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Forest-Wide Outfitter-Guide Permit Issuance Project Environmental Assessment

Carson National Forest

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Introduction

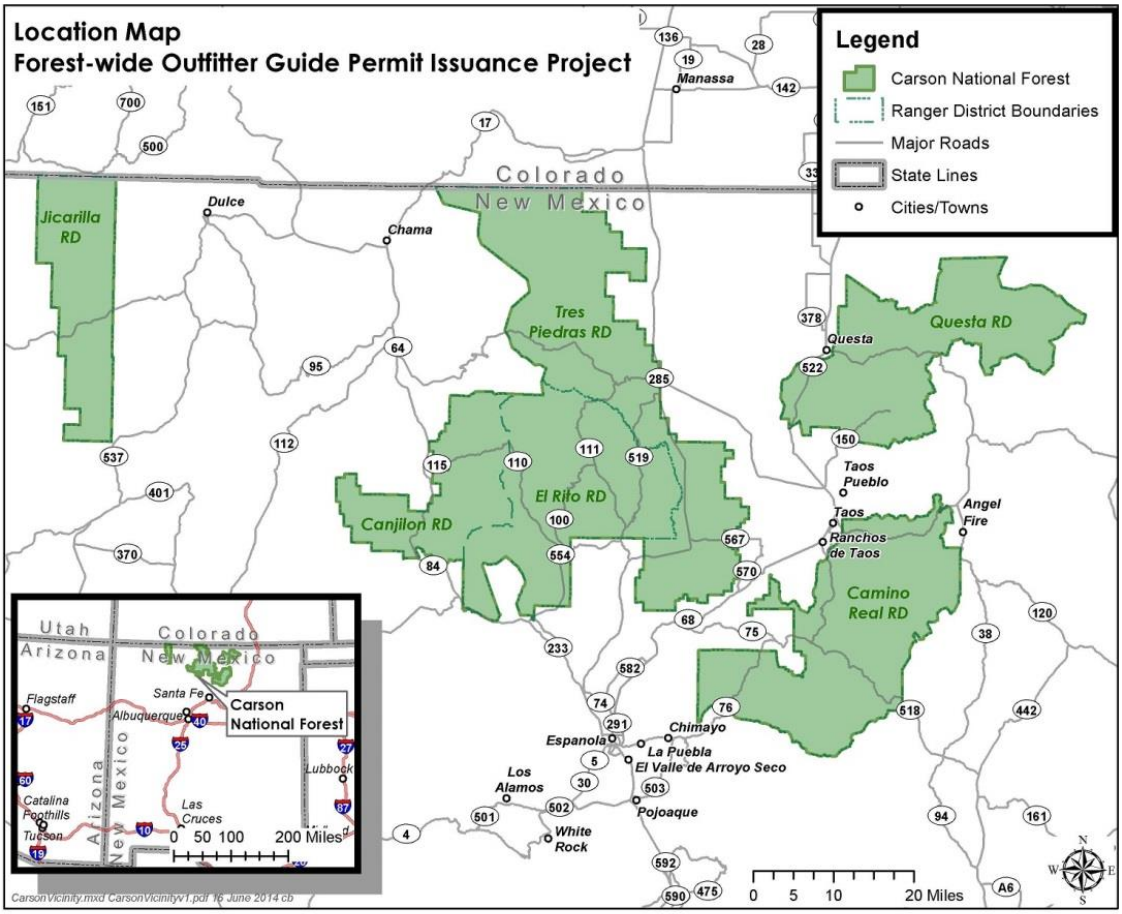
The Carson National Forest (Carson NF) is proposing to develop a more efficient process for managing the outfitter-guide program, using improved understanding of public and agency need for services and evaluation of a reasonable level of use, or "capacity", which could be accommodated without unacceptable social or environmental impacts. The proposal includes reissuing priority use permits to outfitter-guides whose permits are expiring and issuing priority permits to outfitter-guides who have previously held multiple temporary permits. New temporary permits could also be issued for activities that meet public and agency need.

