-DC-5	Guidance is obsolete based on travel management decisions. The plan does address road impacts on wildlife habitat.

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FW-Wildlife&Fish-Range/Wildlife Integration-Standards and Guidelines-1	Range Management Plans... Design range management systems and plans with input from State and Federal wildlife biologists to minimize conflicts with fish and wildlife. Whenever possible, design grazing systems to minimize domestic livestock impacts on important seasonal wildlife ranges such as primary calving and fawning areas, winter ranges, and primary turkey nesting areas.	FW-GRZ-DC-4 FW-GRZ-S-1 FW-GRZ-S-2 FW-GRZ-S-3 FW-GRZ-G-2 FW-GRZ-m.a.-8	Guidance has been retained.
FW-Wildlife&Fish-Range/Wildlife Integration-Standards and Guidelines-3	Forage Allocation...Wildlife will be allocated forage on the basis of mutually agreed-upon population goals and objectives of the Forest Service and New Mexico Department of Game and Fish.	FW-GRZ-m.a.-8	Guidance has been retained.
FW-Wildlife&Fish-Range/Wildlife Integration-Standards and Guidelines-4	Water...During summer months, where free water has been identified as limiting desired wildlife population levels, maintain water in livestock troughs for wildlife use after domestic animals have been removed from the grazing unit. In winter months on identified primary big game winter ranges, provide water where freezing will not damage existing facilities, or install bubblers or other devices to prevent freezing.	FW-WFP-DC-2	Guidance has been retained.
FW-Wildlife&Fish-Range/Wildlife Integration-Standards and Guidelines-5	Wildlife/Fence Conflicts...Install let down fences, top-rail fences, barbless bottom wire, or elk jumps wherever necessary to reduce wildlife/fence conflicts. On newly constructed fences the bottom wire will be at least 18 inches above the ground, and the top wire will be at least 38 inches, but no more than 42 inches above the ground. Do not construct new net wire fences on identified pronghorn ranges and modify existing fences as needed to provide for seasonal movement of pronghorn.	FW-GRZ-S-2	Guidance has been retained.
FW-Wildlife&Fish-Range/Wildlife Integration-Standards and Guidelines-6	Escape Ramps...On open storage tanks and drinkers provide entry and escape ramps for wildlife.	FW-GRZ-S-3	Guidance has been retained.
FW-Wildlife&Fish-Range/Wildlife Integration-Standards and Guidelines-7	Riparian Woody Vegetation...On wet meadows and other riparian areas, favor the establishment of woody riparian vegetation as defined in FSH 2509.23. Control livestock and wildlife grazing through management and/or fencing to allow for adequate establishment of vegetation and the elimination of overuse.	FW-GRZ-DC-6 FW-GRZ-S-1 FW-GRZ-G-2 FW-GRZ-G-3	Riparian vegetation is described by desired conditions in the FW-WSW-RMZ-WR and FW-WSW-RMZ-FSR
FW-Wildlife&Fish-Range/Wildlife Integration-Standards and Guidelines-8	Seeding for Diverse Vegetation...Vegetative treatments which require seeding will utilize a mix of plant species which will result in increased plant cover and improved quality and diversity of forage for both wildlife and livestock.	FW-WFP-G-5	Guidance has been retained.

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FW-Wildlife&Fish-Other Resources/Wildlife Integration-Standards and Guidelines-1	Integrate the seasonal and yearlong habitat needs of fish and wildlife into the planning and implementation of other resource activities and uses. Minimize or eliminate adverse impacts and cumulative effects, and determine opportunities to improve habitat conditions through the management of these other activities. Some examples include: - Utilize oil and gas exploration holes as water wells where wildlife waters are determined desirable, and establish wildlife forage and cover plants on disturbed areas. - Build campgrounds and other developed recreation sites in areas not identified as important habitat. - Locate recreation trails outside of important habitats. - Build trailhead facilities in heavy use big game hunting areas and provide other facilities for wildlife and fish oriented recreational use. - Coordinate with, and use watershed improvement funds, to close and obliterate roads in important wildlife habitats, and in the restoration and protection of riparian areas. - Coordinate with the land adjustment and acquisition programs to exchange for or purchase identified important wildlife habitats. - Utilize other resource personnel in collecting information on wildlife species, numbers, locations, habitat use and other information useful to wildlife and fish management. - Utilize market demand for wood products to achieve desired wildlife conditions in forested management areas. - Coordinate with range management in locating range water improvements in areas where wildlife waters are limited.	FW-WFP-G-3 FW-WFP-G-6 FW-GRZ-G-4 FW-WFP-m.a.-10 FW-FFP-DC-4	Plans do not compel Agency action such as digging wells, building campgrounds or trails, or purchase lands (FSH 1909.12 sec 21).
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-1	Consult and cooperate with the New Mexico Department of Game and Fish (NMDG&F) to achieve goals and objectives specified in the New Mexico Wildlife, Fisheries, and Endangered Species Comprehensive Plan. Cooperate with the U.S. Fish and Wildlife Service and other agencies and organizations as necessary. Cooperate with NMDG&F in evaluating proposals for reintroducing extirpated species into suitable habitat and on fish stocking and public access for fishing.	FW-WFP-G-1 FW-WFP-G-2 FW-WFP-m.a.-1 FW-WFP-m.a.-2	Guidance has been retained.

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FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-2	Exotic Species...Manage in cooperation with NMDG&F for indigenous fauna. Exotic species will not be introduced. Unapproved exotics which become established on National Forest System Lands will be managed toward the goal of elimination.	FW-NIS-DC-1 FW-NIS-S-3 FW-NIS-G-2 FW-WFP-m.a.-1	Guidance has been retained.
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-3	Populations...Cooperate with NMDG&F and other agencies to maintain wildlife and fish populations within identified habitat capabilities."	FW-WFP-m.a.-1 FW-WFP-m.a.-2	Guidance has been retained.
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-4	Animal Damage...Manage animal damage in cooperation with other agencies to prevent or reduce damage to other resources. Direct control efforts toward preventing damage or removing only the offending animals as necessary to meet land management objectives.	DA-WHT-S-1 FW-WFP-m.a.-1 FW-WFP-m.a.-2	Guidance has been retained.
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-5	Patrols...Provide sufficient patrol personnel during hunting seasons, including weekends, and cooperate fully with the NMDG&F in the enforcement of State and Federal regulations.	FW-REC-DC-8	Guidance has been retained.
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-6	Public Involvement... - Evaluate each proposed activity to determine public involvement needs. Aggressively pursue public input and cooperation in the achievement of wildlife and fish habitat management goals and objectives. Enlist the support of interested groups or individuals who are willing to help inform and involve the public. - Provide timely public information on proposed management activities, such as road and area closures and other activities which achieve the maintenance or improvement of wildlife and fish habitats.	FW-TFA-m.a.-1 FW-PART-DC-1 FW-PART-DC-2 FW-WFP-m.a.-1	Guidance has been retained.
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-7	Cooperate with NM Dept. of Game and Fish...Cooperate fully with the NMDG&F in determining mutually agreeable wildlife population goals and objectives, and in the identification of important wildlife habitats.	FW-WFP-m.a.-1 FW-WFP-m.a.-2 FW-GRZ-m.a.-8	Guidance has been retained.
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-8	Population Estimates...Cooperate with NMDG&F and provide commensurate funding where necessary, in obtaining reliable big game population estimates, winter range use, and other seasonal use patterns.	FW-WFP-m.a.-1 FW-WFP-m.a.-3 FW-WFP-m.a.-5	Guidance has been retained.
FW-Wildlife&Fish-Cooperation with Other Agencies-Standards and Guidelines-9	Baseline Data for Indicator Species...Establish current baseline information for management indicator species habitats in conjunction with the NMDG&F and monitor trends at agreed upon intervals. Cooperate with NMDG&F and other agencies and organizations in monitoring indicator species populations and habitats.	FW-PART-m.a.-2	The plan does not include indicator species. It does address partnerships for species monitoring.

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FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-1	Cold Water Fisheries...Inventory, evaluate, and improve areas of streams, lakes, and wetlands for cold water fish, especially the Rio Grande cutthroat trout.	FW-WSW-RMZ-DC-2 FW-WSW-RMZ-O-1 FW-WSW-RMZ-STM-O-1 FW-WSW-RMZ-STM-G-1 FW-WSW-RMZ-STM-G-3 FW-WFP-O-4 FW-WFP-G-6	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-2	Fish Passage...Provide for fish passage under all roads crossing perennial streams.	FW-WSW-DC-4 FW-WFP-O-4 FW-WSW-RMZ-STM-DC-3 FW-WFP-DC-5	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-3	Trout Fisheries Capacity... Increase carrying capacity for put-and-take wild trout fisheries through the installation of stream improvement structures, including the use of beaver to build and maintain beaver dams.	FW-WSW-RMZ-STM-O-1 FW-WFP-m.a.-9	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-4	Riparian Vegetation...Inventory riparian vegetation conditions and manage to achieve acceptable riparian standards. Direct habitat improvements may include planting, seeding, fencing, and rejuvenation of woody vegetation through selective cutting and burning.	FW-WSW-RMZ-DC-1 FW-WSW-O-1 FW-TFA-O-1	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-5	Habitat Improvement Projects... Plan for and include game/nongame wildlife and fish habitat improvement projects in sale area improvement plans for all timber sale areas including pinon-juniper, where there is a potential to improve wildlife and fish habitat conditions.	Plan Concepts FW-WFP-O-1 FW-WFP-O-2	Integrated resource management is an overarching plan concept.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-6	Records...Identify and maintain records of important wildlife and fish habitats and integrate wildlife and fish requirements through interdisciplinary team review of all planned programs and activities occurring on National Forest System Lands.	Plan Concepts	Integrated resource management is an overarching plan concept. Interdisciplinary team review is a NEPA requirement.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-7	Wildlife and Fish Objectives... Provide wildlife and fish objectives and expected outputs throughout the integrated resource management process for commercial timber sales and other proposed management activities. Identify, on a diversity unit or herd unit basis, wildlife and fish habitats necessary to meeting identified objectives, as stated throughout Forest wide and management area standards and guidelines.	Plan Concepts	Integrated resource management is an overarching plan concept. The plan does not include diversity units.

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FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-8	Water is Limiting...Identify areas of the Forest where the lack of dependable water is a limiting factor. Determine priority areas and schedule wildlife water improvements including, but not limited to, spring developments, trick tanks, vertical and horizontal water wells, and earthen tanks. Wildlife water developments will be fenced if needed to exclude livestock and wild horse use. Top-rail fences will be installed as necessary to minimize wildlife injuries and to reduce the need for yearly maintenance.	FW-WFP-O-2	Water development design will be decided on a case-by-case basis.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-9	Forage and Cover Conditions... Improve forage and cover conditions through seeding and establishment of forage and browse species desirable to wildlife.	FW-WFP-G-5	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-10	PRESCRIBED FIRE ... Improve forage conditions by using prescribed fire where environmental analysis shows beneficial effects and in accordance with approved burning plans.	FW-VEG-MCD-O-2 FW-VEG-PPF-O-2 FW-FIRE-DC-2 FW-FIRE-m.a.-1	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-11	RESTRICT VEHICLE ACCESS ... Install structures, such as gates or barriers, necessary to manage roads to limit or restrict vehicular access into important wildlife habitats.	FW-TFA-DC-4 FW-WFP-DC-7	This guidance is not carried forward. The plan addresses road impacts on wildlife habitat.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-12	NEST, ROOST AND COVER STRUCTURES ... Install and/or create nesting, roosting and cover structures for wildlife to improve habitat conditions. Sign trees and snags which are susceptible to removal for fuelwood and other wood products.	FW-VEG-G-3 FW-VEG-G-4 FW-VEG-m.a.-1 FW-VEG-PPF-G-2 FW-VEG-PJO-G-1 FW-VEG-PJS-G-4	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-13	MAINTENANCE OF STRUCTURES ... Plan for and provide necessary maintenance of all structural wildlife and fish habitat improvements. Give priority to maintenance of structures for threatened, endangered, and sensitive species.	FW-WFP-DC-2 FW-WFP-O-2	Guidance has been retained.
FW-Wildlife&Fish-Other Wildlife and Fish Planning-Standards and Guidelines-14	PROGRAMING AND PRIORITIZING ... Program and develop improvements on the basis of a management area concept (diversity unit, big game winter range, turkey nesting area, etc.). Prioritize improvements based on habitat conditions which studies have indicated are the greatest limiting factors to desired wildlife and fish populations.	FW-WFP-DC-2	Guidance has been retained.

Table 155. Comparison of spruce guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA1: Spruce Under 40% Slopes-Vision-1	This is a healthy and stable environment.	FW-VEG-SFF-DC-2	Guidance has been retained.
MA Prescriptions-MA1: Spruce Under 40% Slopes-Desired Conditions-1	Activities and uses remain visually subordinate to the characteristic landscape (partial retention visual quality objective) and may visually dominate the original characteristic of the landscape. However, they borrow from the form, line, color, and texture of the landscape (modification VQO).	FW-SCEN-DC-5 FW-SCEN-G-2	Plan does not include visual quality objectives.
MA Prescriptions-MA1: Spruce Under 40% Slopes-Desired Conditions-2	There is quality habitat for the hairy woodpecker and elk.	FW-VEG-DC-2 FW-VEG-SFF-DC-10 FW-VEG-SFF-DC-12	Guidance has been retained.
MA Prescriptions-MA1: Spruce Under 40% Slopes-Description-1	Tree canopies are normally dense resulting in sparse understory vegetation for big game and domestic livestock.	FW-VEG-SFF-DC-1 FW-VEG-SFF-DC-8	Guidance has been retained.
MA Prescriptions-MA1: Spruce Under 40% Slopes-Standards and Guidelines-1	Slash...Dispose of all slash within 100 feet on either side of all sensitive travel routes, water bodies, and use areas in retention and partial retention visual quality level zones.	FW-SCEN-G-2	Plan does not include visual quality objectives.
MA Prescriptions-MA1: Spruce Under 40% Slopes-Standards and Guidelines-2	Timber...All timber management standards and guidelines are included under the Forest-wide prescriptions.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA1: Spruce Under 40% Slopes-Standards and Guidelines-3	Roads...Construct roads for timber sales using Best Management Practices with the following guidelines: 3.1 miles per square mile for construction first entry; 0.9 miles per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction second entry.	FW-WSW-G-1 FW-TFA-DC-1 FW-TFA-DC-4	Road design should be based on project and site specific factors. This guidance is not carried forward.
MA Prescriptions-MA1: Spruce Under 40% Slopes-Standards and Guidelines-4	Range Improvement Replacement...Replacement of structural improvements will be planned in a 25-30 year interval and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-DC-7 FW-GRZ-O-1	Guidance has been retained.
MA Prescriptions-MA2: Spruce over 40% Slopes- Vision-1	This is a healthy and stable environment.	FW-VEG-SFF-DC-2	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA2: Spruce over 40% Slopes-Desired Conditions-1	Activities and uses retain the form, line, color, and texture which are characteristic of the landscape (retention visual quality objective) or remain visually subordinate to the characteristic landscape (partial retention VQO).	FW-SCEN-DC-5 FW-SCEN-G-2	Plan does not include visual quality objectives.
MA Prescriptions-MA2: Spruce over 40% Slopes-Desired Conditions-2	There is quality habitat for the hairy woodpecker and elk.	FW-VEG-DC-2 FW-VEG-SFF-DC-10 FW-VEG-SFF-DC-12	Guidance has been retained.
MA Prescriptions-MA2: Spruce over 40% Slopes-Desired Conditions-3	There is a representative area designated as a Research Natural Area that is over 300 acres.	MA-PRNA	La Cueva proposed research natural area has been included in the plan.
MA Prescriptions-MA2: Spruce over 40% Slopes-Standards and Guidelines-1	Timber...All timber management standards and guidelines are included under the Forest-wide prescriptions.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA2: Spruce over 40% Slopes-Standards and Guidelines-2	Roads...Construct roads for timber sales using Best Management Practices with the following guidelines: 3.1 miles per square mile for construction first entry; 0.9 miles per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction second entry.	FW-WSW-G-1 FW-TFA-DC-1 FW-TFA-DC-4	Road design should be based on project and site specific factors. This guidance is not carried forward.
MA Prescriptions-MA2: Spruce over 40% Slopes-Standards and Guidelines-3	Range Improvement Replacement...Replacement of structural improvements will be planned in a 25-30 year interval and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-DC-7 FW-GRZ-O-1	Guidance has been retained.

Table 156. Comparison of mixed conifer guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA3: Mixed Conifer Under 40%-Vision-1	This is a healthy and stable environment	FW-VEG-MCW-DC-2 FW-VEG-MCD-DC-2	Guidance has been retained.
MA Prescriptions-MA3: Mixed Conifer Under 40%-Desired Conditions-1	There is quality habitat for the hairy woodpecker, turkey, elk, turkey, and red squirrel.	FW-VEG-DC-2 FW-VEG-MCW-DC-6 FW-VEG-MCD-DC-6 FW-VEG-MCD-DC-14	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA3: Mixed Conifer Under 40%-Desired Conditions-2	The Forest environment is maintained to provide opportunities for recreation.	FW-REC-DC-3	Guidance has been retained
MA Prescriptions-MA3: Mixed Conifer Under 40%-Description-2	The size and distribution of aspen patches (management area 6 or aspen over stories with stocked understories of conifer -management areas 1 , 2, 3, 4, 5) provide a living map of fire history or other catastrophes. Wildfires have played an important role in the history of this area. Man has been controlling wildfire for approximately 70 years and natural mortality has resulted in fuel loading of 10 tons to 50 tons per acre. Logging and precommercial thinning have created concentrations of fuel that vary between 20 tons and 80 tons per acre. Grasses and forbs are quick to take over a burned area and vegetative succession begins again.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA3: Mixed Conifer Under 40%-Description-3	The woody vegetative composition of this unit is variable and consists of over stories and understories of ponderosa pine, Douglas-fir, white fir, Engelmann spruce, and aspen in a wide variety of mixtures. The lower elevational range borders the pure ponderosa pine type (management area 4 and 5) and the upper range borders the spruce/true fir type (management areas 1 and 2). This area is capable, suitable, and available for timber production and harvest.	FW-VEG-MCW-DC-2 FW-VEG-MCD-DC-2	Guidance has been retained.
MA Prescriptions-MA3: Mixed Conifer Under 40%-Standards and Guidelines-1	Timber...All timber management standards and guidelines are included under the Forest-wide prescriptions.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA3: Mixed Conifer Under 40%-Standards and Guidelines-2	Roads...Construct roads for timber sales using Best Management Practices with the following guidelines: 3.1 miles per square mile for construction first entry; 0.9 mile per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction second entry.	FW-WSW-G-1 FW-TFA-DC-1 FW-TFA-DC-4	Road design should be based on project and site specific factors. This guidance is not carried forward.
MA Prescriptions-MA3: Mixed Conifer Under 40%-Standards and Guidelines-3	Range Improvement Replacement...Replacement of structural improvements will be planned in a 25-30 year interval and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-DC-7 FW-GRZ-O-1	Guidance has been retained.