These actions are proposed for all ranger districts and National Forest System lands managed by the Carson NF in Colfax, Mora, Rio Arriba, and Taos Counties, New Mexico (see figure 1).

As part of this project, the Carson NF proposes a non-significant programmatic forest plan amendment to remove the hunting outfitter-guide capacity established on the Jicarilla Ranger District. The plan amendment is called Forest Plan Amendment for Outfitter-Guide Capacity on the Jicarilla Ranger District.

We prepared this environmental assessment to determine whether effects of the proposed activities may be significant enough to prepare an environmental impact statement. By preparing this environmental assessment, we are fulfilling agency policy and direction to comply with the National Environmental Policy Act (NEPA) other relevant Federal and State laws and regulations. For more details of the proposed action, see the "Proposed Action and Alternatives" section of this document.

Figure 1. Vicinity map of the Forest-wide Outfitter-Guide Permit Issuance Project.



Need for the Proposal

The Forest Service manages more than 72,000 permits, leases, and easements that authorize more than 180 types of special uses on National Forest System lands. Annually, the Forest Service processes applications and issues authorizations for thousands of new or recurring special uses. Included in this mix are special uses that authorize outfitting and guiding activities.

Providing recreation services and facilities is a key part of the Forest Service mission. To fulfill this responsibility, the agency relies upon many private, volunteer, organizational, and commercial partners. These partners, in turn, contribute their unique talents, equipment, financial resources, and technical capabilities. Although some visitors possess the necessary knowledge, skills and equipment to enjoy the national forests, others may not have the capability to participate in an activity on their own. Outfitter and guide services increase public access to and enjoyment of National Forest System lands while protecting environmental resources.

The Carson NF currently has many outfitter-guides under transitional priority use permits[1] who are now eligible for a priority use permit[2]. Additionally, approximately 20-30 temporary use permits[3] are issued each year. Temporary use permit holders may be eligible for priority use after a two-year probationary period.

In 2018, the Carson NF completed an analysis of its outfitter-guide program. This analysis detailed our understanding of the need for outfitter-guide services, current visitor use patterns, and provided a framework for making future decisions regarding the amount and location of commercial services.

The process consisted of completing a "Needs Assessment" followed by a "Capacity Analysis and Outfitter-Guide Allocation." The "Needs Assessment" looked at national, regional, and local trends in recreation; a supply analysis, and outfitter-guide actual service days[4] used versus the service days authorized. It determined public and agency need for outfitter-guide services considering knowledge and skills needed, benefits to local economy.

The "Capacity Analysis and Outfitter-Guide Allocation" divided the forest into a set of compartments based on visitor use patterns. Each compartment was studied to determine the need for addressing capacity. An interdisciplinary specialist team determined limiting factors to capacity in defined areas, including biophysical, social and managerial challenges. For compartments that may be experiencing problems like crowding, illegal guiding, and impacts to resources, the analysis determined a reasonable level of use that could be accommodated without unacceptable social or environmental impacts. This level of use is an allocation of service days available to outfitter-guides for specific activities in that compartment. For compartments without resource concerns, monitoring indicators/thresholds would be used to evaluate capacity.

This proposed project is needed to issue priority use and temporary permits in a manner that responds to public and agency need and avoids unacceptable social or environmental impacts. These actions are currently informed by the Carson NF's 2018 analysis of its outfitter-guide program as described above.

The need for the Forest Plan Amendment for Outfitter-Guide Capacity on the Jicarilla Ranger District, proposed as part of this project, is based on changed conditions. An evaluation of visitor use patterns on the Jicarilla Ranger District showed that the number

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[1] Transitional Priority Use. Interim re-designation of temporary use as classified under the Forest Service's June 12, 1995, outfitting and guiding policy (60 FR 30830), for holders who meet all the requirements in section 41.53p.

[2] Priority Use. Authorization of use for up to 10 years, based on the holder's past use and performance and applicable programmatic or project decisions to allocate use. Except as provided in 36 CFR Part 251, Subpart E, authorizations providing for priority use are subject to renewal (FSH 2709.11, sec. 41.53l).

[3] Temporary Use. Short-term, non-renewable outfitting and guiding use that is authorized in increments of 50 service days, up to a maximum of 200 service days in a 180-day period.

[4] Service days. The amount of client days (commonly called service days) an existing outfitter-guide is authorized for under a special use permit in a given year.

of outfitter-guide conflicts have decreased since 1996 when capacities were established to manage use. Potential conflicts can be avoided through operating plans issued to individual outfitter-guides. For these reasons, the outfitter-guide hunting capacities established for the Jicarilla Ranger District in the forest plan are no longer necessary. Eliminating capacities also recognizes the authority of the State of New Mexico through the New Mexico Game and Fish Commission to establish game management units and regulate the number of hunting permits within them. The implementation of this project will allow the Forest Service to adjust the number of outfitter and guide permits issued based on the number of permits issued by the New Mexico Department of Game of Fish on a given year as the numbers of licenses made available can fluctuate from year to year.

Public Involvement

We sent a comprehensive scoping letter providing detailed information on the proposed action to a list of 106 potentially interested individuals, agencies, tribes, businesses, and groups on April 14, 2014. The proposed action was listed in the Schedule of Proposed Actions beginning in January 13, 2013. The lengthy time period between these actions and the present was to ensure a careful analysis of the potential issues, to consult with the appropriate agencies, and to finalize the needs assessment and capacity analysis which were used to develop this EA. A second scoping letter was sent to 118 individuals, agencies, businesses and groups on February 15, 2018, after determining that some changes needed to be made to the proposed action, namely in removing the hunting outfitter-guide capacity for the Jicarilla Ranger District and the Capacity Analysis and Outfitter-Guide Allocation's use of monitoring indicators/thresholds rather than a numerical capacity for compartments without resource concerns.

The interdisciplinary team reviewed all comments received in scoping. Seven comment letters relating to the project were received during the first scoping period, and one in the second. There were no comments that presented unresolved conflicts concerning alternative uses of available resources. Documentation of the interdisciplinary team's consideration of scoping comments is in the project record.

Because no unresolved conflicts emerged from issues that fell within the scope of the project, this EA evaluates a single action alternative—the proposed action. There were no alternatives considered but eliminated from detailed study.

Pre-decisional Objection Process

This proposed project is an activity implementing the Carson Forest Land Management Plan, as amended, and is not a project which would be authorized under the Healthy Forests Restoration Act (HFRA). It is subject to two pre-decisional administrative review and objection processes. Actions proposed under the Forest-wide Outfitter-Guide Permit Issuance Project will be subject to 36 CFR 218, subparts A and B. The Forest Plan Amendment for Outfitter-Guide Capacity on the Jicarilla Ranger District will be subject to 36 CFR 219, subpart B.

Proposed Action and Alternatives

No Action Alternative

Forest Service NEPA regulations allow an environmental assessment to document consideration of a no action alternative through the effects analysis by contrasting the impacts of the proposed action and any alternatives with the current condition and expected future condition if the proposed action or alternatives were not implemented (36 CFR 220.7(b)(2)(ii)). This environmental assessment will not include a separate analysis of the no action alternative. Instead, impacts of the proposed changes will be contrasted with the existing condition and expected future condition if the proposed action alternative is not implemented.

Proposed Action Alternative

Under the proposed action alternative, priority and temporary use permits would be issued based on consideration of: (1) public and agency need, (2) identified capacity, and (3) managerial capacity. Currently this alternative is informed by the 2018 analysis of its outfitter-guide program which created twelve compartments based on how visitors and outfitter-guides use the forest (figure 2.).[5] For compartments with existing social or resource concerns, capacity may be evaluated against an allocation of service days available to outfitter-guides for specific activities. For compartments without existing social or resource concerns, monitoring indicators/thresholds would be used to evaluate capacity.