Table 157. Comparison of ponderosa guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Vision-1	This is a healthy and stable environment.	FW-VEG-DC-3	Guidance has been retained.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Desired Conditions-1	Activities and uses remain visually subordinate to the characteristic landscape (partial retention visual quality objective) or they may visually dominate the original characteristic of the landscape. However, they must borrow from the form, line, color, and texture of the landscape (modification VQO).	FW-SCEN-DC-5 FW-SCEN-G-2	Plan does not include visual quality objectives.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Desired Conditions-2	There is quality habitat for the hairy woodpecker, turkey, elk and Abert's squirrel.	FW-VEG-DC-2 FW-VEG-PPF-DC-7 FW-VEG-PPF-DC-11 FW-VEG-PPF-G-2 FW-VEG-PPF-G-3	Guidance has been retained.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Description-3	Ponderosa pine with a ponderosa pine understory is characterized by relatively pure stands of ponderosa pine regeneration with inclusions of Douglas-fir, white fir, Gambel oak, pinon pine, and juniper. The ponderosa pine regeneration is dominant and occupies more than 75% of the site.	FW-VEG-DC-15 FW-VEG-PPF-DC-1 FW-VEG-PPF-DC-2	Guidance has been retained.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Description-4	Logging, grazing, firewood gathering, and recreation are historic uses of this management area. There are numerous two track non-system roads. The area provides crucial and key habitat for many species of wildlife because of diversity of cover and food production, i.e., deer, elk, and turkey winter range and songbird nesting habitat.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Description-5	Ponderosa pine is often called a fire-dependent species. The thick bark of the ponderosa provides more protection from fire than bark of other species. This results in ponderosa being found in transition zones between pinon-juniper, Douglas-fir and white-fir. With fire protection the range of the ponderosa often shrinks to a fairly narrow elevational band. Ponderosa is most productive in the transition zone with Douglas-fir (management areas 3 and 5) and can be maintained through harvesting and use of fire.	FW-VEG-DC-2 FW-VEG-PPF-DC-4	Guidance has been retained.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Description-6	Natural fuel accumulations are fairly light, 5 tons to 15 tons per acre, and fire occurrence is the highest on the forest (see fire element discussion). Logging and precommercial thinning residues can add 10 to 30 tons per acre. These accumulations can produce sufficient heat (8.T.U.'s) and flame length to kill residual trees during periods of high or extreme fire danger. Dispersed recreation use is heavy and risk of man- caused fires is high.	FW-VEG-PPF-DC-4 FW-VEG-PPF-DC-10 FW-FIRE-DC-3	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Standards and Guidelines-1	Roads... - Construct roads for timber sales utilizing best management practices. Guidelines are 2.0 miles per square mile for construction first entry; 2.0 miles per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction 167 second entry. - Improve drainage and surfacing on existing roads that will not be closed to improve riparian areas and reduce stream sedimentation with a guideline of 3.0 miles annually.	FW-WSW-G-1 FW-TFA-DC-1 FW-TFA-DC-4	Road design should be based on project and site specific factors. This guidance is not carried forward.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Standards and Guidelines-2	Manage Unplanned Ignitions...Manage unplanned ignitions after July 15, or when the summer monsoons are fully established. The objectives will be to improve wildlife habitat by promoting sprouting in oak and to remove slash which impedes wildlife movement.	FW-VEG-PPF-O-2 FW-FIRE-DC-1 FW-FIRE-DC-2 FW-FIRE-DC-3	Guidance has been retained.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Standards and Guidelines-3	Prescribed Broadcast Fires... Prescribed broadcast fire will be used in this area to: reduce fuel loading, fire proof adjacent private lands, promote wildlife food, cover values, and increase livestock forage productivity. (1,000 acres of prescribed broadcast fire annually are proposed as a guideline.)	FW-VEG-PPF-O-2	Guidance has been retained.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Standards and Guidelines-4	Recreation... - Lands which have the Visual Quality Objective of foreground retention and are located within the immediate foreground (100 to 300 feet) of a sensitive travel route, use area, or water body will be managed for the following: entry period will equal 20 years; 30 inch diameter pines with yellow, deep fissured bark; stand age at replacement will be 240 years. - Maintain a mosaic of stand diversity along visual corridors. Include all stand conditions and basal area levels to the maximum possible for the site condition.	FW-VEG-PPF-DC-2 FW-SCEN-DC-3 FW-SCEN-DC-6	The plan does not include visual quality objectives.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Standards and Guidelines-5	Timber...Timber standards and guidelines are under the Forest-wide prescriptions.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA4: Ponderosa Pine Under 40%-Standards and Guidelines-6	Replacement of Range Improvements...Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-DC-7 FW-GRZ-O-1	Guidance has been retained.

Table 158. Comparison of Mixed Conifer & Ponderosa Pine steep slope guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Vision-1	This is a healthy and stable environment.	FW-VEG-MCW-DC-2 FW-VEG-MCD-DC-2 FW-VEG-PPF-DC-2	Guidance has been retained.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Desired Conditions-1	Activities and uses retain the form, line, color and texture which are characteristic of the landscape (retention visual quality objective) or remain visually subordinate to the characteristic landscape (partial retention VQO).	FW-SCEN-G-2	The plan does not include visual quality objectives.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Desired Conditions-2	There is quality habitat for the hairy woodpecker, turkey, elk, red squirrel, and Abert's squirrel.	FW-VEG-DC-2 FW-VEG-MCW-DC-6 FW-VEG-MCD-DC-6 FW-VEG-MCD-DC-14 FW-VEG-PPF-DC-7 FW-VEG-PPF-DC-11	Guidance has been retained.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Desired Conditions-3	The Forest environment is maintained to provide opportunities for dispersed recreation at an increased maintenance standard.	FW-REC-DC-3 FW-REC-DC-12	Guidance has been retained.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Description-1	Mixed Conifer: The vegetative composition (which includes aspen overtopping or mixed with young conifer), fire history, and natural fuels are similar to Management Area 3. This area has had little to no logging activity, and road building has been minimal.	FW-VEG-MCD-DC-2 FW-VEG-MCD-DC-3 FW-VEG-PPF-DC-2 FW-VEG-PPF-DC-4	Guidance has been retained.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Description-2	Soils and watershed restrictions on management activities will be more stringent than on Management Area 3. See timber element policies and prescriptions for slopes over 40%.	FW-WSW-G-1 FW-SL-G-1 FW-SL-G-2 FW-FFP-S-2	Guidance has been retained.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Description-5	Ponderosa Pine: Many of these areas have been logged in the past with horses, but old stumps are the only remaining evidence. With the advent of machine skidding, logging was discontinued on these slopes because of machine limitations and watershed damage. With skyline yarding, these areas can be harvested without watershed damage but may remain uneconomical for this type of logging because of low volumes of existing timber.	none	This is a statement that does not provide management direction.

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MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Description-7	On-site dispersed recreation use usually occurs only on trails passing through the area because of the steep slopes and amount of downfall on the ground. In addition, portions of these steep slopes serve as primary scenic backdrops for sensitive recreation viewpoints off-site.	None	This is a statement that does not provide management direction.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Standards and Guidelines-1	Roads...Construct roads for timber sales utilizing Best Management Practices with the following guidelines:3.9 miles per square mile for construction and 1.1 miles per square mile for reconstruction for first entry; 5.0 miles per square mile for reconstruction second entry.	FW-WSW-G-1 FW-TFA-DC-1 FW-TFA-DC-4	Road design should be based on project and site specific factors. This guidance is not carried forward.
MA Prescriptions-MA5: Mixed Conifer & Ponderosa Pine Over 40%-Standards and Guidelines-3	Timber...Timber standards and guidelines are under the Forest-wide prescriptions.	none	This is a statement that does not provide management direction.

Table 159. Comparison of aspen guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA6: Aspen-Desired Conditions-1	Healthy, regenerating stands of aspen, are well distributed throughout the Forest.	FW-VEG-ASP-DC-1	Guidance has been retained.
MA Prescriptions-MA6: Aspen-Desired Conditions-2	Activities and uses retain the form, line, color, and texture which are characteristic of the landscape (retention visual quality objective).	FW-SCEN-G-2	Guidance has been retained.
MA Prescriptions-MA6: Aspen-Desired Conditions-3	There is quality habitat for the hairy woodpecker, turkey, and elk.	FW-VEG-DC-2 FW-VEG-ASP-DC-3 FW-VEG-ASP-DC-4	Guidance has been retained.
MA Prescriptions-MA6: Aspen-Description-1	The area has an overstory of aspen with an understory ranging from forbs and grass to sparse conifer reproduction, usually white fir, cork bark fir, or spruce. Acres of aspen stands with stocked conifer understories are included in Management areas 2 through 5 and 7. Without treatment, those stands with conifer understories or grass will convert to conifer or grass type as the aspen overstories die, thus losing the aspen component.	FW-VEG-ASP-DC-1 FW-VEG-ASP-DC-7	Guidance has been retained.
MA Prescriptions-MA6: Aspen-Description-2	Management Area 6 includes pure aspen stands that do not have a stocked or nearly stocked conifer understory. [Reference Forest-wide standards and guidelines for inventory and stand exam]	FW-VEG-ASP-DC-6	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions- MA6: Aspen- Description-3	The aspen type, especially those stands with forb-grass understories, is an important producer of forage for wildlife and livestock. Aspen sprouts are favored browse for deer, elk, and livestock.	none	This is a statement that does not provide management direction.
MA Prescriptions- MA6: Aspen- Description-4	Aspen stands are important aesthetically because of the color contrast they provide with surrounding conifers. Their leaves are a light green in summer and turn yellow in the fall, and their white trunks provide further accents.	FW-SCEN-DC-3 FW-SCEN-DC-4	Guidance has been retained.
MA Prescriptions- MA6: Aspen- Description-5	There is a history of tent caterpillar and aspen tortrix epidemics in the aspen type which have caused considerable mortality. This and other natural mortality has resulted in a large accumulation of down and dead aspen.	none	This is a statement that does not provide management direction.
MA Prescriptions- MA6: Aspen- Description-6	The commercial market for aspen wood products includes chips for particle board, firewood, excelsior, pallet material, and high grade paneling. In the past, the demand has been relatively low compared to coniferous species and this has hampered aspen management as it requires fire or harvesting, primarily by clearcutting, for regeneration. The existing aspen stands are a direct result of past wildfires. Forest Service fire control efforts have limited the establishment of new stands and the total acreage decreases yearly. Increasing demand for chips and firewood may increase the role of timber harvest in maintaining the aspen component and reverse the present guideline.	FW-VEG-ASP-m.a.-2 FW-VEG-ASP-m.a.-3 FW-FFP-DC-1	This is a statement that does not provide management direction.
MA Prescriptions- MA6: Aspen- Description-7	Aspen stands provide natural firebreaks that aid in stopping wildfires that originate in the adjacent vegetative types.	FW-VEG-ASP-m.a.-1	Guidance has been retained.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-1	Diversity...Establish and maintain stand diversity to improve age class distribution, provide suitable habitat for wildlife, to maintain or enhance visual quality, and to maintain or enhance firewood and other wood product production.	FW-VEG-ASP-DC-3 FW-VEG-ASP-DC-6 FW-VEG-ASP-G-1 FW-VEG-ASP-m.a.-4	Guidance has been retained.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-2	Maintain Aspen...The aspen type is maintained where it exists and managed for sustained yield of firewood, and other resource objectives. Retain the type for wildlife habitat, visual quality. Stands are managed by clearcutting or heavy selection of at least 95 percent of the basal area, cutting all stems greater than 5 inches d.b.h. Snags greater than 12 inches d.b.h. are left and nest trees are retained.	none	Aspen is managed as a seral state in other vegetation communities.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-3	Regeneration... - Regeneration is planned to occur naturally by sprouting. - Manage regenerated areas and assign no grazing capacity until seedlings are established. Leave felled trees and/or slash as needed to restrict access to animals.	FW-VEG-ASP-m.a.-2 FW-VEG-ASP-m.a.-3	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions- MA6: Aspen- Standards and Guidelines-4	Rejuvenation... - Rejuvenation of aspen will be used primarily to maintain scenic quality. Leave material on the ground as needed to protect sprouting. - Rejuvenate aspen in small patch clear-cuts to increase wildlife habitat diversity and encourage sprouting, 210 acres of treatment annually (minimum).	FW-VEG-ASP-DC-1 FW-VEG-ASP-m.a.-3	Guidance has been retained.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-5	Wildlife Habitat...Inventory and manage aspen in all forested management areas to improve age class distribution and to increase the aspen component Forest wide. When the treatment objective is wildlife habitat improvement the following guidelines apply: - During 10-year period inventory aspen component and stand conditions. - Older, decadent stands with little or no reproduction, that will respond to patch cutting, will receive priority treatment. - Stands in which conifers are threatening the vigor and viability of aspen will receive next priority. - Treat individual clones by patch cutting the entire clone, and remove all conifers during treatment. - Salvage treated down aspen only if reproduction can be protected from the detrimental effects of livestock and big game browsing. - Treat no more than 20 percent of inventoried aspen acres within each diversity unit every 10 years unless it has been determined necessary to maintain the aspen component.	FW-VEG-ASP-DC-1 FW-VEG-ASP-G-1 FW-VEG-ASP-m.a.-2 FW-VEG-ASP-m.a.-3 FW-VEG-ASP-m.a.-4	The plan does not include diversity units.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-6	Wildflowers...Within 200 feet of paved road projects involving reseeding with grasses or forbs include some wildflower seed mix.	FW-VEG-DC-16 FW-NIS-G-6	This guidance is not carried forward.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-7	Interspersion...Manage for an interspersion of conifer groups when present. Limit conifer groups to one acre groups per 10 acres of aspen.	FW-VEG-ASP-DC-1 FW-VEG-ASP-G-1 FW-VEG-ASP-m.a.-2	This guidance is not carried forward. Aspen is managed as a seral state in other vegetation communities.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-8	How Harvest...Harvest using 40 acres or less clear-cuts, usually through personal use firewood sales, or commercial sales where public access is not reasonable, to increase diversity and achieve regeneration through sprouting. Wildlife and livestock have heavily browsed small clear-cuts in the past. Emphasis is to cut enough area to prevent over browsing through a series of small clear-cuts rather than one 40-acre unit.	FW-VEG-ASP-DC-1 FW-FFP-S-6	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions- MA6: Aspen- Standards and Guidelines-9	Rotation...Rotation length is a minimum of 50 years or a minimum diameter of 6 inches	none	Timber harvest prescriptions will be made on a case by case basis.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-10	Intermediate Harvest...Intermediate harvests are applied to improve wildlife forage in the understory, improve visual quality or to meet other specific resource objectives.	FW-FFP-DC-1	This is a statement that does not provide management direction.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-11	Combine Projects...When appropriate, timber harvests in aspen stands should be incorporated into surrounding sales on suitable land, otherwise treat as a separate project.	Plan Concepts	Integrated resource management is an overarching plan concept.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-12	Administration Std/Guidelines...When they are consistent with objectives for this Management Area, apply sale preparation and administration standards and guidelines listed for suitable lands in the Forest-wide section.	none	This is a statement that does not provide management direction.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-13	Roads...Construct roads for timber sales, utilizing Best Management Practices with the following guidelines: 0.9 mile per square mile for construction first entry; 3.1 miles per square mile for reconstruction first entry; 4.0 miles per square mile for reconstruction second entry.	FW-WSW-G-1 FW-TFA-DC-1 FW-TFA-DC-4	Road design should be based on project and site specific factors. This guidance is not carried forward.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-14	San Antonio...Withdraw the San Antonio high power (5 acres) from mineral location.	MA-SAMA-S-5 MA-SAMA-S-6	No lands are being withdrawn without a leasing analysis.
MA Prescriptions- MA6: Aspen- Standards and Guidelines-15	Replacement of Improvements... Replacement of structural improvements will be planned in a 25-30 year cycle and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-O-1	Guidance has been retained.

Table 160. Comparison of unsuitable timber guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA7: Unsuitable Timber-Vision-1	This is a healthy forest environment with options left open for the future.	FW-VEG-DC-1	Guidance has been retained.
MA Prescriptions-MA7: Unsuitable Timber-Desired Conditions-1	A Forest environment which provides opportunities for dispersed recreation at an increased maintenance standard.	FW-REC-DC-3 FW-REC-DC-12	The plan does not manage recreation based on suitability of timber.
MA Prescriptions-MA7: Unsuitable Timber-Desired Conditions-2	There is quality habitat for the hairy woodpecker, elk, turkey, red squirrel and the Abert's squirrel.	FW-VEG-DC-2 FW-VEG-DC-5 FW-VEG-DC-9	Guidance has been retained.
MA Prescriptions-MA7: Unsuitable Timber-Desired Conditions-3	Activities and uses retain the form, line, color, and texture which are characteristic of the landscape (retention visual quality objective) or are visually subordinate to the characteristic landscape (partial retention VQO).	FW-SCEN-G-2	The plan does not include visual quality objectives.
MA Prescriptions-MA7: Unsuitable Timber-Description-1	This includes the ponderosa pine, mixed conifer, spruce, and aspen vegetation types. These areas are classed unsuitable for timber harvest, for one of the following reasons (as described in FSH 2409.13, chapter 20): 1. Forest land incapable of producing industrial wood. Oak and pinon-juniper are generally put in this category. 2. Forest land physically unsuitable because: a. an ID team determines that, using available technology, activities involved with timber production could not be completed without causing irreversible resource damage to soil productivity or watershed. b. based on existing technology there is not reasonable assurance that it is possible to restock the remaining forest lands within 5-years of final harvest [as defined in 36 CFR 219.27 (c) (3)]. 3. Forest land with inadequate response information, based on current research and experience, to project responses to timber management practices.	Environmental impact statement, Vol 3, Appendix D	Suitable timber has been evaluated as required by the 2012 planning rule (36 CFR 219, FSH 1909.12 chapter 60).
MA Prescriptions-MA7: Unsuitable Timber-Standards and Guidelines-1	Timber Harvest...Stands may be treated, and saw timber and products may be harvested to meet specific management area objectives. Volume does not contribute to the Forest Allowable Sale Quantity (ASQ). Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas.	FW-FFP-S-1 FW-FFP-G-2	Guidance has been retained.
MA Prescriptions-MA7: Unsuitable Timber-Standards and Guidelines-2	Non-Convertible Products...Prepare and Administer permits for non-convertible products when compatible with Management Area objectives.	FW-FFP-DC-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA7: Unsuitable Timber-Standards and Guidelines-3	Firewood...Prepare and administer sale permits or free-use permits for dead and down firewood.	FW-FFP-DC-1	Guidance has been retained.
MA Prescriptions-MA7: Unsuitable Timber-Standards and Guidelines-4	Replacement of Range Improvements...Replacement of structural improvements will be planned in a 20-25 year cycle and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-O-1	Guidance has been retained.

Table 161. Comparison of piñon/juniper guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA8: Pinon/Juniper-Vision-1	The foothills are full of the majestic pinon and juniper. Their fragrance fills the air. The trees are bushy and full. The opening among the stands are full of grass and new trees are coming on.	FW-VEG-PJO-DC-2 FW-VEG-PJS-DC-2	Guidance has been retained.
MA Prescriptions-MA8: Pinon/Juniper-Desired Conditions-1	Manage for habitat diversity.	FW-WFP-DC-2 FW-VEG-PJO-DC-9 FW-VEG-PJO-DC-11 FW-VEG-PJS-DC-11 FW-VEG-PJS-DC-13	Guidance has been retained.
MA Prescriptions-MA8: Pinon/Juniper-Desired Conditions-2	Maintain an average of 50 percent or more of pinon acres in a balanced age class distribution.	FW-VEG-PJO-DC-1 FW-VEG-PJS-DC-1	Guidance has been retained.
MA Prescriptions-MA8: Pinon/Juniper-Desired Conditions-3	In juniper areas there will be at least 10 trees large trees per acre. The trees will have greater than 25 percent living crown.	FW-VEG-PJO-DC-2 FW-VEG-PJO-DC-10 FW-VEG-PJS-DC-2 FW-VEG-PJS-DC-14	Guidance has been retained.
MA Prescriptions-MA8: Pinon/Juniper-Desired Conditions-4	This is good habitat for the plain titmouse and elk.	FW-VEG-PJO-DC-11 FW-VEG-PJO-G-1 FW-VEG-PJS-DC-11 FW-VEG-PJS-G-4	Guidance has been retained.