In the future, the Carson NF may update its outfitter-guide program analysis and the long-term guidance it provides, depending on changed circumstances such as different visitor use patterns, shifting trends in public and/or agency need, or altered natural resource conditions. Administrative adjustments may also be made. An administrative decision to establish an annual cutoff dates for receiving permit applications for evaluation and processing is also proposed. For hunting activities, the date would be June 1 of the year in which the proponent wishes to operate. For all other activities, the date could be January 1 of the year in which the proponent wishes to operate. These are proposed dates (not final), and may be adjusted as needed.

New permits may still be authorized under this decision using updated management guidance, including changes in agency or public need and adjusted capacities or compartments, when the scope and scale of the effects remains the same as disclosed in this analysis.

[5] Additional information on the "Needs Assessment" and "Capacity Analysis and Outfitter-Guide Allocation" produced during this analysis is available at: https://www.fs.usda.gov/detail/carson/recreation/?cid=stelprdb5432061

The Carson NF would manage issuance of priority use and temporary use outfitter-guide permits as follows:

- Permits would authorize use of roads, trails, approved routes and areas open to the general public and would be consistent with designated uses. Permits would not be issued for closed areas or restricted uses without additional site-specific analysis.
- The number of service days allocated to a permittee would be based on their approved operating plan and consideration of the identified capacity level to determine if the requested number of service days could be accommodated.
- Permits would contain stipulations (also referred to as "terms and conditions") to protect natural resources and/or social character, which could be added or amended as necessary (see Appendix A for sample text).
- Outfitter-guide permit activities would be monitored to determine if use remains within acceptable levels.
- For areas with potentially competitive levels of outfitter-guide use, the Carson NF would follow current agency direction to issue a prospectus to solicit proposals.

The Carson NF could apply additional considerations in deciding to issue a permit or in determining the number of service days allocated to a permittee. Additional considerations could include the applicant's ability to advance resource stewardship by increasing visitor understanding and appreciation of public lands, or their ability to reduce illegal outfitting and resource violations through active monitoring and reporting of observations.

Service day allocations for all permittees operating in a given compartment could be less than identified in the capacity analysis depending on the Carson NF's ability to administer permits, the level of interest in providing outfitter-guide services, and the results of monitoring the social and environmental factors that affect capacity of a specific area.

Permit holder allocations, including current outfitter-guides, could be limited to keep the total number of service days within allocations if capacity is a concern.

If outfitter-guide services begin to conflict in more popular areas, permit holders could be required to work together in the pre-season to coordinate use such as routes and campsites.

Previously identified capacities for the Pecos Wilderness, Wheeler Peak Wilderness, portions of Garcia Park and Osha Mountain would be removed.

A non-significant plan amendment would amend the Carson Land and Resource Management Plan to remove the capacity established for outfitter-guide hunting services on the Jicarilla District.

Project Design Criteria for Heritage Resources Protection

Several project design features have been developed to identify and protect known and potentially undiscovered historic properties from impacts. The following stipulations will be included in all operating plans:

- Permittees shall not camp within 200 ft. of a known historic (e.g., cabin) or prehistoric site.
- Permittees shall provide GPS data or maps for campsite locations.
- Permittees shall complete cultural resource education training and share training information with all permit holder employees.
- Permittees shall adhere to the Discovery and Education Stipulation included in each permit.
- Permittees shall report any historic or prehistoric cultural material or site to the Carson NF according to cultural resource education training.

All Operating Plans for new permits will contain the following language (Discovery and Education Stipulation):

> *All persons associated with operations under this authorization must be informed that any objects or sites of cultural, paleontological, or scientific value such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts shall not be damaged, destroyed, removed, moved, or disturbed. If any of the above resources are encountered in operations authorized under this permit, the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the Carson National Forest authorized officer of the findings. The discovery must be protected until notified in writing to proceed by the authorized officer (36 CFR 800.110 & 112, 43 CFR 10.4).*

Campsite locations will be reviewed by a Forest Service archaeologist to assess if any are in known or potentially sensitive cultural resource areas. If an area is determined to be sensitive, an intensive cultural resource survey of that location will be conducted or the location will not be used by the permittee.