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MA Prescriptions- MA8: Pinon/Juniper- Description-1	There are two conditions that exist in this management area: - Pinon pine, Utah-seed juniper and Rocky Mountain juniper comprising the tree canopy with a wide variety of grass, forbs and shrubs in the understory. - The transition zone where the pinon-juniper woodland type joins the ponderosa pine. This is characterized by dry, warm climatic conditions and poor ponderosa site productivity classes (site index less than 55).	FW-VEG-PJO-DC-2 FW-VEG-PJS-DC-2	Guidance has been updated to be consistent with the regional ecological response unit model.
MA Prescriptions- MA8: Pinon/Juniper- Description-2	The area has provided firewood since man arrived. Many people prefer pinon as firewood over all other species. The east side of the Carson and the Tres Piedras Ranger District have been extensively cutover for firewood, and average size classes are three inches to five inches in diameter at ground level. Other traditional uses have included hunting, pinon nut gathering, Christmas tree and juniper post cutting, big game winter range and grazing. There are numerous two-track nonsystem roads that provide access into the area.	none	This is a statement that does not provide management direction.
MA Prescriptions- MA8: Pinon/Juniper- Description-3	Fire occurrence is low and potential for large fires is extremely low. Ground fuels are light, less than five tons per acre, except in stands that have been harvested for firewood.	FW-VEG-PJO-DC-6 FW-VEG-PJS-DC-6	Guidance has been retained.
MA Prescriptions- MA8: Pinon/Juniper- Standards and Guidelines-1	Juniper Diversity...Unless other management objectives are determined to have priority, as determined by interdisciplinary team review, manage the juniper (Rocky Mountain and Utah) components to provide for habitat diversity. The following guidelines will be used on those areas where juniper diversity is to be maintained: - In areas where juniper comprise less than 10 trees/acre retain all live juniper trees. - In areas where juniper comprise more than 10 trees/acre retain at least 10 of the largest live juniper trees. Trees retained should have greater than 25 percent living crown.	FW-VEG-PJO-DC-1 FW-VEG-PJS-DC-1	Guidance has been retained.
MA Prescriptions- MA8: Pinon/Juniper- Standards and Guidelines-2	Juniper...Maintain juniper and other species as a component when they are in pinon stands.	FW-VEG-PJO-DC-2 FW-VEG-PJS-DC-2	Guidance has been retained.
MA Prescriptions- MA8: Pinon/Juniper- Standards and Guidelines-3	Harvest... - Pinon-juniper harvests will be primarily under a shelterwood system with intermediate cuts used to improve growth and meet other management objectives. Standard rotation age is 180 years. - Using integrated stand management to meet wildlife and other resource objectives, harvest pinon juniper firewood from slopes 15 percent gradient or less.	FW-VEG-PJO-G-1 FW-VEG-PJS-G-4	Prescriptions for treatments will be designed on a case-by-case basis.

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MA Prescriptions-MA8: Pinon/Juniper-Standards and Guidelines-4	Uneven Age...Uneven-aged management may be used.	FW-VEG-PJO-G-1 FW-VEG-PJS-G-4	Guidance has been retained.
MA Prescriptions-MA8: Pinon/Juniper-Standards and Guidelines-5	Firewood...Priority will be given to personal-use sales. Commercial sales may be made to meet objectives when: 1) the Ranger District ASQ exceeds personal-use demand. 2) access is limited to commercial yarding equipment. 3) species mix or product size does not attract personal-use."	FW-FFP-DC-1	Decisions about commercial sales will be made on a case-by-case basis.
MA Prescriptions-MA8: Pinon/Juniper-Standards and Guidelines-6	Law Enforcement...Patrols are conducted during firewood cutting- season (normally, May through November) to help reduce illegal fuelwood removal.	FW-FFP-DC-6 FW-FFP-m.a.-7	Guidance has been retained.
MA Prescriptions-MA8: Pinon/Juniper-Standards and Guidelines-7	Ponderosa Pine...Do not harvest ponderosa pine, unless the objective is to improve big game cover and other wildlife habitat components over the long term.	FW-VEG-DC-15	This guidance is not carried forward. Species composition is managed according to site potential.

Table 162. Comparison of high-elevation grassland guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA9: High Elevation Grassland-Vision-1	This is a healthy and stable environment with high grass production.	FW-VEG-MSG-DC-2	Guidance has been retained.
MA Prescriptions-MA9: High Elevation Grassland-Desired Conditions-1	The grasslands are maintained.	FW-VEG-MSG-DC-2	Guidance has been retained.
MA Prescriptions-MA9: High Elevation Grassland-Desired Conditions-2	There is quality habitat for the elk, bighorn sheep and ptarmigan.	FW-VEG-MSG-DC-3 FW-WFP-DC-1 FW-WFP-DC-2	Guidance has been retained.
MA Prescriptions-MA9: High Elevation Grassland-Desired Conditions-3	Willow is in the ptarmigan range and has a height of at least 0.5 meter.	FW-WSW-RMZ-WR-DC-4 FW-WSW-RMZ-FSR-DC-8, 9, 12	Shrub canopy is generally no more than 10 percent in the montane subalpine grassland vegetation community.

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MA Prescriptions-MA9: High Elevation Grassland-Description-1	The major portion of the mountain grassland type was created by fires in the late 1800s and early 1900s. The area is most commonly found in association with spruce - true fir and spruce - Douglas-fir coniferous vegetative types. It is fairly safe to assume that most of the area would revert to coniferous vegetation without man's continued influence.	none	This is a statement that does not provide management direction and is not carried forward.
MA Prescriptions-MA9: High Elevation Grassland-Description-2	This area consists of a wide variety of species of grasses and forbs in varying stages of plant succession. Sizes of individual meadows vary from less than one-eighth acre to over 500 acres. The vegetation makeup varies according to successional state.	FW-VEG-MSG-DC-1 FW-VEG-MSG-DC-8 FW-VEG-MSG-DC-14	Guidance has been retained.
MA Prescriptions-MA9: High Elevation Grassland-Description-7	Topography of the higher alpine areas is steep at the lower elevations, giving way to broad, rounded summits and ridges. The terrain is characterized by rock escarpments, deposits of stone and boulder glacial till, rockslides, rockstreams and alpine turf soils. Overstory vegetation consists of a few dwarfed Engelmann spruce, and bristlecone pine at the lower elevations. Ground cover includes alpine sedges, forbs and grasses where there is adequate soil. A short growing season and heavy snowfall characterizes the alpine heights. This is one of the highest water producing areas in the state.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA9: High Elevation Grassland-Standards and Guidelines-1	Range... - On allotments designated for level D to E management, maintain grassland acreage to present levels. Stop woody species encroachment. Reseed areas where herbaceous ground cover prior to treatment is less than or equal to 30%. Treatment Method: Burn: When fire will not threaten adjacent timber stands, herbaceous fuel is adequate to carry fire to kill at least 60% of species to be eradicated (herbaceous fuel is at least 600 lbs./acre), when encroaching trees are at most 4 feet tall and tree distribution is even. Herbicides: When conditions are not suitable for burning and encroaching trees are less than or equal to 4 feet tall. Handcut: When encroaching trees are at most 50/acre and at most 8 feet tall. Other: Encourage public to cut Christmas trees and remove wildlings. - Replacement of structural improvements will be planned in a 20-35 year cycle and will take priority over new structures if needed for prescribed management intensity.	FW-VEG-MSG-DC-1, 2, 6, 9 FW-FIRE-DC-2 FW-GRZ-O-1	Guidance intent has been retained. Plans do not compel Agency action such as herbicide application, or the removal of specific trees (FSH 1909.12 sec 21).

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA9: High Elevation Grassland-Standards and Guidelines-2	Off-Road Vehicle Use...Close areas to off-road vehicles except snowmobiles when the size of the Individual area makes it feasible.	FW-TFA-S-1 FW-TFA-DC-4	The plan does not change travel management decisions such as area closures.
MA Prescriptions-MA9: High Elevation Grassland-Standards and Guidelines-3	Insects and Diseases...Insect and disease outbreaks will be managed using the concepts of Integrated Pest Management (IPM), which is a systematic decision making process and resultant actions developed after considering the pest - host systems and resource management objectives. Management may include "no action" to a combination of biological, chemical and other preventative and remedial measures. Special consideration in method of control will be given around waters, highways, and populations centers.	FW-VEG-DC-12 FW-NIS-G-3 FW-NIS-G-4	Control methods will be determined on a case-by-case basis accounting for site specific factors
MA Prescriptions-MA9: High Elevation Grassland-Standards and Guidelines-4	Timber... The following standards and guidelines apply to patches and stringers included within the Management Area: - Stands may be treated, and sawtimber and products may be harvested to meet specific Management Area objectives. Volume does not contribute to the Forest Allowable Sale Quantity (ASQ). - Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas. - Prepare and Administer permits for non-convertible products when compatible with Management Area objectives. - Prepare and Administer sale permits or free-use permits for dead and down firewood.	FW-FFP-G-2	Guidance intent has been retained.
MA Prescriptions-MA9: High Elevation Grassland-Standards and Guidelines-5	Wildlife...Timber inclusions will be managed for snag retention, wildlife cover, escape routes and general habitat diversity.	FW-VEG-m.a.-4 FW-VEG-MSG-DC-1 FW-VEG-MSG-DC-2	Treed habitat is not desired in the montane subalpine grassland vegetation community.
MA Prescriptions-MA9: High Elevation Grassland-Standards and Guidelines-6	Roads...Control road system impacts, as per forest-wide guidelines.	FW-TFA-DC-4	Guidance has been retained.

Table 163. Comparison of low elevation grassland guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA10: Low Elevation Grasslands-Vision-1	This is a healthy and stable environment with plentiful grass.	FW-VEG-MSG-DC-2	Guidance has been retained.
MA Prescriptions-MA10: Low Elevation Grasslands-Desired Conditions-1	The range is in fair to good condition.	FW-VEG-MSG-DC-2 FW-VEG-MSG-DC-3 FW-GRZ-DC-1	Guidance has been retained.
MA Prescriptions-MA10: Low Elevation Grasslands-Desired Conditions-2	Activities and uses remain visually subordinate to the characteristic landscape (partial retention visual quality objective) or may visually dominate the original characteristic of the landscape. However, they must borrow from the form, line, color, and texture of the landscape (modification VQO).	FW-SCEN-G-2	Guidance has been retained. The plan does not include visual quality objectives.
MA Prescriptions-MA10: Low Elevation Grasslands-Standards and Guidelines-1	Range... - On allotments designated for level D management and primary big game winter range, maintain grassland and acreage to present levels when cost effective. Treat areas where woody species ground cover exceeds 10%. Reseed areas where herbaceous ground cover prior to treatment is at most 30%. Treatment Methods: - Burn: When herbaceous fuel is adequate to carry fire to kill greater than 60% of invader species to be eradicated (herbaceous fuel greater than 600 lbs/acre), when encroaching trees are less than 4 ft. tall and tree distribution is even, and/or when sagebrush cover is greater than 20%. -Herbicides: When conditions aren't suitable for burning, encroaching trees are less than 4 feet tall, and sagebrush cover is less than 20%. - Replacement of structural improvements will be planned in a 30- to 40-year cycle and will take priority over new structures if needed for prescribed management intensity."	FW-VEG-MSG-DC-1, 2, 6, 9 FW-FIRE-DC-2 FW-GRZ-O-1	Guidance intent has been retained. Plans do not compel Agency action such as herbicide application, or the removal of specific trees (FSH 1909.12 sec 21).

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions- MA10: Low Elevation Grasslands-Standards and Guidelines-2	Timber...The following standards and guidelines apply to patches and stringers included within the Management Area. - Stands may be treated and saw timber and products may be harvested to meet specific Management Area objectives. Volume does not contribute to the Forest ASQ. - Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas. - Prepare and Administer permits for non-convertible products when compatible with Management Area objectives. - Prepare and Administer sale permits or free-use permits for dead and down firewood.	FW-FFP-G-2	Guidance has been retained.
MA Prescriptions- MA10: Low Elevation Grasslands-Standards and Guidelines-3	Wildlife...Manage timber inclusions for snag retention, wildlife cover, escape routes, and general habitat diversity.	FW-VEG-m.a.-4 FW-VEG-MSG-DC-1 FW-VEG-MSG-DC-2	Treed habitat is not desired in the montane subalpine grassland vegetation community.

Table 164. Comparison of revegetation area guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions- MA11: Revegetation Areas-Vision-1	This is a healthy and stable environment with high grass production.	MA-GMMA-DC-1 MA-GMMA-DC-2	Guidance has been retained.
MA Prescriptions- MA11: Revegetation Areas-Desired Conditions-2	There is quality habitat for the turkey and elk.	FW-WFP-DC-1	Guidance has been retained.
MA Prescriptions- MA11: Revegetation Areas-Description-1	The Carson has converted stands of pinon and juniper and big sagebrush to production of native and introduced species of grass. These conversions were accomplished by plowing, chaining, dozer piling, tree crushing, and hand clearing with chainsaws and seeding to grass, primarily crested wheat. The projects began in the late 1940s and are continuing at this time. The terrain is flat to gently rolling, and there are many two-track roads that are not on the Forest road system, nor are they maintained. Most of the converted areas provide valuable habitat for many species of wildlife. Many of them are classed as key elk and deer winter range. The primary purpose for these vegetative type conversions was to increase forage for grazing.	none	This is a statement that does not provide management direction.
MA Prescriptions- MA11: Revegetation Areas-Description-2	These areas have been separated from management areas 8 and 12 because: - man has created a seral grassland that is in various stages of reverting to its natural state, - the Carson invested time and money (capital investment) into the original type conversion, - the areas are needed if the Carson is to maintain its grazing commitment, - most of the areas will require maintenance to keep them in a seral grass type.	MA-GMMA-DC-1	Guidance has been retained.
MA Prescriptions- MA11: Revegetation Areas-Standards and Guidelines-1	Insect & Disease...Insect and disease outbreaks will be managed using the concepts of Integrated Pest Management (IPM), which is a systematic decision making process and resultant actions developed after considering the pest - host systems and resource management objectives. Management may include "no action" to a combination of biological, chemical, and other preventative and remedial measures. Special consideration in method of control will be given around waters, highways, and population centers.	FW-VEG-DC-12 FW-NIS-G-3 FW-NIS-G-4	Control methods will be determined on a case-by-case basis accounting for site specific factors

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA11: Revegetation Areas-Standards and Guidelines-2	Range... On allotments designated for level C or D management, maintain revegetated sites to grass. Retreat areas where sagebrush and/or pinon-juniper crown cover in the area exceeds 10%. Reseed areas where herbaceous ground cover prior to treatment is at most 30%. Treatment Methods: P-J sites - Individual plant treatment when trees are less than six feet high and density is between 30 and 50 trees per acre. Sagebrush sites: Maintain revegetation sites in grassland communities by initiating the following treatments: - Herbicide: When P-J or sagebrush cover reaches 15 - 20% of the total plant cover. - Burn: Apply when production is at least 600 lbs. per acre. - Mechanical: When neither burning nor herbicides are feasible. - Replacement of structural improvements will be planned in a 30- to 40-year cycle and will take priority over new structures if needed for prescribed management intensity.	MA-GMMA-DC-1 MA-GMMA-DC-2 MA-GMMA-G-2 MA-GMMA-G-3 FW-FIRE-DC-2 FW-GRZ-O-1	Guidance intent has been retained. Plans do not compel Agency action such as herbicide application, or the removal of specific trees (FSH 1909.12 sec 21).

Table 165. Comparison of sagebrush guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA12: Sagebrush-Vision-1	This is a healthy and stable environment.	FW-VEG-SAGE-DC-2 FW-VEG-SAGE-DC-3	Guidance has been retained.
MA Prescriptions-MA12: Sagebrush-Desired Conditions-1	Activities and uses remain visually subordinate to the characteristic landscape (partial retention visual quality objective) or may visually dominate the original characteristic of the landscape. However, they must borrow from the form, line, color, and texture of the landscape (modification VQO).	FW-SCEN-G-2	Guidance has been retained. The plan does not include visual quality objectives.
MA Prescriptions-MA12: Sagebrush-Desired Conditions-2	There is quality habitat for the elk and Brewer's sparrow.	FW-VEG-SAGE-DC-3	Guidance has been retained.
MA Prescriptions-MA12: Sagebrush-Desired Conditions-3	There is a seral grassland on allotments designated for level D management and primary big game winter ranges.	none	This is a statement that does not provide management direction.

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MA Prescriptions-MA12: Sagebrush-Description-1	Big Sagebrush, <i>Artemisia tridentata</i> , is the climax species. However, it exists in a seral stage on a portion of this area. The old seral stage is a result of overgrazing and topsoil loss in the late 1800s and early 1900s. The more recent seral stage is occupying sites that are rated medium to high in grass production.	FW-VEG-SAGE-DC-1 FW-VEG-SAGE-m.a.-1	Guidance has been retained.
MA Prescriptions-MA12: Sagebrush-Description-7	Other vegetation is sparse, but western wheatgrass, snakeweed and blue grama grass are found. Ponderosa pine, pinon pine, and juniper can be found scattered throughout the area.	FW-VEG-SAGE-DC-4 FW-VEG-SAGE-DC-6	Guidance has been retained.
MA Prescriptions-MA12: Sagebrush-Standards and Guidelines-1	Range... - Replacement of structural improvements will be planned in a 30-40 year cycle and will take priority over new structures if needed for prescribed management intensity. - On allotments designated for level D management, and big game winter ranges treat sagebrush to reduce density and create a seral grassland community. Reseed if ground cover prior to treatment is less than 30%. Do not treat black sagebrush (<i>Anemesia nova</i>). Treatment Methods: -Burn: When sagebrush cover is at least 20% density (herbaceous fuel is at least 600 lbs. per acre). -Herbicides: When conditions aren't suitable for burning. -Mechanical: When neither burning nor herbicides are feasible.	FW-VEG-m.a.-3 FW-GRZ-O-1 FW-FIRE-DC-2	Guidance intent has been retained. Plans do not compel Agency action such as herbicide application, or the removal of specific trees (FSH 1909.12 sec 21).

Table 166. Comparison of oak guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA13: Oak-Vision-1	This is a healthy, stable environment.	FW-VEG-DC-8 FW-VEG-MCD-DC-14 FW-VEG-PPF-DC-11 FW-VEG-PPF-DC-14 FW-VEG-PJO-DC-11 FW-VEG-PJS-DC-11	Oak is managed as a seral state in other vegetation communities.
MA Prescriptions-MA13: Oak-Desired Conditions-1	There is quality habitat for the turkey and elk.	FW-VEG-DC-8 FW-VEG-MCD-DC-14 FW-VEG-PPF-DC-11 FW-VEG-PPF-DC-14 FW-VEG-PJO-DC-11 FW-VEG-PJS-DC-11	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA13: Oak-Desired Conditions-2	Activities and uses remain visually subordinate to the characteristic landscape (partial retention visual quality objective) or may visually dominate the original characteristic of the landscape. However, they must borrow from the form, line, color, and texture of the landscape (modification VQO).	FW-SCEN-G-2	Guidance has been retained. The plan does not include visual quality objectives.
MA Prescriptions-MA13: Oak-Description-2	Natural fires have played an important role in maintaining this vegetative type. Portions of the area could eventually return to ponderosa pine or Douglas-fir if fire or other site disturbances were eliminated. Prescribed fire for management purposes is difficult to achieve due to a lack of ground fuels. Fire, either natural or man caused, is a desired occurrence in this management area.	FW-VEG-DC-2 FW-VEG-DC-8 FW-FIRE-DC-2	Guidance has been retained.
MA Prescriptions-MA13: Oak-Description-4	Gambel oak exists in other management areas (4 and 5) but is usually an understory or co-dominant species.	FW-VEG-MCD-DC-14 FW-VEG-PPF-DC-11	Guidance has been retained.
MA Prescriptions-MA13: Oak-Description-5	The oak in this management area is dominant to an understory of primarily forbs and grasses. Climax vegetation would probably be Ponderosa pine, Douglas-fir, white fir, or Engelmann spruce.	FW-VEG-MCD-DC-14 FW-VEG-PPF-DC-11	Guidance has been retained. Oak is managed as a seral state in other vegetation communities.
MA Prescriptions-MA13: Oak-Description-6	This area provides food and cover for a wide variety of wildlife.	FW-VEG-MCD-DC-14 FW-VEG-PPF-DC-11 FW-VEG-PJO-DC-11 FW-VEG-PJS-DC-11	Guidance has been retained.
MA Prescriptions-MA13: Oak-Standards and Guidelines-1	Browse...Inventory and manage browse (oak, mountain mahogany, willow, and other palatable species) to maintain or improve browse conditions, especially on big game winter ranges. - During 10-year period inventory browse component forest wide.- Identify priority areas needing improvement. - Treat browse stands only where they can reasonably be protected from the detrimental effects of livestock and big game overuse. - Treat no more than 25 percent of browse acres within each diversity unit every 10 years unless it has been determined necessary to maintain the browse component and/or to meet desired big game population goals.	FW-VEG-MCD-DC-14 FW-VEG-PPF-DC-11 FW-VEG-PJO-DC-11 FW-VEG-PJS-DC-11	Guidance has been retained. The plan does not include diversity units.
MA Prescriptions-MA13: Oak-Standards and Guidelines-2	Replacing Range Improvements... Replacement of structural improvements will be planned in a 30- to 40-year cycle and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-O-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA13: Oak-Standards and Guidelines-3	Timber Management...Stands may be treated, and saw timber and products may be harvested to meet specific Management Area objectives. Volume does not contribute to the Forest ASQ.	FW-FFP-G-2	Guidance has been retained.
MA Prescriptions-MA13: Oak-Standards and Guidelines-4	Salvage Sales...Salvage timber when compatible with Management Area objectives or when needed to prevent or reduce insect and disease conditions within the Management Area or adjacent Management Areas.	FW-VEG-DC-12 FW-FFP-G-2	Guidance has been retained.
MA Prescriptions-MA13: Oak-Standards and Guidelines-5	Non-Convertible Products...Prepare and Administer permits for non-convertible products when compatible with Management Area objectives.	FW-FFP-DC-1	Guidance has been retained.
MA Prescriptions-MA13: Oak-Standards and Guidelines-6	Firewood...Prepare and Administer sale permits or free-use permits for dead and down firewood.	FW-FFP-DC-5	Guidance has been retained.
MA Prescriptions-MA13: Oak-Standards and Guidelines-7	Wildlife...Timber inclusions will be managed for snag retention, wildlife over and escape routes and general habitat diversity.	FW-VEG-m.a.-4	Oak is managed as a seral state in other vegetation communities.
MA Prescriptions-MA13: Oak-Standards and Guidelines-8	Width and Size of Treatments... Maximum width and size of vegetative treatments will follow Forest-wide standards and guidelines.	FW-FFP-G-2	Guidance has been retained.

Table 167. Comparison of riparian area guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA14: Riparian Areas-Vision-1	Each riparian site is visually attractive. It is a pleasure viewing them as you go by and being a part of them while you are on the site. There is healthy, native vegetation along most of the stream and lake. The stream and lake shore banks are stable with a diverse mix of vegetation to minimize erosion and provide good wildlife habitat. There are signs of many types of wildlife throughout the area. There is a stable fish population along the shaded, healthy stream and lake bottoms, with diverse aquatic species.	FW-WSW-RMZ-DC-1 FW-WSW-RMZ-DC-2	Guidance has been retained.
MA Prescriptions-MA14: Riparian Areas-Desired Conditions-1	80% of natural shade over water surfaces.	FW-WSW-RMZ-DC-4	This guidance is not carried forward. The plan addresses site appropriate shading.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-2	80% of natural bank protection.	FW-WSW-RMZ-DC-1	This guidance is not carried forward. The plan addresses bank protection.
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-3	85% of stream substrate surface free of inorganic sediment.	FW-WSW-RMZ-STM-DC-1 FW-WSW-RMZ-STM-G-3	This guidance is not carried forward. The plan addresses sedimentation.
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-4	60% of natural shade over land surfaces, for wildlife species.	FW-WSW-RMZ-DC-9 FW-WSW-RMZ-WR-DC-3 FW-WSW-RMZ-FSR-DC-1, 2, 3, 4, 5	Guidance has been retained.
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-5	60% of the woody plant composition in three or more riparian species.	FW-WSW-RMZ-DC-2 FW-WSW-RMZ-DC-8 FW-WSW-RMZ-FSR-DC-8	Guidance has been retained.
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-6	Three or more age classes of woody plants, with at least 10% of the woody plant cover in sprouts, seedlings and saplings.	FW-WSW-RMZ-SNS-DC-2 FW-WSW-RMZ-WR-DC-3 FW-WSW-RMZ-FSR-DC-1 FW-WSW-RMZ-FSR-DC-2 FW-WSW-RMZ-FSR-DC-3	Guidance has been retained.
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-7	A mosaic of tree diversity to include all stand conditions and basal area levels (up to the maximum possible for the site condition).	FW-WSW-RMZ-WB-DC-2 FW-WSW-RMZ-FSR-DC-1 FW-WSW-RMZ-FSR-DC-2 FW-WSW-RMZ-FSR-DC-3	Guidance has been retained
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-8	Have large diameter trees with ages up to 240 years.	FW-WSW-RMZ-FSR-G-3	Guidance has not been carried forward. Large upland trees are not desired in many riparian areas
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-9	Wildflowers will be along the roadways.	none	This guidance is not carried forward.
MA Prescriptions- MA14: Riparian Areas- Desired Conditions-10	25% in satisfactory condition by year 2000 (Regional Guide).	FW-WSW-RMZ-DC-1 FW-WSW-RMZ-O-1	Guidance is obsolete. The plan addresses proper riparian function.
MA Prescriptions- MA14: Riparian Areas- Description-1	Riparian ecosystems are wetland ecosystems which have a high water table. They usually occur as an ecotone (transition) between aquatic and upland ecosystems, and have distinct vegetation and soil characteristics.	FW-WSW-RMZ-DC-2 FW-WSW-RMZ-DC-3	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions- MA14: Riparian Areas- Description-6	All of the Ranger Districts on the Carson contain one or more of the eight riparian types, and they are often small inclusions in a larger vegetational zone. The riparian standards apply to riparian areas even though the sites may not have been large enough to be mapped as a discrete unit.	FW-WSW-RMZ-G-1	Guidance has been retained.
MA Prescriptions- MA14: Riparian Areas- Standards and Guidelines-1	Borrow Pits & Mineral Storage...New borrow pits or long term road material storage areas will not be permitted.	FW-WSW-RMZ-G-2	Guidance has been retained.
MA Prescriptions- MA14: Riparian Areas- Standards and Guidelines-2	Indicator Species...Manage for these indicator species: resident trout (cutthroat), hairy woodpecker, aquatic macro invertebrates, elk.	FW-WSW-RMZ-DC-5 FW-WSW-RMZ-DC-6	Plan does not include indicator species.
MA Prescriptions- MA14: Riparian Areas- Standards and Guidelines-3	Sediment...Activities that generate sediment will be avoided during fish spawning.	FW-WSW-RMZ-G-2 FW-WSW-RMZ-STM-G-3	Guidance has been retained.
MA Prescriptions- MA14: Riparian Areas- Standards and Guidelines-4	Stream Flow...Manage all existing perennial streams for favorable conditions of flows for instream and downstream uses.	FW-WSW-DC-4	The Carson NF has minimal control over streamflow. Water withdrawals are managed by the State of NM.
MA Prescriptions- MA14: Riparian Areas- Standards and Guidelines-5	Flood Analysis...A flood analysis survey will be conducted for any proposed projects in areas with sizeable stream channels. (Where the mean 100-year flood plain width is 200 feet or more, or the drainage area above the parcel is greater than 1 square mile.) A land exchange will be withheld unless the community is covered by the Federal Flood Insurance Program or through an environmental analysis it is determined that the intent of Executive Orders 11988 and 11990 are met.	FW-WSW-RMZ-STM-DC-1 FW-WSW-RMZ-STM-DC-4	The plan addresses activities in floodplains. Plans do not compel Agency action such as conducting surveys (FSH 1909.12 sec 21).
MA Prescriptions- MA14: Riparian Areas- Standards and Guidelines-6	Floodplain and Wetlands...Any projects prepared in the floodplain/wetlands will be subject to an analysis which evaluates them in context of Executive Orders 11988 and 11990.	none	The plan does not reiterate the requirement to follow Executive Orders.
MA Prescriptions- MA14: Riparian Areas- Standards and Guidelines-7	Visual Quality... - Areas which are located within the immediate foreground (100 to 300 feet) of a sensitive travel route; use area, or water body will be managed for the visual quality objective of retention. - Manage for large diameter trees with a stand age replacement of at least 240 years.	FW-SCEN-G-2	Guidance has not been carried forward. Large upland trees are not desired in many riparian areas.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA14: Riparian Areas-Standards and Guidelines-8	Wildflowers...Within 200 ft. of paved roads, reseeding will include wildflowers.	FW-VEG-DC-16 FW-NIS-G-6	This guidance is not carried forward.
MA Prescriptions-MA14: Riparian Areas-Roads-Standards and Guidelines-1	New Roads...Locate new roads outside of the riparian type. If new roads are to be built, then erosion control measures utilizing Best Management Practices (i.e., buffer zones, sediment catch basins, seasonal road closures, etc.) will be included.	FW-WSW-G-2	Guidance has been retained.
MA Prescriptions-MA14: Riparian Areas-Roads-Standards and Guidelines-2	Existing Roads... If feasible, relocate or remove existing roads and trails or manage them with seasonal closures to minimize disturbance to wildlife.	FW-WSW-G-2 FW-WFP-O-4 FW-WFP-G-8 FW-TFA-G-8	Guidance has been retained.
MA Prescriptions-MA14: Riparian Areas-Roads-Standards and Guidelines-3	Crossings... Align crossings so that the minimum possible area is affected. Do not align roads to pass through the long axis of narrow riparian strips. Schedule construction activities during low water periods. Minimize road clearing widths. Provide fish passage in all perennial stream crossings.	FW-WSW-G-1 FW-WSW-G-2 FW-WFP-G-6 FW-WFP-G-8 FW-TFA-G-8	Guidance has been retained.

Table 168. Comparison of potential recreation site guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA15: Potential Recreation Sites-Vision-1	Any developments and activities protect, maintain, or improve the value of the site for future recreation development.	MA PDRMA-DC-1	Guidance has been retained.
MA Prescriptions-MA15: Potential Recreation Sites-Desired Conditions-1	Activities and uses retain the form, line, color and texture which are characteristic of the landscape. (retention visual quality objective)	FW-REC-DC-9 FW-SCEN-G-2	Guidance has been retained. The plan does not include visual quality objectives.
MA Prescriptions-MA15: Potential Recreation Sites-Desired Conditions-2	There are trailhead parking areas to meet dispersed recreation use.	FW-REC-DC-5 FW-REC-DC-11	Guidance is not carried forward. Recreation facilities are addressed.
MA Prescriptions-MA15: Potential Recreation Sites-Desired Conditions-3	The existing Red River and Sipapu ski areas are expanded.	none	The plan directs the Forest Service, not private entities.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA15: Potential Recreation Sites- Desired Conditions-4	Prospectus are issued as demand develops for ski touring centers.	none	Plans do not compel Agency action such as issuing a prospectus (FSH 1909.12 sec 21).
MA Prescriptions-MA15: Potential Recreation Sites- Desired Conditions-5	Land is allocated for expansion of the Pot Creek Interpretive Resource Center.	none	The plan does not preclude expansion of the Pot Creek Interpretive Resource Center.
MA Prescriptions-MA15: Potential Recreation Sites- Desired Conditions-6	Land is allocated for the Sangre de Cristo Ski Area.	none	This guidance is not carried forward. It is obsolete due to new, incompatible wilderness designation.
MA Prescriptions-MA15: Potential Recreation Sites- Description-1	This management area contains sites for future recreation facilities; such as, potential campgrounds, trailhead parking areas, and Nordic and alpine ski areas. Most of the potential campgrounds are oriented around water, and are needed to relieve pressure on existing, over-used and under-developed, recreation sites.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA15: Potential Recreation Sites- Description-2	Table: Future Recreation Site/Ranger District	FW-REC-DC-5 FW-REC-DC-11	Recreation site development will be assessed on a case-by-case basis and be responsive to public interest and other factors.
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-1	Feasibility Studies...All sites will require feasibility studies and site development plans prior to development.	none	This is a NEPA requirement. It is reiterated in the MA-PDRMA introduction.
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-2	Grazing...Plan to phase out grazing as sites are developed and moved to Mgt Area 16 - Existing Recreation Sites.	FW-REC-DC-7	The plan minimizes conflicting uses. This guidance is not carried forward.
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-3	Mineral Withdrawals...Withdraw the potential recreation sites from mineral location.	MA-PDRMA-DC-1	No lands are being withdrawn without a leasing analysis. This guidance is not carried forward.
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-4	Project Recreation Values... Developments and activities will protect, maintain, or improve the value of the site for future recreation development.	MA PDRMA-DC-1	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-5	Ski Areas... - Approve and monitor the proposed expansion of the existing Red River and Sipapu ski areas. - Evaluate special use applications received for the proposed Sangre de Cristo Ski Area; if feasible, issue permit for development. - When demand dictates, issue a prospectus for concessionaire construction and management of a west side ski touring center. Follow up with a special use permit, and monitor development and operations.	none	Plans do not compel Agency action such as proposed expansion approval or issuing permits or a prospectus (FSH 1909.12 sec 21). Special use permit monitoring is part of permit administration and not described in the plan.
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-6	Timber Sales... - Timber harvesting can be done to maintain stand condition and prepare for future site development. Harvest prescriptions will be prepared jointly by the Forest silviculturist and recreation specialist. - Slash disposal is carried out in accordance with the fuel treatment plan. No special treatment for these areas. - If timber sales do occur within the area, construct roads using Best Management Practices and to benefit the future recreation use. Manage for a road density of 2.1 miles per square mile for construction and 1.9 miles per square mile for reconstruction during first entry, and 4 miles per square mile for reconstruction during second entry."	FW-WSW-G-1	Road guidance is obsolete based on travel management decisions.
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-7	Trailheads...Construct trailhead parking areas to meet dispersed recreation use.	FW-REC-DC-5	Guidance has been retained.
MA Prescriptions-MA15: Potential Recreation Sites- Standards and Guidelines-8	Wildfires...Suppress wildfires at 40 acres during manning class 3+, 4 and 5. During other periods, wildfires may be allowed to burn if they meet the intent of the management highlights. And standards and guidelines for this management area, while protecting life and property.	FW-FIRE-DC-1 FW-FIRE-DC-2	Guidance is not carried forward.

Table 169. Comparison of recreation site guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA16: Recreation Sites-N/A- Vision-1	All the developments are high quality and well maintained. They fill the needs of the users.	FW-REC-DC-3 FW-REC-DC-10	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA16: Recreation Sites-N/A-Desired Conditions-1	High quality campgrounds, trailheads, and picnic areas.	FW-REC-DC-3 FW-REC-DC-11	Guidance has been retained.
MA Prescriptions-MA16: Recreation Sites-N/A-Desired Conditions-2	In areas adjacent to the facilities, retain the form, line, color, and texture which are characteristic of the landscape (retention visual quality objective) or any activities and uses remain visually subordinate to the characteristic landscape (partial retention VQO).	FW-REC-DC-9 FW-SCEN-G-2	Guidance has been retained. The plan does not include visual quality objectives.
MA Prescriptions-MA16: Recreation Sites-N/A-Desired Conditions-3	Trails meet at least priority 2 standards (correct unsafe conditions, minimize unacceptable resource and trail damage).	FW-TFA-DC-1 FW-TFA-DC-4	Guidance has been retained.
MA Prescriptions-MA16: Recreation Sites-Desired Conditions-4	Ghost Ranch Living Museum is an expanding interpretive site and environmental education center.	none	This guidance is obsolete and not carried forward.
MA Prescriptions-MA16: Recreation Sites-Desired Conditions-5	There is a "Gateways to the Past" at Pot Creek Interpretive Resource Center and at the Ghost Ranch Living Museum.	none	Plans do not compel Agency action such as creating an interpretive center (FSH 1909.12 sec 21). The living museum direction is obsolete and not carried forward.
MA Prescriptions-MA16: Recreation Sites-N/A-Description-1	These are areas of concentrated recreation use. People have been and will continue to be attracted to these areas because: - There is a scarcity of water in the Southwest and thus people are attracted to water environments. - The areas provide climatic relief and a high degree of scenic quality. - Campgrounds attract people and roads provide access.	FW-REC-DC-3 FW-REC-DC-4 FW-REC-DC-7	Guidance has been retained.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-1	Concessionaires...Continue concessionaire management of the Red River complex campgrounds.	none	This guidance is not carried forward. Campground management is made on a case-by-case basis.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-2	Existing Campgrounds/Picnic grounds... - Rehabilitate campgrounds and picnic areas to correct public safety problems, replace substandard improvements and bring soil loss and vegetative damage to an acceptable level. Consideration will be given to retrofitting these sites to make some of the facilities "barrier free" to allow for use by the elderly, handicapped, and children. - Develop 6 existing sites to meet fee criteria by adding water. These sites are Upper La Junta (D4), Capulin (D-4), Hopewell Lake (D-6), Elephant Rock (D-7) Agua Piedra (D-4) and Junebug (D-7). All sites will be full service. Maintain facilities at condition Class 1.	FW-REC-DC-3 FW-REC-DC-4 FW-REC-DC-8 FW-REC-DC-10 FW-REC-DC-11	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-3	Gateways to the Past...Develop the "Gateways to the Past" at the Ghost Ranch Living Museum and the Pot Creek Interpretive Resource Center.	none	Plans do not compel Agency action such as creating an interpretive center (FSH 1909.12 sec 21). The living museum guidance is obsolete and not carried forward.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-4	Ghost Ranch Living Museum... - Operate Ghost Ranch Living Museum as an interpretive site and environmental education center for northern New Mexico. - Expand the facilities. Add additional interpretive services. Reconstruct outdated facilities and improve living conditions for the animals. - Provide access for the handicapped and elderly by implementing "barrier free" design in rehabilitation and new construction projects. Provide for user safety and annual maintenance of improvements.	none	This guidance is obsolete and not carried forward.
MA Prescriptions-MA16: Recreation Sites-N/A-Standards and Guidelines-5	Hazard Inspections...Hazard inspections will be made on developed sites each spring. Serious hazards which hinder public safety will be corrected immediately. Other hazards will be corrected prior to opening the site to the public.	FW-REC-DC-10 FW-TFA-DC-1 FW-FAC-DC-1	Guidance has been retained.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-6	Hosts...Provide a campground host where feasible at camping areas. Provide them with training, supervision and incidental expenses.	none	This guidance is not carried forward. Campground management is made on a case-by-case basis.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-7	Operation and Maintenance...Operate fee campgrounds at full service and others at reduced service. Maintain all facilities at condition class I.	FW-REC-DC-10	This guidance is not carried forward. Campground management is made on a case-by-case basis.
MA Prescriptions-MA16: Recreation Sites-N/A-Standards and Guidelines-8	Pack-In, Pack-Out...Apply Pack-in, Pack-out trash policy where feasible.	FW-REC-DC-8	The plan directs the Forest Service, not the public.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-9	Recycle...Provide receptacles for recyclable materials where feasible.	Plan concepts	Sustainable operations, including recycling, are an overarching plan concept. This guidance is not carried forward. Campground management is made on a case-by-case basis.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA16: Recreation Sites-N/A-Standards and Guidelines-10	Roads...Maintain roads in full service developed recreation and visitor sites with a guideline of 4.7 miles at level Maintain roads in reduced service sites with a guideline of 6.6 miles at level 3.	FW-TFA-DC-1 FW-TFA-DC-3	Guidance has been retained.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-11	Ski Areas... - Administer the existing ski areas in accordance with the direction in the Master Development Plan for each area. - Plan and monitor watershed treatments and conditions. - Conduct administrative studies relating to watershed management.	Monitoring Topic I.	Watershed conditions are monitored under Monitoring Topic I. Plans do not compel Agency action such as conducting studies (FSH 1909.12 sec 21). Special use permit monitoring is part of permit administration and not described in the plan.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-12	Summer Homes...Administer Bitter Creek, Tres Ritos and La Junta summer home areas per the terms of their permits.	none	Special use permit monitoring is part of permit administration and not described in the plan.
MA Prescriptions-MA16: Recreation Sites-Standards and Guidelines-13	Trailheads...Provide trailhead parking areas for dispersed recreation users to meet the demand.	FW-REC-DC-5 FW-REC-DC-10	Guidance has been retained.
MA Prescriptions-MA16: Recreation Sites-N/A-Standards and Guidelines-14	Vehicle Use...Restrict vehicle use in developed sites to hardened areas through the use of signs, barriers and surfacing.	FW-TFA-DC-3 FW-TFA-S-1	Guidance has been retained.
MA Prescriptions-MA16: Recreation Sites-N/A-Standards and Guidelines-15	Visual Quality...Manage for the visual quality objective of retention or partial retention adjacent to developed sites. Use a definition of characteristic landscape which includes manmade features. Extend perimeter to five chains around developed recreation sites.	FW-SCEN-G-2	Guidance is not carried forward. The plan does not include visual quality objectives. Scenery is addressed through scenic integrity objectives.