If in the future, the use of designated campsites are required by the Carson National Forest, then these areas will be completely inventoried at the intensive level for cultural resources prior to designations.

In addition, a monitoring program of known historic properties within wilderness areas will also be implemented. Corrective actions would be implemented as necessary to ameliorate negatively trending conditions. Any new historic properties found within wilderness areas will be added to this monitoring schedule.

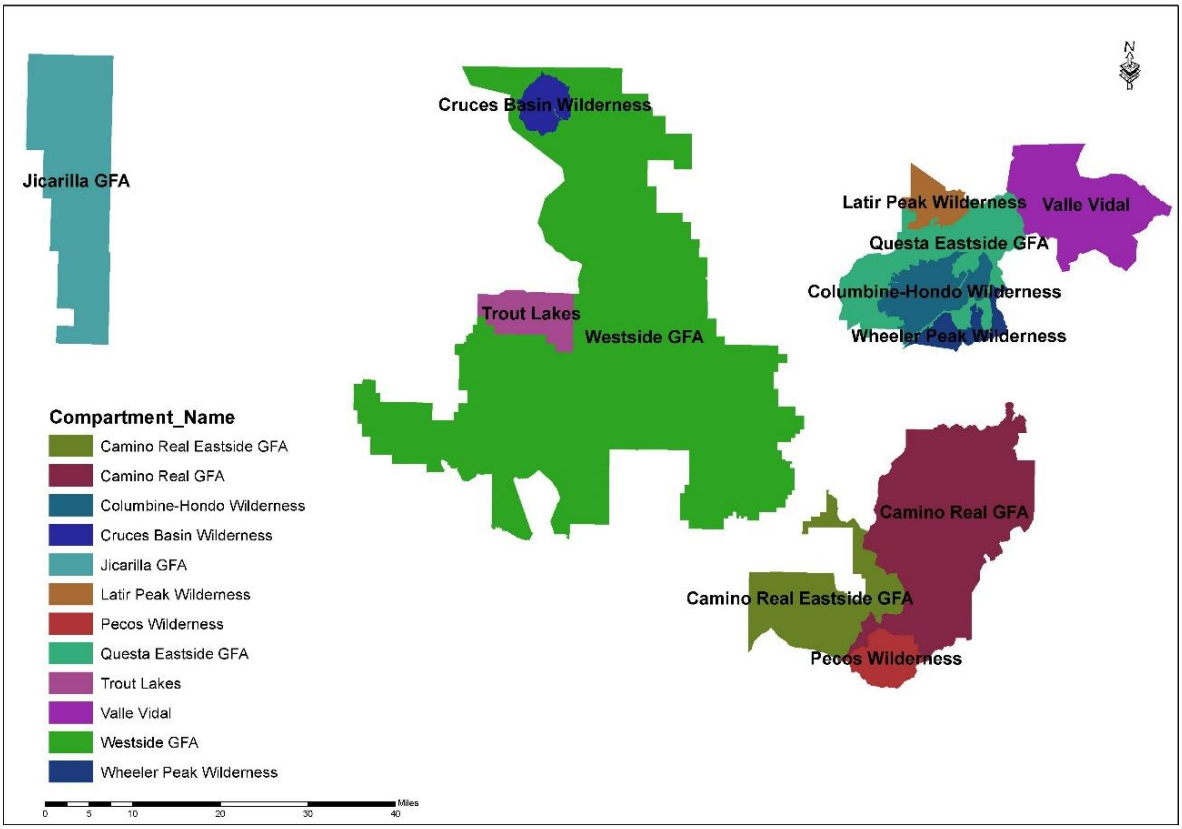
Priority and Temporary Use Pools

In some compartments, the existing outfitter-guide authorizations may be well below the potential allocations. Managers have the option to continue with the status quo and monitor limiting factors or, based on need, may wish to maintain pools of service days available to businesses on a year-by-year basis based on a set of criteria (for example, a business may have a one-time increase that is not expected to carry forward into subsequent years). This allows managers to be more flexible with allocations instead of being locked into administering priority use permits which may not be needed each season. A set number of service days would be authorized on a first-come, first served basis with a deadline for requests and would be granted based on public and agency need as identified in the Needs Assessment, the validity of the request and the reasons for it,