Table 170. Comparison of wilderness guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-1	MINIMIZE REGULATIONS... Manage WOS capacity by utilizing visitor information techniques and minimizing regulatory requirements. Encourage "No Trace" use techniques through: - volunteer or contracted Wilderness Information Specialist Programs - local community outreach presentations - audio visual material - brochures and signs.	DA-WILD-DC-3 DA-WILD-G-1 DA-WILD-G-2	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-2	Fire is a critical natural process in wilderness. Wildland fire functions in its natural ecological role on a landscape scale and across wilderness boundaries.	DA-WILD-DC-2	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-3	FIRE... To allow fire to play a natural role in wilderness, consider a full range of management responses, including planned ignitions (prescribed fire) and unplanned ignitions (wildland fire use and suppression). • FIRE MANAGEMENT ACTIVITIES... All fire management actions within wilderness shall be conducted in a manner compatible with overall wilderness desired conditions including the character and values associated with each individual wilderness area. • Decisions for the appropriate suppression tool or tactic in the wilderness should receive the same considerations for firefighter and public safety and the protection of values at risk as they would outside of wilderness.	FW-FIRE-DC-2 FW-FIRE-S-2 FW-FIRE-G-1 FW-FIRE-G-5 DA-WILD-DC-2	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-4	INSECT & DISEASE... Monitor and report insect and disease conditions on a continuous basis. Chemical or biological control of epidemic populations will only be recommended if a thorough analysis shows that wilderness values are directly threatened or if resource values adjacent to wilderness will be severely impacted.	DA-WILD-S-4 DA-WILD-S-5 DA-WILD-G-1	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-5	Land Acquisition...Classify the private inholdings in Columbine Hondo as priority 1 for acquisition.	none	This guidance is not carried forward.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-6	MINERAL LEASING... Mineral leasing and location is prohibited within designated wildernesses.	none	This is a Wilderness Act requirement. The plan does not reiterate the requirement to follow law.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-7	Grazing in Cruces Basin...Specific congressional direction for Cruces Basin states that; "The designation of this area as wilderness shall not interfere with the construction of additional fencing authorized by the grazing allotment management plan for the area, and shall not be cause to require reductions in existing potential animal unit months under the applicable grazing allotment management plan for the area. "(HR8298 N.M. Wilderness Act).	none	The plan does not reiterate the requirement to follow law such as Public Law 96-550.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-8	STRUCTURAL RANGE IMPROVEMENTS... Only allow maintenance, construction, and reconstruction of structural range improvement and facilities which harmonize with the wilderness character of the area.	DA-WILD-DC-3 DA-WILD-G-2	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-9	Use at Capacity...Manage use at capacity by Wilderness Opportunity Spectrum (WOS) classification.	DA-WILD-DC-4	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-10	Annual Work Plans...Provide for user contacts, education, and capacity management through annual work plans.	none	Plans do not compel Agency action such as developing annual work plans (FSH 1909.12 sec 21).
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-11	MOTORIZED/MECHANICAL USE RESTRICTIONS... Maintain area closed to motorized and mechanical use as required by the Wilderness Act. Motorized or mechanical administrative uses restricted to standards in FSM.	DA-WILD-DC-4	The plan does not reiterate the requirement to follow law or manual regulations.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-12	Williams, Horseshoe, Lost Lakes... - Permit only stove fires around Williams, Horseshoe and Lost Lakes in the Wheeler Peak Wilderness. Designate areas on official maps and on site. Increased administrative personnel presence will be provided on site. Additional closures will be made as needed to maintain wilderness values in accordance with limits of acceptable change. - Horseshoe, Williams, and Lost Lakes may be stocked with fish by helicopters.	DA-WILD-DC-3 DA-WILD-m.a.-4	The plan directs the Forest Service, not the public. Plans do not compel Agency action such as area closures (FSH 1909.12 sec 21).
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-13	Manage all areas for a maximum group size of 15 people or 15 stock animals. Enforcement and user contact provided.	DA-WILD-S-1	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-14	Maintain posted wilderness boundary at major entry points and problem areas where motor vehicle entry could occur.	DA-WILD-m.a.-1	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-15	Processed Horse Feed...Permit only processed horse feed to be used.	DA-WILD-DC-2 FW-SU-DC-7	Guidance has been retained.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-16	In the Class I air quality areas in the Wheeler Peak Wilderness maintain high quality visual conditions. The form, line, texture, and color of characteristic landscapes will be clearly distinguishable when viewed as middle ground, cultural resources and ecosystems will remain unmodified by air pollutants. Determine baseline information and the background condition of the above air quality related values and specify limits of acceptable change that will affirmatively protect these values in Class I areas. Recent additions to the Wheeler Peak, Cruces, and Latir Wilderness are Class II areas. Perform Prevention of Significant Deterioration (PSD) Permit Application Reviews to determine the potential effect increased emissions sources will have on air quality related values of Class I area. Impact of air pollution generating activities will be predicted using current modeling techniques. Manage the Columbine Hondo WSA as a Class II air quality area.	FW-AIR-DC-3 FW-AIR-G-1	Guidance has been retained. The Columbine Hondo WSA guidance is obsolete due to wilderness designation.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-17	Actively recruit volunteer wilderness information specialists, wilderness rangers and trail maintenance help (adopt-a-trail). Provide for necessary training, supervision and incidental expenses.	DA-WILD-m.a.-2 FW-PART-DC-1 FW-PART-DC-4	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-18	Schedule outfitter/guide activities to minimize impacts/conflicts with other wilderness users Establish capacities/seasons of use for outfitter guides using animals operating in Wheeler Peak. Establish capacities in other areas when conflicts with other users or impacts on wilderness values warrant.	FW-SU-DC-8 DA-WILD-S-2	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-19	Watershed...Obliterate and revegetate 2 miles of travel ways in the Columbine-Hondo Wilderness.	none	This guidance is obsolete due to wilderness designation.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-20	Cooperate with NM Game and Fish in stabilizing the Rocky Mountain bighorn sheep and ptarmigan grouse populations to goals established in the NM Game and Fish Department Comprehensive Plan. When essential habitat for threatened and endangered species is identified, coordinate activities for species concerned.	FW-WFP-DC-1 FW-WFP-DC-2 FW-WFP-DC-3 FW-WFP-DC-4 FW-WFP-DC-5 FW-WFP-G-1 FW-WFP-G-2 FW-WFP-m.a.-1 FW-WFP-m.a.-2 FW-WFP-m.a.-3 FW-WFP-m.a.-4 FW-WFP-m.a.-5	Guidance has been retained.
MA Prescriptions-MA17: Wilderness-Standards and Guidelines-21	Replacement of structural improvements will be planned on a 20-35 year cycle and will take priority over new structures if needed for prescribed management intensity.	FW-GRZ-DC-7 FW-GRZ-O-1	Guidance has been retained.

Table 171. Comparison of wild and scenic river guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-Prescriptions-MA18: Wild and Scenic River-Vision-1	Manage under the BLM Wild River Management Plan.	DA-WSR-S-3	Guidance has been retained.
MA MA18: Wild and Scenic River-Desired Conditions-1	Manage under the BLM Wild River Management Plan.	DA-WSR-S-3	Guidance has been retained.
MA Prescriptions-MA18: Wild and Scenic River-Description-2	Both of these rivers flow through deep gorges and the view is spectacular from any vantage point on the gorge rim.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA18: Wild and Scenic River-Description-3	Water quality is acceptable under standards established by the Wild and Scenic Rivers Act. The rivers contain trout, and raptors are common in the canyons.	DA-WSR-DC-1	Guidance has been retained.
MA Prescriptions-MA18: Wild and Scenic River-Description-4	The Wild and Scenic Rivers Act authorized the Secretary of the Interior to administer the entire designated area. The Bureau of Land Management (BLM) produced the Rio Grande Wild and Scenic River Recreation Area Management Plan in 1983. This plan is available in the BLM office in Taos, NM.	none	This is a statement that does not provide management direction.
MA Prescriptions-MA18: Wild and Scenic River-Wild Rivers -Standards and Guidelines-1-11	Timber Production; Water Supply; Hydroelectric Power; Flood Control; Mining; Road Construction; Agriculture; Recreation Development; Structures; Utilities; Motorized Travel.	DA-WSR-DC-1 DA-WSR-S-2 DA-WSR-S-3	Wild and scenic rivers are managed consistent with the Wild and Scenic Rivers Act and Forest Service policy (FSH 1909.12 chapter 80). The Rio Grande and Red River are managed according to the BLM management plan.
MA Prescriptions-MA18: Wild and Scenic River-Scenic Rivers -Standards and Guidelines-1-11	Timber Production; Water Supply; Hydroelectric Power; Flood Control; Mining; Road Construction; Agriculture; Recreation Development; Structures; Utilities; Motorized Travel.	DA-WSR-DC-1 DA-WSR-S-2 DA-WSR-S-3	Wild and scenic rivers are managed consistent with the Wild and Scenic Rivers Act and Forest Service policy (FSH 1909.12 chapter 80). The Rio Grande and Red River are managed according to the BLM management plan.
MA Prescriptions-MA18: Wild and Scenic River-Recreational Rivers-Standards and Guidelines-1-12	Timber Production; Water Supply; New structures are prohibited; Hydroelectric Power; Flood Control; Mining; Road Construction; Agriculture; Recreation Development; Structures; Utilities; Motorized Travel.	DA-WSR-DC-1 DA-WSR-S-2 DA-WSR-S-3	Wild and scenic rivers are managed consistent with the Wild and Scenic Rivers Act and Forest Service policy (FSH 1909.12 chapter 80). The Rio Grande and Red River are managed according to the BLM management plan. Contradictory guidance regarding new structures has been removed.

Table 172. Comparison of special area guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA19: Special Areas-Vision-1	The Carson has many special areas that are undergoing research. Also, many are protecting truly unique flora and fauna.	DA-ZOO DA-BOT	This is a statement that does not provide management direction.
MA Prescriptions-MA19: Special Areas-Desired Conditions-1	These areas are preserved in unmodified condition for research and education.	MA-PRNA-DC-1	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-1	Arellano Canyon Proposed Research Natural Area...The 620-acre Arellano Canyon Area will be studied for possible designation as a Research Natural Area. This area represents the following vegetative types: blue spruce streamside, and white fir -Douglas-fir -aspen. Additional potential research natural areas may be identified to meet national and regional needs. The studies and possible RNA designation will be completed within 10 years. The following standards will apply until a decision is made about this RNA.	FW-PRNA	A proposed research natural area evaluation has been conducted which replaced Arellano Canyon with the overlapping La Cueva area. Three additional areas are proposed.
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-2	Visual Quality...The Visual Quality Objective for the study area will be maintained as classified in the inventory.	none	A proposed research natural area evaluation has been conducted which replaced Arellano Canyon with the overlapping La Cueva area. Three additional areas are proposed. The plan does not include visual quality objectives.
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-3	Natural Processes...Emphasize natural processes, protect natural features, and preserve examples of naturally occurring ecosystems in an unmodified condition for research and educational purposes.	MA-PRNA-DC-1 MA-PRNA-DC-2	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-4	Utilities...Prohibit new utility corridors.	MA-PRNA-S-6	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-5	Roads...Allow no new road construction.	MA-PRNA-S-2	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-6	Mineral Withdrawal...Process withdrawal action for the withdrawal of the Research Natural Area from Mineral Location and leasing (620 acres).	none	This guidance is not carried forward.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-7	Grazing...Prohibit livestock grazing. Maintain existing fence surrounding study areas.	MA-PRNA-S-4	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Arellano Canyon Proposed Research Natural Area-Standards and Guidelines-8	Motorized Recreation... - Allow non-motorized dispersed recreation activities provided they do not modify the area or threaten or impair the research or educational value of the study areas. - Prohibit all off-road vehicle travel within study area.	MA-PRNA-DC-1 MA-PRNA-S-5	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Small-headed Goldenweed Botanical Area-Standards and Guidelines-1	<i>Haplopappus microcephalus</i> is a small-headed goldenweed that is on the State Endangered Plant list that is known only to occur on the massive granite outcrops northeast and northwest of Tres Piedras. The portion located on the National Forest is the largest of the outcrops and a 60-acre tract is included in this Management Area.	MA-BOT	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Small-headed Goldenweed Botanical Area-Standards and Guidelines-2	Management Plan...Develop a rare species management plan.	none	Plans do not compel Agency action such as developing management plans (FSH 1909.12 sec 21).
MA Prescriptions-MA19: Special Areas-Small-headed Goldenweed Botanical Area-Standards and Guidelines-3	Do Not Impact Plant...Do not allow any activities that will alter the current management of the area or that will impact the plant.	DA-BOT-G-1 DA-BOT-G-2	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Small-headed Goldenweed Botanical Area-Standards and Guidelines-4	Restrict Use...Consider fencing or restrictions on use only if necessary to further protect the plant.	DA-BOT-G-1 DA-BOT-G-2	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Pea Clam Zoological Area-Standards and Guidelines-2	Management Plan...Develop a rare species management plan.	none	Plans do not compel Agency action such as developing management plans (FSH 1909.12 sec 21).
MA Prescriptions-MA19: Special Areas-Pea Clam Zoological Area-Standards and Guidelines-3	Educate Users...Educate users on the importance of protection of this site.	FW-PART-DC-2	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Pea Clam Zoological Area-Standards and Guidelines-4	Water Quality...Do not allow any activity that could cause pollution or change in water chemistry of the lake.	DA-ZOO-DC-2 DA-ZOO-S-1	Guidance has been retained.
MA Prescriptions-MA19: Special Areas-Pea Clam Zoological Area-Standards and Guidelines-5	Vehicle Use...Do not allow vehicles in or adjacent to the lake when they could cause negative impacts on the water chemistry.	DA-ZOO-S-1	Guidance has been retained.

Table 173. Comparison of semi primitive area guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA20: Semi-Primitive Areas-Desired Conditions-1	The current landscape has continued along the natural evolutionary cycle.	none	This guidance is not carried forward. RARE II areas are managed as inventoried roadless areas. The Columbine-Hondo WSA has been designated.
MA Prescriptions-MA20: Semi-Primitive Areas-Standards and Guidelines-1	Preserve Characteristics...Allow only those activities or uses that will preserve the present characteristics of the areas. Timber sales are not planned.	none	This guidance is not carried forward. RARE II areas are managed as inventoried roadless areas. The Columbine-Hondo WSA has been designated.
MA Prescriptions-MA20: Semi-Primitive Areas-Standards and Guidelines-2	Recreation... - Manage Bull Canyon, Sierra Negra, Latir Peak and Columbine-Hondo for semi primitive non-motorized recreation opportunities, with the exception that snowmobiles are permitted in the Latir Peak area. - Manage Canjilon Mountain, Osier Mesa and the Pecos addition for semi-primitive motorized and motorized activities. Travel by wheeled vehicles is restricted to those roads or trails that are designated open on the Forest Travel Management Plan.	none	This guidance is not carried forward. RARE II areas are managed as inventoried roadless areas. The Columbine-Hondo WSA has been designated.

Table 174. Comparison of Valle Vidal guidance from the 1986 land management plan to related plan components and guidance in the revised plan

1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA21: Valle Vidal-Vision-1	Being developed. See discussion under "standards and guidelines."	MA-VVMA	Valle Vidal is managed according to the MA-VVMA plan components.
MA Prescriptions-MA21: Valle Vidal-Desired Conditions-1	Being developed. See discussion under "standards and guidelines."	MA-VVMA	Valle Vidal is managed according to the MA-VVMA plan components.
MA Prescriptions-MA21: Valle Vidal-Description-2	As part of the Carson National Forest, the area is known as the Valle Vidal Unit (formerly called the Vermejo Unit) and is administered for all its many resource values. Mineral, timber, grazing, and wildlife activities will continue. Outstanding scenic and recreation values will be available for public enjoyment. Outdoor recreation opportunities include camping, hiking, fishing, hunting, cross-country skiing, and birdwatching	MA-VVMA	Valle Vidal is managed according to the MA-VVMA plan components.

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1986 Plan Section	1986 Plan Guidance	Related Plan Components in the Revised Plan	Rationale
MA Prescriptions-MA21: Valle Vidal-Standards and Guidelines-1	Because there was a lack of resource inventory information and the planning process was so far along at the time of acquisition, standards and guidelines for the Valle Vidal Unit are not yet included in the Plan.	MA-VVMA	Valle Vidal is managed according to the MA-VVMA plan components.
MA Prescriptions-MA21: Valle Vidal-Standards and Guidelines-2	A Multiple-Use Area Guide was developed to guide management of the Unit and approved April 7, 1983. The Decision Notice directs that the management of Valle Vidal be "multiple-use management of the land for its unique combination of wildland resources, primarily public outdoor recreation, continued timber production, forage for livestock and wildlife, unique wildlife habitat and watershed."	MA-VVMA	This guidance is obsolete. Valle Vidal is managed according to the MA-VVMA plan components.
MA Prescriptions-MA21: Valle Vidal-Standards and Guidelines-3	Management of the Valle Vidal unit will be governed by its Multiple-Use Area Guide until the Valle Vidal addendum to the Forest Plan is completed. That addendum is in the process of being developed with full public involvement, following NEPA guidelines. When it is completed, it will be added in this section.	MA-VVMA	This guidance is obsolete. Valle Vidal is managed according to the MA-VVMA plan components.
MA Prescriptions-MA21: Valle Vidal-Standards and Guidelines-4	Interim implementation plans have been prepared for site specific management of the various resources on the Valle Vidal unit, such as: forage allocation, recreation management, major access, etc. The implementation plans use the coordinating requirements in the multiple-use area guide to ensure integration of other resource needs. All implementation plans and other documents involving assignments of lands and/or resources to uses or activities will be approved by the Regional Forester.	MA-VVMA	This guidance is obsolete. Valle Vidal is managed according to the MA-VVMA plan components.

Appendix K – Determinations for At-Risk Species by Action Alternatives

Tables in this appendix summarize differences in environmental consequences in relation to federally listed species and species of conservation concern across each action alternative. The overall determination for each species is also described based on differences in relevant plan components or plan sections across action alternatives.

Federally Listed Species

Tables 175 through 192 describe ecological conditions relevant to federally listed species and whether those conditions would contribute to the recovery of the species.

Table 175. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on wildland-urban interface plan components (FW-VEG-SFF-DC-14, FW-VEG-MCW-DC-14, and FW-VEG-MCD-DC-15)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Less interlocking canopy cover, loss of snag density, and loss of coarse woody debris	Change of area to foraging habitat for spotted owl with less interlocking canopy and loss of CWD but decrease in likelihood of stand replacing wildfire as area is more open to protect communities. Ecological conditions necessary to contribute to the recovery of Federally listed species within forested ecosystems would still be provided as required by FW-VEG-G-1, FW-WFP-G-1, FW-VEG-G-2, FW-WFP-G-2, and FW-VEG-G-3.	Change of area to foraging habitat for spotted owl with less interlocking canopy and loss of CWD but decrease in likelihood of stand replacing wildfire as area is more open to protect communities. Ecological conditions necessary to contribute to the recovery of Federally listed species within forested ecosystems would still be provided as required by FW-VEG-G-1, FW-WFP-G-1, FW-VEG-G-2, FW-WFP-G-2, and FW-VEG-G-3.	Change of area to foraging habitat for spotted owl with less interlocking canopy and loss of CWD but decrease in likelihood of stand replacing wildfire as area is more open to protect communities. Ecological conditions necessary to contribute to the recovery of Federally listed species within forested ecosystems would still be provided as required by FW-VEG-G-1, FW-WFP-G-1, FW-VEG-G-2, FW-WFP-G-2, and FW-VEG-G-3.

Table 176. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on climate change plan components (FW-VEG-DC-2, FW-VEG-DC-3, FW-VEG-DC-5, FW-VEG-DC-14, FW-WSW-DC-2, FW-WSW-RMZ-DC-7, FW-WSW-RMZ-STM-DC-1, FW-WSW-RMZ-WB-DC-1, FW-WSW-RMZ-ZSNS-DC-1, FW-GRZ-DC-3)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Changing climate conditions	Plan components support resilient and resistant ecosystems and watersheds, which would continue to provide ecological conditions necessary to contribute to the recovery of federally listed species from climate change and would give wildlife species the best opportunity to adapt to changing conditions.	Plan components support resilient and resistant ecosystems and watersheds, which would continue to provide ecological conditions necessary to contribute to the recovery of federally listed species from climate change and would give wildlife species the best opportunity to adapt to changing conditions.	Plan components support resilient and resistant ecosystems and watersheds, which would continue to provide ecological conditions necessary to contribute to the recovery of federally listed species from climate change and would give wildlife species the best opportunity to adapt to changing conditions.

Table 177. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on insect and disease plan components (FW-VEG-DC-12, FW-VEG-MWC-DC-6, FW-VEG-MCD-DC-6)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Changes in endemic levels of insect disturbance	Plan components support provides an overarching goal of maintaining endemic levels of insect disturbance for all vegetation. which would promote healthy stands that would be more resilient to drought, fire, climate change, and continue to provide ecological conditions necessary to contribute to the recovery of federally listed species.	Plan components support provides an overarching goal of maintaining endemic levels of insect disturbance for all vegetation. which would promote healthy stands that would be more resilient to drought, fire, climate change, and continue to provide ecological conditions necessary to contribute to the recovery of federally listed species.	Plan components support provides an overarching goal of maintaining endemic levels of insect disturbance for all vegetation. which would promote healthy stands that would be more resilient to drought, fire, climate change, and continue to provide ecological conditions necessary to contribute to the recovery of federally listed species.

Table 178. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on plant community species composition and All Vegetation plan sections (VEG, VEG-ALP, VEG-MSG, VEG-BP, VEG-SFF, VEG-ASP, VEG-MCW, VEG-MCD, VEG-PPF, VEG-PJO, VEG-PJS, VEG-SAGE)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, species composition, and function of ecosystems	Plan components would reduce the risk of uncharacteristic wildfire and restore the structure, species composition, and function of ecosystems. Key habitat characteristics like interlocking canopy and old growth characteristics including large trees are retained and that disturbance is minimized near breeding sites (FW-VEG-MCD-DC-12, FWVEG-MCD-DC-11, FW-VEG-MCD-DC-16, FW-VEG-MCD-DC-18, FW-VEG-MCW-DC-1-2, FW-VEG-MCW-DC-4-5, and FW-VEG-MCW-DC-8-10). Plan Components found in each vegetation section would provide ecological condition that would contribute to the recovery of federally listed species.	Plan components would reduce the risk of uncharacteristic wildfire and restore the structure, species composition, and function of ecosystems. Key habitat characteristics like interlocking canopy and old growth characteristics including large trees are retained and that disturbance is minimized near breeding sites (FW-VEG-MCD-DC-12, FWVEG-MCD-DC-11, FW-VEG-MCD-DC-16, FW-VEG-MCD-DC-18, FW-VEG-MCW-DC-1-2, FW-VEG-MCW-DC-4-5, and FW-VEG-MCW-DC-8-10). Plan Components found in each vegetation section would provide ecological condition that would contribute to the recovery of federally listed species.	Plan components would reduce the risk of uncharacteristic wildfire and restore the structure, species composition, and function of ecosystems. Key habitat characteristics like interlocking canopy and old growth characteristics including large trees are retained and that disturbance is minimized near breeding sites (FW-VEG-MCD-DC-12, FWVEG-MCD-DC-11, FW-VEG-MCD-DC-16, FW-VEG-MCD-DC-18, FW-VEG-MCW-DC-1-2, FW-VEG-MCW-DC-4-5, and FW-VEG-MCW-DC-8-10). Plan Components found in each vegetation section would provide ecological condition that would contribute to the recovery of federally listed species.

Table 179. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Mixed Conifer Frequent Fire and Ponderosa Pine Forest vegetation community plan sections (VEG-MCD, VEG-PPF)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, Species Composition, and function of Mixed Conifer Forest and Ponderosa Pine.	Plan Components would increase the current rate of mechanical treatment (27,500 to 60,000 acres during each 10-year period) and the current rate of wildland fire (100,000 to 165,000 acres during each 10-year period). Some loss of trees, of all types and diameter size classes, could occur from actions such as hazard tree removal, prescribed fire, and forest thinning, but intensified treatments would decrease canopy cover continuity at the landscape scale and reduce ladder fuels that contribute to stand-replacing wildfires. Enhancements in vegetation structural state that reduce smaller trees and ultimately improve conditions for large tree growth would, in turn, promote low-intensity ground fire and more desirable fire regime condition class. After 15 years, desired conditions for mixed conifer and ponderosa pine would remain departed but would move closer to the desired state. It is estimated that the amount of frequent fire forest available for nesting and roosting would increase in 15 years from 16 percent to 34 percent (41,439 acres to 87,347 acres). Plan Components in this section would move vegetation closer to desired condition therefore providing ecological conditions that would contribute to the recovery of federally listed species.	Plan Components would increase the current rate of mechanical treatment (27,500 to 65,000 acres during each 10-year period) and the current rate of wildland fire would remain the same as alternative 2 (100,000 to 165,000 acres during each 10-year period). Some loss of trees, of all types and diameter size classes, could occur from actions such as hazard tree removal, prescribed fire, and forest thinning, but intensified treatments would decrease canopy cover continuity at the landscape scale and reduce ladder fuels that contribute to stand-replacing wildfires. Enhancements in vegetation structural state that reduce smaller trees and ultimately improve conditions for large tree growth would, in turn, promote low-intensity ground fire and more desirable fire regime condition class. After 15 years, desired conditions for mixed conifer and ponderosa pine would remain departed but would move closer to the desired state. It is estimated that the amount of frequent fire forest available for nesting and roosting would increase in 15 years from 16 percent to 35 percent (41,439 acres to 91,004 acres). Plan Components in this section would move vegetation closer to desired condition therefore providing ecological conditions that would contribute to the recovery of federally listed species.	Plan Components would rely on a greater use of naturally-ignited wildfires and prescribed fires to achieve restoration objectives (125,000 to 225,000 acres during each 10-year period). Mechanical treatment would focus on treating fuels to protect communities instead of forestwide restoration. Some loss of trees, of all types and diameter size classes, could occur from actions such as hazard tree removal, prescribed fire, and forest thinning, but intensified treatments would decrease canopy cover continuity at the landscape scale and reduce ladder fuels that contribute to stand-replacing wildfires. Enhancements in vegetation structural state that reduce smaller trees and ultimately improve conditions for large tree growth would, in turn, promote low-intensity ground fire and more desirable fire regime condition class. After 15 years, desired conditions for mixed conifer and ponderosa pine would remain departed but would move closer to the desired state. It is estimated that the amount of frequent fire forest available for nesting and roosting would increase in 15 years from 16 percent to 33 percent (41,439 acres to 86,175 acres). Plan Components in this section would move vegetation closer to desired condition therefore providing ecological conditions that would contribute to the recovery of federally listed species.

Table 180. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Watersheds and Water Resources plan sections (WSW, RMZ, WR, FSSR, FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Soil Disturbance, Diverse Seral State Conditions, Changes in Vegetative composition	Plan Components seeks to maintain or improve watershed conditions and improve water quality. Components complements and reinforces plan components from other program areas and strives to mitigate impacts from activities that might occur under those other program areas (for example, grazing, timber, wildland fire management). A guideline (FW-WSW-G-1) would ensure best management practices are applied to every site-specific project that has the potential to adversely affect the watershed conditions. Desired conditions (FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13) emphasize movement of riparian areas toward reference condition while protecting them from multiple uses. Desired conditions would help to ensure that structure, function, composition provides ecological condition that would contribute to the recovery of federally listed species. Restoration projects would likely be small in scale; however, some short-term adverse impacts could occur during such activities. These restoration activities would be required to following best management practices (FW-WSW-G-1, FW-NIS-S-1) and to integrate habitat management objectives and species protection measures from the most recent approved Fish and Wildlife Service recovery plan (FW-VEG-G-1 and FW-WFP-G-1).	Plan Components seeks to maintain or improve watershed conditions and improve water quality. Components complements and reinforces plan components from other program areas and strives to mitigate impacts from activities that might occur under those other program areas (for example, grazing, timber, wildland fire management). A guideline (FW-WSW-G-1) would ensure best management practices are applied to every site-specific project that has the potential to adversely affect the watershed conditions. Desired conditions (FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13) emphasize movement of riparian areas toward reference condition while protecting them from multiple uses. Desired conditions would help to ensure that structure, function, composition provides ecological condition that would contribute to the recovery of federally listed species. However, widespread increased mechanical treatment would result in the most ground disturbance, causing short-term impacts to soil stability and erodibility, with subsequent watershed impacts such as increased sedimentation being more likely. Moving toward desired conditions These restoration activities would be required to following best management practices (FW-WSW-G-1, FW-NIS-S-1) and to integrate habitat management objectives and species protection measures from the most recent approved Fish and Wildlife Service recovery plan (FW-VEG-G-1 and FW-WFP-G-1).	Plan Components seeks to maintain or improve watershed conditions and improve water quality. Components complements and reinforces plan components from other program areas and strives to mitigate impacts from activities that might occur under those other program areas (for example, grazing, timber, wildland fire management). A guideline (FW-WSW-G-1) would ensure best management practices are applied to every site-specific project that has the potential to adversely affect the watershed conditions. Desired conditions (FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13) emphasize movement of riparian areas toward reference condition while protecting them from multiple uses. Restoration activities would be more focus to specific location than forestwide. Desired conditions would help to ensure that structure, function, composition provides ecological condition that would contribute to the recovery of federally listed species. Restoration projects would likely be small in scale; however, some short-term adverse impacts could occur during such activities. These restoration activities would be required to following best management practices (FW-WSW-G-1, FW-NIS-S-1) and to integrate habitat management objectives and species protection measures from the most recent approved Fish and Wildlife Service recovery plan (FW-VEG-G-1 and FW-WFP-G-1).

Table 181. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Soil plan section (SL)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Erosion, sedimentation, vegetation removal	Effects would be associated with other program activities (for example, forestry and forest products, wildland fire management). Desired conditions for soils (FW-SL-DC-1-3) promote properly functioning areas with adequate vegetative ground cover to prevent erosion from exceeding natural rates which would create conditions for plant regeneration. Implementation of projects that disturb soil or ground vegetation could have short-term, but minor, adverse impacts but overall, the goal to improve vegetation structure and ecosystem function coupled with guidelines (FW-SL-G-1-3) when applied with best management practices at the project level would ensure long-term positive impacts Plan components in addition to best management practices (USDA FS 2012b) and other project-specific design features should minimize soil compaction and disturbance during and after project implementation, resulting in faster vegetative regeneration and recovery of ground conditions providing ecological condition that would contribute to the recovery of federally listed species.	Effects would be associated with other program activities (for example, forestry and forest products, wildland fire management). Desired conditions for soils (FW-SL-DC-1-3) promote properly functioning areas with adequate vegetative ground cover to prevent erosion from exceeding natural rates which would create conditions for plant regeneration. Implementation of projects that disturb soil or ground vegetation could have short-term, but minor, adverse impacts but overall, the goal to improve vegetation structure and ecosystem function coupled with guidelines (FW-SL-G-1-3) when applied with best management practices at the project level would ensure long-term positive impacts Plan components in addition to best management practices (USDA FS 2012b) and other project-specific design features should minimize soil compaction and disturbance during and after project implementation, resulting in faster vegetative regeneration and recovery of ground conditions providing ecological condition that would contribute to the recovery of federally listed species.	Effects would be associated with other program activities (for example, forestry and forest products, wildland fire management). Desired conditions for soils (FW-SL-DC-1-3) promote properly functioning areas with adequate vegetative ground cover to prevent erosion from exceeding natural rates which would create conditions for plant regeneration. Implementation of projects that disturb soil or ground vegetation could have short-term, but minor, adverse impacts but overall, the goal to improve vegetation structure and ecosystem function coupled with guidelines (FW-SL-G-1-3) when applied with best management practices at the project level would ensure long-term positive impacts Plan components in addition to best management practices (USDA FS 2012b) and other project-specific design features should minimize soil compaction and disturbance during and after project implementation, resulting in faster vegetative regeneration and recovery of ground conditions providing ecological condition that would contribute to the recovery of federally listed species.

Table 182. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Wildlife, Fish, and Plants plan section (WFP, FW- WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Changes in vegetation structure and composition.	The wildlife, fish, and plant plan components, in combination with other resource plan components, performs activities to maintain or improve wildlife, fish, and rare plants habitats. The land management plan integrates habitat management desired conditions, guidelines, and objectives (FW-VEG-G 1-3, FW-WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3) with species protection measure from approved recovery plans in the vegetation and wildlife, fish, and plant sections to provide ecological condition that would contribute to the recovery of federally Listed Species. Species cannot be managed apart from their habitats. Therefore, plan components within vegetation and watershed resources must be used in combination with plan components found in wildlife, fish, and plants.	The wildlife, fish, and plant plan components, in combination with other resource plan components, performs activities to maintain or improve wildlife, fish, and rare plants habitats. The land management plan integrates habitat management desired conditions, guidelines, and objectives (FW-VEG-G 1-3, FW-WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3) with species protection measure from approved recovery plans in the vegetation and wildlife, fish, and plant sections to provide ecological condition that would contribute to the recovery of federally Listed Species. Species cannot be managed apart from their habitats. Therefore, plan components within vegetation and watershed resources must be used in combination with plan components found in wildlife, fish, and plants.	The wildlife, fish, and plant plan components, in combination with other resource plan components, performs activities to maintain or improve wildlife, fish, and rare plants habitats. The land management plan integrates habitat management desired conditions, guidelines, and objectives (FW-VEG-G 1-3, FW-WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3) with species protection measure from approved recovery plans in the vegetation and wildlife, fish, and plant sections to provide ecological condition that would contribute to the recovery of federally Listed Species. Species cannot be managed apart from their habitats. Therefore, plan components within vegetation and watershed resources must be used in combination with plan components found in wildlife, fish, and plants.

Table 183. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Wildland Fire Management plan section (FIRE)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Species Disturbance, change in air quality, ground disturbance, Changes in vegetive structure and compositions.	The overall goal of this program area is to restore fire across the landscape so that it functions in its natural ecological roles and ecological resources are more adaptable to a changing climate. Historic fire regimes would mirror those with which species co-evolved and the primary threat to the species will be reduced. Plan components for wildland fire management in combination with vegetation plan components, will generally move habitat toward desired conditions providing ecological condition that would contribute to the recovery of federally listed species.	The overall goal of this program area is to restore fire across the landscape so that it functions in its natural ecological roles and ecological resources are more adaptable to a changing climate. Historic fire regimes would mirror those with which species co-evolved and the primary threat to the species will be reduced. Plan components for wildland fire management in combination with vegetation plan components, will generally move habitat toward desired conditions providing ecological condition that would contribute to the recovery of federally listed species.	The overall goal of this program area is to restore fire across the landscape so that it functions in its natural ecological roles and ecological resources are more adaptable to a changing climate. Historic fire regimes would mirror those with which species co-evolved and the primary threat to the species will be reduced. Plan components for wildland fire management in combination with vegetation plan components, will generally move habitat toward desired conditions providing ecological condition that would contribute to the recovery of federally listed species.

Table 184. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Sustainable Rangelands and Livestock Grazing plan section (GRZ; FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Removal of plant, changes in plant structure, changes in plant composition, erosion, sedimentation	Plan components for the sustainable rangelands and livestock grazing program areas (FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3) emphasize that livestock grazing within riparian management zones must be compatible with ecological function and the needs of at-risk species, and that desired conditions for riparian vegetation and proper stream channel morphology and floodplain function are sustained. (W-GRZ-DC-5 emphasizes native plant communities with a diversity of shrubs and understories of grasses. Plan components within the range section in conjunction with vegetation and wildlife plan components would promote understory and grassland improvement and retention. Improvement of this vegetation would provide ecological condition necessary to contribute to the recovery of federally listed species.	Plan components for the sustainable rangelands and livestock grazing program areas (FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3) emphasize that livestock grazing within riparian management zones must be compatible with ecological function and the needs of at-risk species, and that desired conditions for riparian vegetation and proper stream channel morphology and floodplain function are sustained. (W-GRZ-DC-5 emphasizes native plant communities with a diversity of shrubs and understories of grasses. Plan components within the range section in conjunction with vegetation and wildlife plan components would promote understory and grassland improvement and retention. Improvement of this vegetation would provide ecological condition necessary to contribute to the recovery of federally listed species.	Plan components for the sustainable rangelands and livestock grazing program areas (FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3) emphasize that livestock grazing within riparian management zones must be compatible with ecological function and the needs of at-risk species, and that desired conditions for riparian vegetation and proper stream channel morphology and floodplain function are sustained. (W-GRZ-DC-5 emphasizes native plant communities with a diversity of shrubs and understories of grasses. Plan components within the range section in conjunction with vegetation and wildlife plan components would promote understory and grassland improvement and retention. Improvement of this vegetation would provide ecological condition necessary to contribute to the recovery of federally listed species.

Table 185. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Sustainable Forestry and Forest Products plan section (FPP)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, species composition, and function of ecosystems, species disturbance	FW-FFP-DC-1, 3-5 would ensure private and commercial timber harvest is used as a restoration tool and desired conditions for that program would ensure these types of activities are done in a way that enhances ecological conditions necessary to provide for the recovery of federally listed species through restoration and maintenance of desired vegetation conditions.	FW-FFP-DC-1, 3-5 would ensure private and commercial timber harvest is used as a restoration tool and desired conditions for that program would ensure these types of activities are done in a way that enhances ecological conditions necessary to provide for the recovery of federally listed species through restoration and maintenance of desired vegetation conditions.	FW-FFP-DC-1, 3-5 would ensure private and commercial timber harvest is used as a restoration tool and desired conditions for that program would ensure these types of activities are done in a way that enhances ecological conditions necessary to provide for the recovery of federally listed species through restoration and maintenance of desired vegetation conditions.

Table 186. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Traditional Communities and Uses plan section (RHC)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, species composition, and function of ecosystems, species disturbance	Some limited effects related to firewood gathering, which could reduce hiding cover and habitat. However, guideline (FW-RHC-G-1) provides an important sidebar that says, "Traditionally used products (such as fuelwood, latillas, and vigas) should be available on the national forest to rural historic communities, except in areas with resource concerns or any areas otherwise restricted by standards or guidelines set forth in other sections of this plan." This guidance, in addition to the desired conditions mentioned above under sustainable forestry and forest products, as well as other relevant sections of the plan should provide ecological condition necessary for to contribute to the recovery of federally listed species through minimizing vegetation removal and species disturbance.	Some limited effects related to firewood gathering, which could reduce hiding cover and habitat. However, guideline (FW-RHC-G-1) provides an important sidebar that says, "Traditionally used products (such as fuelwood, latillas, and vigas) should be available on the national forest to rural historic communities, except in areas with resource concerns or any areas otherwise restricted by standards or guidelines set forth in other sections of this plan." This guidance, in addition to the desired conditions mentioned above under sustainable forestry and forest products, as well as other relevant sections of the plan should provide ecological condition necessary for to contribute to the recovery of federally listed species through minimizing vegetation removal and species disturbance.	Some limited effects related to firewood gathering, which could reduce hiding cover and habitat. However, guideline (FW-RHC-G-1) provides an important sidebar that says, "Traditionally used products (such as fuelwood, latillas, and vigas) should be available on the national forest to rural historic communities, except in areas with resource concerns or any areas otherwise restricted by standards or guidelines set forth in other sections of this plan." This guidance, in addition to the desired conditions mentioned above under sustainable forestry and forest products, as well as other relevant sections of the plan should provide ecological condition necessary for to contribute to the recovery of federally listed species through minimizing vegetation removal and species disturbance.

Table 187. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Minerals and Mining plan section (MM)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Removal of habitat, species disturbance	Anticipated negative effects from this section could occur due to locatable, leasable and salable minerals, and renewable energy. There is the potential for adverse effects in the form of disturbance or habitat removal or alteration, but this would be limited in extent and minimized by the guidelines FW-WFP-G-1-3 which states that recovery plan must be followed and management activities must avoid disturbance of known species. These plan components would provide the ecological condition necessary to contribute to the recovery of federally listed species.	Anticipated negative effects from this section could occur due to locatable, leasable and salable minerals, and renewable energy. There is the potential for adverse effects in the form of disturbance or habitat removal or alteration, but this would be limited in extent and minimized by the guidelines FW-WFP-G-1-3 which states that recovery plan must be followed and management activities must avoid disturbance of known species. These plan components would provide the ecological condition necessary to contribute to the recovery of federally listed species.	Anticipated negative effects from this section could occur due to locatable, leasable and salable minerals, and renewable energy. There is the potential for adverse effects in the form of disturbance or habitat removal or alteration, but this would be limited in extent and minimized by the guidelines FW-WFP-G-1-3 which states that recovery plan must be followed and management activities must avoid disturbance of known species. These plan components would provide the ecological condition necessary to contribute to the recovery of federally listed species.

Table 188. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Recreation plan section (REC, FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Removal of habitat, soil compaction, and species disturbance	There is the potential for short-term adverse effects in the form of disturbance or habitat removal or alteration, related to recreation development and maintenance as well as rock-climbing or canyoneering, but this would be limited in extent and minimized by the standards and guidelines (FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5) as well as timing restrictions under the wildlife, fish, and plant section of the plan. These plan components would provide the ecological condition necessary to contribute to the recovery of federally listed species by minimizing ground disturbance and species disturbance.	There is the potential for short-term adverse effects in the form of disturbance or habitat removal or alteration, related to recreation development and maintenance as well as rock-climbing or canyoneering, but this would be limited in extent and minimized by the standards and guidelines (FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5) as well as timing restrictions under the wildlife, fish, and plant section of the plan. These plan components would provide the ecological condition necessary to contribute to the recovery of federally listed species by minimizing ground disturbance and species disturbance.	There is the potential for short-term adverse effects in the form of disturbance or habitat removal or alteration, related to recreation development and maintenance as well as rock-climbing or canyoneering, but this would be limited in extent and minimized by the standards and guidelines (FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5) as well as timing restrictions under the wildlife, fish, and plant section of the plan. These plan components would provide the ecological condition necessary to contribute to the recovery of federally listed species by minimizing ground disturbance and species disturbance.

Table 189. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Special Uses plan components (SU). Lands special use authorizations include utility lines, communication sites, research permits, and others. Recreation special uses include things such as outfitter-guide services, skiing, and special events.

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Sedimentation and species disturbance	Desired conditions include direction to minimize impacts to ecological resources and to improve wildlife habitat. Standards and guidelines for the special use program areas (FW-SU-S-2 and FW-SU-G-1–6) would minimize disturbance (for example, water flow changes, sedimentation) and spreads of nonnative invasive species (for example, nonnative plants) from constructing energy corridors by including mitigations to co-locating infrastructure and prohibiting the development of new utility corridors. Minimizing this disturbance and vegetation removal through these plan components would provide ecological conditions necessary to contribute to the recovery of federally listed species.	Desired conditions include direction to minimize impacts to ecological resources and to improve wildlife habitat. Standards and guidelines for the special use program areas (FW-SU-S-2 and FW-SU-G-1–6) would minimize disturbance (for example, water flow changes, sedimentation) and spreads of nonnative invasive species (for example, nonnative plants) from constructing energy corridors by including mitigations to co-locating infrastructure and prohibiting the development of new utility corridors. Minimizing this disturbance and vegetation removal through these plan components would provide ecological conditions necessary to contribute to the recovery of federally listed species.	Desired conditions include direction to minimize impacts to ecological resources and to improve wildlife habitat. Standards and guidelines for the special use program areas (FW-SU-S-2 and FW-SU-G-1–6) would minimize disturbance (for example, water flow changes, sedimentation) and spreads of nonnative invasive species (for example, nonnative plants) from constructing energy corridors by including mitigations to co-locating infrastructure and prohibiting the development of new utility corridors. Minimizing this disturbance and vegetation removal through these plan components would provide ecological conditions necessary to contribute to the recovery of federally listed species.

Table 190. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Transportation and Forest Access plan section (TFA). Activities under the roads program include construction, maintenance, relocation, modifications, and obliteration of roads.

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Ground disturbance, sedimentation, removal of vegetation, and species disturbance.	There is some potential for new and temporary road construction to help support restoration activities. Temporary roads can increase the chances of off-road vehicle use and disturbance. FW-TFA-G-6 ensures road usage does not hinder wildlife movement or interrupt critical life-cycle needs (such as nesting or breeding). Additional guidance to follow the intent of the approved recovery plan (FW-WFP-G-2) should help avoid and minimize the effects of any new roads. A standard (FW-TFA-S-3) would require that temporary road for management activities be decommissioned upon project completion. Decreasing the disturbance, limiting new road construction would maintain and improve ecological condition necessary to contribute to the recovery of federally listed species.	There is some potential for new and temporary road construction to help support restoration activities. Temporary roads can increase the chances of off-road vehicle use and disturbance. FW-TFA-G-6 ensures road usage does not hinder wildlife movement or interrupt critical life-cycle needs (such as nesting or breeding). Additional guidance to follow the intent of the approved recovery plan (FW-WFP-G-2) should help avoid and minimize the effects of any new roads. A standard (FW-TFA-S-3) would require that temporary road for management activities be decommissioned upon project completion. Decreasing the disturbance, limiting new road construction would maintain and improve ecological condition necessary to contribute to the recovery of federally listed species.	There is some potential for new and temporary road construction to help support restoration activities. Temporary roads can increase the chances of off-road vehicle use and disturbance. FW-TFA-G-6 ensures road usage does not hinder wildlife movement or interrupt critical life-cycle needs (such as nesting or breeding). Additional guidance to follow the intent of the approved recovery plan (FW-WFP-G-2) should help avoid and minimize the effects of any new roads. A standard (FW-TFA-S-3) would require that temporary road for management activities be decommissioned upon project completion. Decreasing the disturbance, limiting new road construction would maintain and improve ecological condition necessary to contribute to the recovery of federally listed species.

Table 191. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Recommended Wilderness (RWMA), and Jicarilla Natural Gas (JICMA) Management Area plan sections

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Habitat removal, habitat fragmentation, and species disturbance.	San Antonio (SAMA), Valle Vidal (VVMA), and Developed Winter and Summer Resorts (DEVRES), Grassland Management Area. Effects from Recommended Wilderness, San Antonio, and Valle Vidal Management Areas is expected to be positive as these areas would limit habitat fragmentation and habitat removal. There could be some short-term habitat removal from Jicarilla Natural Gas Management Area; however, over the long term these impacts could be minimized as MA-JICMA-S-10 prohibits new surface use and provide ecological conditions. Developed Winter and Summer Resort Management Area and Potential Developed Recreation Management Area have the potential to habitat fragmentation, habitat loss, and disturbance associated with recreation developments and activities. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan (for example, vegetation management, forestry, wildland fire) and by following recommendations in the recovery plan as referenced in the wildlife, fish, and plants section above. Plan components would provide ecological condition necessary to contribute to the recovery of federally listed species.	Grassland Management Areas, Developed Winter and Summer Resorts (DEVRES), and Off Highway Vehicle Management Area Off-Highway Vehicle Management Area would allow cross-country travel opportunities within the management area to provide challenging terrain for trials motorcycles and off-highway vehicle rock crawling. The added footprints of increased road activity and the proposed Off-Highway Vehicle Management Area would increase ground and soil disturbance and would increase intrusive human activities (vehicle noise) that would negatively impact federally listed species, Developed Winter and Summer Resort Management Area is larger than other alternative and have the potential to habitat fragmentation, habitat loss, and disturbance associated with recreation developments and activities. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan (for example, vegetation management, forestry, wildland fire) and by following recommendations in the recovery plan as referenced in the wildlife, fish, and plants section above. Plan components would provide ecological condition necessary to contribute to the recovery of federally listed species.	Rio Grande Cutthroat Management Area and Wetlands Jewels Management Area Wetland Jewels Management Area would focus road obliteration and riparian restoration work in these areas rather than in priority watersheds. The efficacy or feasibility of treating these areas is not clearly greater than they are for treating other locations on the forest. In fact, treatment return on investment is likely to be low, since 49 percent of the Wetland Jewels Management Area is in either designated wilderness, recommended wilderness, or inventoried roadless areas, each of which restricts management options compared to other forest areas, but emphasis on aquatic and riparian restoration within this management area would improve ecological conditions for riparian and aquatic vegetation communities. Rio Grande Cutthroat Trout Management Area would focus native aquatic species restoration work in these areas. Treatments to remove nonnative species (MA-RGCTMA-O 1) and desired condition that improves connectivity and ecological condition within the Rio Grande Cutthroat Trout Management Area (MA-RGCTMA-DC 1) would increase native aquatic species distribution, All Plan components in these MA would provide ecological condition necessary to contribute to the recovery of federally listed species.

Table 192. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Designated Wilderness (WILD), Inventoried Roadless Areas (IRA), Vallecitos Federal Sustained Yield Unit (VFSYU), and Wild Horse Territories (WHT) Designated Areas plan sections

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Habitat fragmentation, habitat loss, species disturbance	Although some short-term adverse effects could occur primarily from vegetation treatments in Vallecitos Federal Sustained Yield Unit. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan. Overall designated areas plan component should reduce habitat fragmentation and loss by recreating the use in these areas. These Plan components will provide the ecological conditions necessary to contribute to the recovery of federally listed species.	Although some short-term adverse effects could occur primarily from vegetation treatments in Vallecitos Federal Sustained Yield Unit. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan. Overall designated areas plan component should reduce habitat fragmentation and loss by recreating the use in these areas. These Plan components will provide the ecological conditions necessary to contribute to the recovery of federally listed species.	Although some short-term adverse effects could occur primarily from vegetation treatments in Vallecitos Federal Sustained Yield Unit. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan. Overall designated areas plan component should reduce habitat fragmentation and loss by recreating the use in these areas. These Plan components will provide the ecological conditions necessary to contribute to the recovery of federally listed species.

Species of Conservation Concern

Tables 193 through 210 describe ecological conditions relevant to species of conservation concern and whether plan components provide conditions necessary to maintain viable populations of the species.

Table 193. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on wildland-urban interface plan components (FW-VEG-SFF-DC-14, FW-VEG-MCW-DC-14, and FW-VEG-MCD-DC-15)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Less interlocking canopy cover, loss of snag density, and loss of coarse woody debris	Change of habitat with less interlocking canopy and loss of CWD but decrease in likelihood of stand replacing wildfire as area is more open to protect communities. Ecological conditions necessary to maintain a viable population of SCC in the plan area within forested ecosystems would still be provided as required by FW-VEG-G-1, FW-WFP-G-1, FW-VEG-G-2, FW-WFP-G-2, and FW-VEG-G-3.	Change of habitat with less interlocking canopy and loss of CWD but decrease in likelihood of stand replacing wildfire as area is more open to protect communities. Ecological conditions necessary to maintain a viable population of SCC in the plan area within forested ecosystems would still be provided as required by FW-VEG-G-1, FW-WFP-G-1, FW-VEG-G-2, FW-WFP-G-2, and FW-VEG-G-3.	Change of habitat with less interlocking canopy and loss of CWD but decrease in likelihood of stand replacing wildfire as area is more open to protect communities. Ecological conditions necessary to maintain a viable population of SCC in the plan area within forested ecosystems would still be provided as required by FW-VEG-G-1, FW-WFP-G-1, FW-VEG-G-2, FW-WFP-G-2, and FW-VEG-G-3.

Table 194. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on climate change plan components (FW-VEG-DC-2, FW-VEG-DC-3, FW-VEG-DC-5, FW-VEG-DC-14, FW-WSW-DC-2, FW-WSW-RMZ-DC-7, FW-WSW-RMZ-STM-DC-1, FW-WSW-RMZ-WB-DC-1, FW-WSW-RMZ-ZSNS-DC-1, FW-GRZ-DC-3)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Changing climate conditions	Plan components support resilient and resistant ecosystems and watersheds, which would continue to provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area from climate change and would give wildlife species the best opportunity to adapt to changing conditions.	Plan components support resilient and resistant ecosystems and watersheds, which would continue to provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area from climate change and would give wildlife species the best opportunity to adapt to changing conditions.	Plan components support resilient and resistant ecosystems and watersheds, which would continue to provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area from climate change and would give wildlife species the best opportunity to adapt to changing conditions.

Table 195. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on insect and disease plan components (FW-VEG-DC-12, FW-VEG-MCW-DC-6, FW-VEG-MCD-DC-6)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Changes in endemic levels of insect disturbance	Plan components support provides an overarching goal of maintaining endemic levels of insect disturbance for all vegetation. which would promote healthy stands that would be more resilient to drought, fire, climate change, and continue to provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.	Plan components support provides an overarching goal of maintaining endemic levels of insect disturbance for all vegetation. which would promote healthy stands that would be more resilient to drought, fire, climate change, and continue to provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.	Plan components support provides an overarching goal of maintaining endemic levels of insect disturbance for all vegetation. which would promote healthy stands that would be more resilient to drought, fire, climate change, and continue to provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.

Table 196. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on plant community species composition and All Vegetation plan components (VEG, VEG-ALP, VEG-MSG, VEG-BP, VEG-SFF, VEG-ASP, VEG-MCW, VEG-MCD, VEG-PPF, VEG-PJO, VEG-PJS, VEG-SAGE)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, species composition, and function of ecosystems	Plan components would reduce the risk of uncharacteristic wildfire and restore the structure, species composition, and function of ecosystems. Key habitat characteristics like interlocking canopy and old growth characteristics including large trees are retained and that disturbance is minimized near breeding sites (FW-VEG-MCD-DC-12, FWVEG-MCD-DC-11, FW-VEG-MCD-DC-16, FW-VEG-MCD-DC-18, FW-VEG-MCW-DC-1-2, FW-VEG-MCW-DC-4-5, and FW-VEG-MCW-DC-8-10). Plan Components found in each vegetation section would provide ecological condition that would maintain a viable population of species of conservation concern in the plan area.	Plan components would reduce the risk of uncharacteristic wildfire and restore the structure, species composition, and function of ecosystems. Key habitat characteristics like interlocking canopy and old growth characteristics including large trees are retained and that disturbance is minimized near breeding sites (FW-VEG-MCD-DC-12, FWVEG-MCD-DC-11, FW-VEG-MCD-DC-16, FW-VEG-MCD-DC-18, FW-VEG-MCW-DC-1-2, FW-VEG-MCW-DC-4-5, and FW-VEG-MCW-DC-8-10). Plan Components found in each vegetation section would provide ecological condition that would maintain a viable population of species of conservation concern in the plan area.	Plan components would reduce the risk of uncharacteristic wildfire and restore the structure, species composition, and function of ecosystems. Key habitat characteristics like interlocking canopy and old growth characteristics including large trees are retained and that disturbance is minimized near breeding sites (FW-VEG-MCD-DC-12, FWVEG-MCD-DC-11, FW-VEG-MCD-DC-16, FW-VEG-MCD-DC-18, FW-VEG-MCW-DC-1-2, FW-VEG-MCW-DC-4-5, and FW-VEG-MCW-DC-8-10). Plan Components found in each vegetation section would provide ecological condition that would maintain a viable population of species of conservation concern in the plan area.

Table 197. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Mixed Conifer Frequent Fire and Ponderosa Pine Forest vegetation community plan sections (VEG-MCD, VEG-PPF)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, Species Composition, and function of Mixed Conifer Forest and Ponderosa Pine.	Plan Components would increase the current rate of mechanical treatment (27,500 to 60,000 acres during each 10-year period) and the current rate of wildland fire (100,000 to 165,000 acres during each 10-year period). Some loss of trees, of all types and diameter size classes, could occur from actions such as hazard tree removal, prescribed fire, and forest thinning, but intensified treatments would decrease canopy cover continuity at the landscape scale and reduce ladder fuels that contribute to stand-replacing wildfires. Enhancements in vegetation structural state that reduce smaller trees and ultimately improve conditions for large tree growth would, in turn, promote low-intensity ground fire and more desirable fire regime condition class. After 15 years, desired conditions for mixed conifer and ponderosa pine would remain departed but would move closer to the desired state, changing from departure of 64 percent to 43 percent.). Plan Components in this section would move vegetation closer to desired condition therefore providing ecological conditions that would maintain a viable population of species of conservation concern in the plan area.	Plan Components would increase the current rate of mechanical treatment (27,500 to 65,000 acres during each 10-year period) and the current rate of wildland fire would remain the same as alternative 2 (100,000 to 165,000 acres during each 10-year period). Some loss of trees, of all types and diameter size classes, could occur from actions such as hazard tree removal, prescribed fire, and forest thinning, but intensified treatments would decrease canopy cover continuity at the landscape scale and reduce ladder fuels that contribute to stand-replacing wildfires. Enhancements in vegetation structural state that reduce smaller trees and ultimately improve conditions for large tree growth would, in turn, promote low-intensity ground fire and more desirable fire regime condition class. After 15 years, desired conditions for mixed conifer and ponderosa pine would remain departed but would move closer to the desired state, changing from of departure of 64 percent to 33 percent. Plan Components in this section would move vegetation closer to desired condition therefore providing ecological conditions that would maintain a viable population of species of conservation concern in the plan area.	Plan Components would rely on a greater use of naturally-ignited wildfires and prescribed fires to achieve restoration objectives (125,000 to 225,000 acres during each 10-year period). Mechanical treatment would focus on treating fuels to protect communities instead of forestwide restoration. Some loss of trees, of all types and diameter size classes, could occur from actions such as hazard tree removal, prescribed fire, and forest thinning, but intensified treatments would decrease canopy cover continuity at the landscape scale and reduce ladder fuels that contribute to stand-replacing wildfires. Enhancements in vegetation structural state that reduce smaller trees and ultimately improve conditions for large tree growth would, in turn, promote low-intensity ground fire and more desirable fire regime condition class. After 15 years, desired conditions for mixed conifer and ponderosa pine would remain departed but would move closer to the desired state, changing from a departure of 64 percent to 44 percent. Plan Components in this section would move vegetation closer to desired condition therefore providing ecological conditions that would maintain a viable population of species of conservation concern in the plan area.

Table 198. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Watersheds and Water Resources plan sections (WSW, RMZ, WR, FSSR, FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Soil Disturbance, Diverse Seral State Conditions, Changes in Vegetative composition	Plan Components seeks to maintain or improve watershed conditions and improve water quality. Components complements and reinforces plan components from other program areas and strives to mitigate impacts from activities that might occur under those other program areas (for example, grazing, timber, wildland fire management). A guideline (FW-WSW-G-1) would ensure best management practices are applied to every site-specific project that has the potential to adversely affect the watershed conditions. Desired conditions (FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13) emphasize movement of riparian areas toward reference condition while protecting them from multiple uses. Desired conditions would help to ensure that structure, function, composition provides ecological condition that would maintain a viable population of species of conservation concern in the plan area. Restoration projects would likely be small in scale; however, some short-term adverse impacts could occur during such activities. These restoration activities would be required to following best management practices (FW-WSW-G-1, FW-NIS-S-1) and to integrate habitat management objectives and species protection measures from the most recent approved Fish and Wildlife Service recovery plan (FW-VEG-G-1 and FW-WFP-G-1).	Plan Components seeks to maintain or improve watershed conditions and improve water quality. Components complements and reinforces plan components from other program areas and strives to mitigate impacts from activities that might occur under those other program areas (for example, grazing, timber, wildland fire management). A guideline (FW-WSW-G-1) would ensure best management practices are applied to every site-specific project that has the potential to adversely affect the watershed conditions. Desired conditions (FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13) emphasize movement of riparian areas toward reference condition while protecting them from multiple uses. Desired conditions would help to ensure that structure, function, composition provides ecological condition that would maintain a viable population of species of conservation concern in the plan area. However, widespread increased mechanical treatment would result in the most ground disturbance, causing short-term impacts to soil stability and erodibility, with subsequent watershed impacts such as increased sedimentation being more likely. Moving toward desired conditions These restoration activities would be required to following best management practices (FW-WSW-G-1, FW-NIS-S-1) and to integrate habitat management objectives and species protection measures from the most recent approved Fish and Wildlife Service recovery plan (FW-VEG-G-1 and FW-WFP-G-1).	Plan Components seeks to maintain or improve watershed conditions and improve water quality. Components complements and reinforces plan components from other program areas and strives to mitigate impacts from activities that might occur under those other program areas (for example, grazing, timber, wildland fire management). A guideline (FW-WSW-G-1) would ensure best management practices are applied to every site-specific project that has the potential to adversely affect the watershed conditions. Desired conditions (FW-WSW-RMZ-WR-DC-1-3 and FW-WSW-RMZ-FSR-DC-1-13) emphasize movement of riparian areas toward reference condition while protecting them from multiple uses. Restoration activities would be more focus to specific location than forest-wide. Desired conditions would help to ensure that structure, function, composition provides ecological condition that would maintain a viable population of species of conservation concern in the plan area. Restoration projects would likely be small in scale; however, some short-term adverse impacts could occur during such activities. These restoration activities would be required to following best management practices (FW-WSW-G-1, FW-NIS-S-1) and to integrate habitat management objectives and species protection measures from the most recent approved Fish and Wildlife Service recovery plan (FW-VEG-G-1 and FW-WFP-G-1).

Table 199. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Soil plan section (SL)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Erosion, sedimentation, vegetation removal	Effects would be associated with other program activities (for example, forestry and forest products, wildland fire management). Desired conditions for soils (FW-SL-DC-1-3) promote properly functioning areas with adequate vegetative ground cover to prevent erosion from exceeding natural rates which would create conditions for plant regeneration. Implementation of projects that disturb soil or ground vegetation could have short-term, but minor, adverse impacts but overall, the goal to improve vegetation structure and ecosystem function coupled with guidelines (FW-SL-G-1-3) when applied with best management practices at the project level would ensure long-term positive impacts Plan components in addition to best management practices (USDA FS 2012b) and other project-specific design features should minimize soil compaction and disturbance during and after project implementation, resulting in faster vegetative regeneration and recovery of ground conditions providing ecological condition that would maintain a viable population of species of conservation concern in the plan area.	Effects would be associated with other program activities (for example, forestry and forest products, wildland fire management). Desired conditions for soils (FW-SL-DC-1-3) promote properly functioning areas with adequate vegetative ground cover to prevent erosion from exceeding natural rates which would create conditions for plant regeneration. Implementation of projects that disturb soil or ground vegetation could have short-term, but minor, adverse impacts but overall, the goal to improve vegetation structure and ecosystem function coupled with guidelines (FW-SL-G-1-3) when applied with best management practices at the project level would ensure long-term positive impacts Plan components in addition to best management practices (USDA FS 2012b) and other project-specific design features should minimize soil compaction and disturbance during and after project implementation, resulting in faster vegetative regeneration and recovery of ground conditions providing ecological condition that would maintain a viable population of species of conservation concern in the plan area.	Effects would be associated with other program activities (for example, forestry and forest products, wildland fire management). Desired conditions for soils (FW-SL-DC-1-3) promote properly functioning areas with adequate vegetative ground cover to prevent erosion from exceeding natural rates which would create conditions for plant regeneration. Implementation of projects that disturb soil or ground vegetation could have short-term, but minor, adverse impacts but overall, the goal to improve vegetation structure and ecosystem function coupled with guidelines (FW-SL-G-1-3) when applied with best management practices at the project level would ensure long-term positive impacts Plan components in addition to best management practices (USDA FS 2012b) and other project-specific design features should minimize soil compaction and disturbance during and after project implementation, resulting in faster vegetative regeneration and recovery of ground conditions providing ecological condition that would maintain a viable population of species of conservation concern in the plan area.

Table 200. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Wildlife, Fish, and Plants plan section (WFP, FW- WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Changes in vegetation structure and composition.	The wildlife, fish, and plant plan components, in combination with other resource plan components, performs activities to maintain or improve wildlife, fish, and rare plants habitats. The land management plan integrates habitat management desired conditions, guidelines, and objectives (FW-VEG-G 1-3, FW-WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3) with species protection measure from approved recovery plans in the vegetation and wildlife, fish, and plant sections to provide ecological condition that would maintain a viable population of species of conservation concern in the plan area. Species cannot be managed apart from their habitats. Therefore, plan components within vegetation and watershed resources must be used in combination with plan components found in wildlife, fish, and plants.	The wildlife, fish, and plant plan components, in combination with other resource plan components, performs activities to maintain or improve wildlife, fish, and rare plants habitats. The land management plan integrates habitat management desired conditions, guidelines, and objectives (FW-VEG-G 1-3, FW-WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3) with species protection measure from approved recovery plans in the vegetation and wildlife, fish, and plant sections to provide ecological condition that would maintain a viable population of species of conservation concern in the plan area. Species cannot be managed apart from their habitats. Therefore, plan components within vegetation and watershed resources must be used in combination with plan components found in wildlife, fish, and plants.	The wildlife, fish, and plant plan components, in combination with other resource plan components, performs activities to maintain or improve wildlife, fish, and rare plants habitats. The land management plan integrates habitat management desired conditions, guidelines, and objectives (FW-VEG-G 1-3, FW-WFP-DC 1-4, FW-WFP-DC 7, FW-WFP-O 1 and 4, and FW WFP G 1-3) with species protection measure from approved recovery plans in the vegetation and wildlife, fish, and plant sections to provide ecological condition that would maintain a viable population of species of conservation concern in the plan area. Species cannot be managed apart from their habitats. Therefore, plan components within vegetation and watershed resources must be used in combination with plan components found in wildlife, fish, and plants.

Table 201. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Wildland Fire Management plan section (FIRE)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Species Disturbance, change in air quality, ground disturbance, Changes in vegetive structure and compositions.	The overall goal of this program area is to restore fire across the landscape so that it functions in its natural ecological roles and ecological resources are more adaptable to a changing climate. Historic fire regimes would mirror those with which species co-evolved and the primary threat to the species will be reduced. Plan components for wildland fire management in combination with vegetation plan components, will generally move habitat toward desired conditions providing ecological condition that would maintain a viable population of species of conservation concern in the plan area.	The overall goal of this program area is to restore fire across the landscape so that it functions in its natural ecological roles and ecological resources are more adaptable to a changing climate. Historic fire regimes would mirror those with which species co-evolved and the primary threat to the species will be reduced. Plan components for wildland fire management in combination with vegetation plan components, will generally move habitat toward desired conditions providing ecological condition that would maintain a viable population of species of conservation concern in the plan area.	The overall goal of this program area is to restore fire across the landscape so that it functions in its natural ecological roles and ecological resources are more adaptable to a changing climate. Historic fire regimes would mirror those with which species co-evolved and the primary threat to the species will be reduced. Plan components for wildland fire management in combination with vegetation plan components, will generally move habitat toward desired conditions providing ecological condition that would maintain a viable population of species of conservation concern in the plan area.

Table 202. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Sustainable Rangelands and Livestock Grazing plan section (GRZ; FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Removal of plant, changes in plant structure, changes in plant composition, erosion, sedimentation	Plan components for the sustainable rangelands and livestock grazing program areas (FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3) emphasize that livestock grazing within riparian management zones must be compatible with ecological function and the needs of at-risk species, and that desired conditions for riparian vegetation and proper stream channel morphology and floodplain function are sustained. (W-GRZ-DC-5 emphasizes native plant communities with a diversity of shrubs and understories of grasses. Plan components within the range section in conjunction with vegetation and wildlife plan components would promote understory and grassland improvement and retention. Improvement of this vegetation would provide ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	Plan components for the sustainable rangelands and livestock grazing program areas (FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3) emphasize that livestock grazing within riparian management zones must be compatible with ecological function and the needs of at-risk species, and that desired conditions for riparian vegetation and proper stream channel morphology and floodplain function are sustained. (W-GRZ-DC-5 emphasizes native plant communities with a diversity of shrubs and understories of grasses. Plan components within the range section in conjunction with vegetation and wildlife plan components would promote understory and grassland improvement and retention. Improvement of this vegetation would provide ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	Plan components for the sustainable rangelands and livestock grazing program areas (FW-GRZ-DC-4–6; FW-GRZ-S-1; FW-GRZ-G-2–3) emphasize that livestock grazing within riparian management zones must be compatible with ecological function and the needs of at-risk species, and that desired conditions for riparian vegetation and proper stream channel morphology and floodplain function are sustained. (W-GRZ-DC-5 emphasizes native plant communities with a diversity of shrubs and understories of grasses. Plan components within the range section in conjunction with vegetation and wildlife plan components would promote understory and grassland improvement and retention. Improvement of this vegetation would provide ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.

Table 203. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Sustainable Forestry and Forest Products plan section (FPP)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, species composition, and function of ecosystems, species disturbance	FW-FPP-DC-1, 3-5 would ensure private and commercial timber harvest is used as a restoration tool and desired conditions for that program would ensure these types of activities are done in a way that enhances ecological conditions necessary to provide for the recovery of federally listed species through restoration and maintenance of desired vegetation conditions.	FW-FPP-DC-1, 3-5 would ensure private and commercial timber harvest is used as a restoration tool and desired conditions for that program would ensure these types of activities are done in a way that enhances ecological conditions necessary to provide for the recovery of federally listed species through restoration and maintenance of desired vegetation conditions.	FW-FPP-DC-1, 3-5 would ensure private and commercial timber harvest is used as a restoration tool and desired conditions for that program would ensure these types of activities are done in a way that enhances ecological conditions necessary to provide for the recovery of federally listed species through restoration and maintenance of desired vegetation conditions.

Table 204. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Traditional Communities and Uses plan section (RHC)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Change in Structure, species composition, and function of ecosystems, species disturbance	Some limited effects related to firewood gathering, which could reduce hiding cover and habitat. However, guideline (FW-RHC-G-1) provides an important sideboard that says, "Traditionally used products (such as fuelwood, latillas, and vigas) should be available on the national forest to rural historic communities, except in areas with resource concerns or any areas otherwise restricted by standards or guidelines set forth in other sections of this plan." This guidance, in addition to the desired conditions mentioned above under sustainable forestry and forest products, as well as other relevant sections of the plan should provide ecological condition necessary for to maintain a viable population of species of conservation concern in the plan area through minimizing vegetation removal and species disturbance.	Some limited effects related to firewood gathering, which could reduce hiding cover and habitat. However, guideline (FW-RHC-G-1) provides an important sideboard that says, "Traditionally used products (such as fuelwood, latillas, and vigas) should be available on the national forest to rural historic communities, except in areas with resource concerns or any areas otherwise restricted by standards or guidelines set forth in other sections of this plan." This guidance, in addition to the desired conditions mentioned above under sustainable forestry and forest products, as well as other relevant sections of the plan should provide ecological condition necessary for to maintain a viable population of species of conservation concern in the plan area through minimizing vegetation removal and species disturbance.	Some limited effects related to firewood gathering, which could reduce hiding cover and habitat. However, guideline (FW-RHC-G-1) provides an important sideboard that says, "Traditionally used products (such as fuelwood, latillas, and vigas) should be available on the national forest to rural historic communities, except in areas with resource concerns or any areas otherwise restricted by standards or guidelines set forth in other sections of this plan." This guidance, in addition to the desired conditions mentioned above under sustainable forestry and forest products, as well as other relevant sections of the plan should provide ecological condition necessary for to maintain a viable population of species of conservation concern in the plan area through minimizing vegetation removal and species disturbance.

Table 205. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Minerals and Mining plan section (MM)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Removal of habitat, species disturbance	Anticipated negative effects from this section could occur due to locatable, leasable and salable minerals, and renewable energy. There is the potential for adverse effects in the form of disturbance or habitat removal or alteration, but this would be limited in extent and minimized by the guidelines FW-WFP-G-1-3 which states that recovery plan must be followed, and management activities must avoid disturbance of known species. These plan components would provide the ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	Anticipated negative effects from this section could occur due to locatable, leasable and salable minerals, and renewable energy. There is the potential for adverse effects in the form of disturbance or habitat removal or alteration, but this would be limited in extent and minimized by the guidelines FW-WFP-G-1-3 which states that recovery plan must be followed, and management activities must avoid disturbance of known species. These plan components would provide the ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	Anticipated negative effects from this section could occur due to locatable, leasable and salable minerals, and renewable energy. There is the potential for adverse effects in the form of disturbance or habitat removal or alteration, but this would be limited in extent and minimized by the guidelines FW-WFP-G-1-3 which states that recovery plan must be followed, and management activities must avoid disturbance of known species. These plan components would provide the ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.

Table 206. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Recreation plan section (REC, FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5)

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Removal of habitat, soil compaction, and species disturbance	There is the potential for short-term adverse effects in the form of disturbance or habitat removal or alteration, related to recreation development and maintenance as well as rock-climbing or canyoneering, but this would be limited in extent and minimized by the standards and guidelines (FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5) as well as timing restrictions under the wildlife, fish, and plant section of the plan. These plan components would provide the ecological condition necessary to maintain a viable population of species of conservation concern in the plan area by minimizing ground disturbance and species disturbance.	There is the potential for short-term adverse effects in the form of disturbance or habitat removal or alteration, related to recreation development and maintenance as well as rock-climbing or canyoneering, but this would be limited in extent and minimized by the standards and guidelines (FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5) as well as timing restrictions under the wildlife, fish, and plant section of the plan. These plan components would provide the ecological condition necessary to maintain a viable population of species of conservation concern in the plan area by minimizing ground disturbance and species disturbance.	There is the potential for short-term adverse effects in the form of disturbance or habitat removal or alteration, related to recreation development and maintenance as well as rock-climbing or canyoneering, but this would be limited in extent and minimized by the standards and guidelines (FW-REC-S-1, FW-REC-S-2, FW-REC-G-1 and FW-REC-G-5) as well as timing restrictions under the wildlife, fish, and plant section of the plan. These plan components would provide the ecological condition necessary to maintain a viable population of species of conservation concern in the plan area by minimizing ground disturbance and species disturbance.

Table 207. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Special Uses plan section (SU). Lands special use authorizations include utility lines, communication sites, research permits, and others. Recreation special uses include things such as outfitter-guide services, skiing, and special events.

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Sedimentation and species disturbance	Desired conditions include direction to minimize impacts to ecological resources and to improve wildlife habitat. Standards and guidelines for the special use program areas (FW-SU-S-2 and FW-SU-G-1–6) would minimize disturbance (for example, water flow changes, sedimentation) and spreads of nonnative invasive species (for example, nonnative plants) from constructing energy corridors by including mitigations to co-locating infrastructure and prohibiting the development of new utility corridors. Minimizing this disturbance and vegetation removal through these plan components would provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.	Desired conditions include direction to minimize impacts to ecological resources and to improve wildlife habitat. Standards and guidelines for the special use program areas (FW-SU-S-2 and FW-SU-G-1–6) would minimize disturbance (for example, water flow changes, sedimentation) and spreads of nonnative invasive species (for example, nonnative plants) from constructing energy corridors by including mitigations to co-locating infrastructure and prohibiting the development of new utility corridors. Minimizing this disturbance and vegetation removal through these plan components would provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.	Desired conditions include direction to minimize impacts to ecological resources and to improve wildlife habitat. Standards and guidelines for the special use program areas (FW-SU-S-2 and FW-SU-G-1–6) would minimize disturbance (for example, water flow changes, sedimentation) and spreads of nonnative invasive species (for example, nonnative plants) from constructing energy corridors by including mitigations to co-locating infrastructure and prohibiting the development of new utility corridors. Minimizing this disturbance and vegetation removal through these plan components would provide ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.

Table 208. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on the Transportation and Forest Access plan section (TFA). Activities under the roads program include construction, maintenance, relocation, modifications, and obliteration of roads.

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Ground disturbance, sedimentation, removal of vegetation, and species disturbance.	There is some potential for new and temporary road construction to help support restoration activities. Temporary roads can increase the chances of off-road vehicle use and disturbance. FW-TFA-G-6 ensures road usage does not hinder wildlife movement or interrupt critical life-cycle needs (such as nesting or breeding). Additional guidance to follow the intent of the approved recovery plan (FW-WFP-G-2) should help avoid and minimize the effects of any new roads. A standard (FW-TFA-S-3) would require that temporary road for management activities be decommissioned upon project completion. Decreasing the disturbance, limiting new road construction would maintain and improve ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	There is some potential for new and temporary road construction to help support restoration activities. Temporary roads can increase the chances of off-road vehicle use and disturbance. FW-TFA-G-6 ensures road usage does not hinder wildlife movement or interrupt critical life-cycle needs (such as nesting or breeding). Additional guidance to follow the intent of the approved recovery plan (FW-WFP-G-2) should help avoid and minimize the effects of any new roads. A standard (FW-TFA-S-3) would require that temporary road for management activities be decommissioned upon project completion. Decreasing the disturbance, limiting new road construction would maintain and improve ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	There is some potential for new and temporary road construction to help support restoration activities. Temporary roads can increase the chances of off-road vehicle use and disturbance. FW-TFA-G-6 ensures road usage does not hinder wildlife movement or interrupt critical life-cycle needs (such as nesting or breeding). Additional guidance to follow the intent of the approved recovery plan (FW-WFP-G-2) should help avoid and minimize the effects of any new roads. A standard (FW-TFA-S-3) would require that temporary road for management activities be decommissioned upon project completion. Decreasing the disturbance, limiting new road construction would maintain and improve ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.

Table 209. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Recommended Wilderness (RWMA) and Jicarilla Natural Gas (JICMA) Management Areas

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Habitat removal, habitat fragmentation, and species disturbance.	San Antonio (SAMA), Valle Vidal (VVMA), and Developed Winter and Summer Resorts (DEVRES), Grassland Management Area. Effects from Recommended Wilderness, San Antonio, and Valle Vidal Management Areas is expected to be positive as these areas would limit habitat fragmentation and habitat removal. There could be some short-term habitat removal from Jicarilla Natural Gas Management Area; however, over the long term these impacts could be minimized as MA-JICMA-S-10 prohibits new surface use and provide ecological conditions. Developed Winter and Summer Resort Management Area and Potential Developed Recreation Management Area have the potential to habitat fragmentation, habitat loss, and disturbance associated with recreation developments and activities. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan (for example, vegetation management, forestry, wildland fire) and by following recommendations in the recovery plan as referenced in the wildlife, fish, and plants section above. Plan components would provide ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	Grassland Management Areas, Developed Winter and Summer Resorts (DEVRES), and Off Highway Vehicle Management Area Off-Highway Vehicle Management Area would allow cross-country travel opportunities within the management area to provide challenging terrain for trials motorcycles and off-highway vehicle rock crawling. The added footprints of increased road activity and the proposed Off-Highway Vehicle Management Area would increase ground and soil disturbance and would increase intrusive human activities (vehicle noise) that would negatively impact federally listed species, Developed Winter and Summer Resort Management Area is larger than other alternative and have the potential to habitat fragmentation, habitat loss, and disturbance associated with recreation developments and activities. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan (for example, vegetation management, forestry, wildland fire) and by following recommendations in the recovery plan as referenced in the wildlife, fish, and plants section above. Plan components would provide ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.	Rio Grande Cutthroat Management Area and Wetlands Jewels Management Area Wetland Jewels Management Area would focus road obliteration and riparian restoration work in these areas rather than in priority watersheds. The efficacy or feasibility of treating these areas is not clearly greater than they are for treating other locations on the forest. In fact, treatment return on investment is likely to be low, since 49 percent of the Wetland Jewels Management Area is in either designated wilderness, recommended wilderness, or inventoried roadless areas, each of which restricts management options compared to other forest areas, but emphasis on aquatic and riparian restoration within this management area would improve ecological conditions for riparian and aquatic vegetation communities. Rio Grande Cutthroat Trout Management Area would focus native aquatic species restoration work in these areas. Treatments to remove nonnative species (MA-RGCTMA-O 1) and desired condition that improves connectivity and ecological condition within the Rio Grande Cutthroat Trout Management Area (MA-RGCTMA-DC 1) would increase native aquatic species distribution, All Plan components in these MA would provide ecological condition necessary to maintain a viable population of species of conservation concern in the plan area.

Table 210. Comparison of environmental conditions and overall determination for federally listed species for each action alternative based on Designated Wilderness (WILD), Inventoried Roadless Areas (IRA), Vallecitos Federal Sustained Yield Unit (VFSYU), and Wild Horse Territories (WHT) Designated Areas

Stress or Issue Based on Plan Components or Section	Alternative 2 and 5 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 3 Changes in Environment and Overall Determination for Federally Listed Species	Alternative 4 Changes in Environment and Overall Determination for Federally Listed Species
Habitat fragmentation, habitat loss, species disturbance	Although some short-term adverse effects could occur primarily from vegetation treatments in Vallecitos Federal Sustained Yield Unit. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan. Overall designated areas plan component should reduce habitat fragmentation and loss by recreating the use in these areas. These Plan components will provide the ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.	Although some short-term adverse effects could occur primarily from vegetation treatments in Vallecitos Federal Sustained Yield Unit. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan. Overall designated areas plan component should reduce habitat fragmentation and loss by recreating the use in these areas. These Plan components will provide the ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.	Although some short-term adverse effects could occur primarily from vegetation treatments in Vallecitos Federal Sustained Yield Unit. This would be limited in extent, however, and minimized through the combination of standards and guidelines listed in other sections of the plan. Overall designated areas plan component should reduce habitat fragmentation and loss by recreating the use in these areas. These Plan components will provide the ecological conditions necessary to maintain a viable population of species of conservation concern in the plan area.

Appendix L – Index of Other Supporting Environmental Impact Statement Documentation

- [Carson National Forest Assessment Report of Ecological, Social, and Economic Conditions, Trends, and Sustainability](#)
- Biological Assessment (under development, available with the final EIS)
- [Recommended Wilderness Assessment](#)
- [Wild and Scenic River Eligibility Evaluation](#)
- [Climate Change Vulnerability Assessment](#)
- [Socioeconomic Vulnerability Assessment](#)