existing managerial capacity for administering the permit to standard, and other criteria as determined by the Forest.

Pools also provide the outfitter-guide services more flexibility. For example, if the outfitter-guide service has an assigned quota, and they exceed that quota, they are in non-compliance. However, with approved additional use from a pool, they can accommodate late season or last minute requests for service without fear of being in non-compliance.

Figure 2. Compartments established in the 2018 Capacity Analysis and Outfitter-Guide Allocation



Environmental Impacts

This section summarizes the potential impacts of the proposed action for each impacted resource. Only resources that could potentially be affected were analyzed.

Recreation

The Carson NF offers a wide variety of year-round recreational activities. Elevations rise from 6,000 feet to 13,161 feet at Wheeler Peak, the highest in New Mexico. Cooler temperatures are a draw for people in summer. Hunting is a prized recreation activity in many portions of the forest. Winter activities include snowshoeing, skiing and snowmobiling. Taos Ski Valley, Red River and Sipapu Ski areas are all located on portions of the forest and provide downhill skiing and snowboarding activities. The Enchanted Forest Cross-Country Ski Area is also located on the forest.

There are 610 miles of trail on the forest, 35 developed campgrounds, and 23 trails designated for OHV use. The Continental Divide Trail, a national scenic trail from the Mexican border to Canada, passes through the forest. The latest National Visitor Use Monitoring data (2013) shows the following general forest visitation estimates (table 1):

Table 1. Annual Visitation Estimate[6]

Visit Type	Visits (1000s)
Total Estimated Site Visits	945
Day Use Developed Site Visits	590
Overnight Use Developed Site Visits	58
General Forest Area	256
Designated Wilderness Visits	41
Total Estimated National Forest Visits	735

Permits for outfitting and guiding are required for any entity conducting commercial operations on a national forest. Commercial use is defined as (36 CFR 251.51) “any use or activity on National Forest System lands (a) where an entry or participation fee is charged or (b) where the primary purpose is the sale of a good or service, and, in either case, regardless of whether the use or activity is intended to produce a profit.”

There are transitional priority permit holders on the Carson NF who conduct a variety of trips including hunting, horseback riding, rock climbing, backpacking, photography, and hiking. In addition, there are temporary outfitter-guide permit holders on the Forest, operating under non-recurring (one-time) permits. Authorized outfitter-guide use is generally about .5 to 1% of total visitor use per year over the whole forest; however, in specific areas it exceeds that number.

Outfitter-guides operating on the Carson NF are required to adhere to several regulations, requirements and stipulations. These include restrictions on permanent camps,

[6] All data from National Visitor Use Monitoring Report for the Carson NF, FY 2013. NVUM data is collected every five years.

prohibitions on using temporary camps if resource damage is occurring, and other measures meant to prevent damage to riparian areas, water sources, vegetation and other resources, including impacts to social character.

Environmental Consequences of the Proposed Action

This section will evaluate the proposed action for its potential to effect the general recreation experience on the Carson NF and its impact on those that seek a permit to offer outfitter-guide services.

Direct and Indirect Effects

While general users of the Carson NF may encounter outfitter-guides and their clients using the same areas, the effects of the proposed action on the general recreation experience would be less than under the existing condition. Assessing and issuing permits based on an established capacity would ensure that social conflicts are minimized. Permits, including current outfitter-guides, could be limited to keep the total number of service days within allocations if capacity is a concern.

When compared to the existing condition, opportunities in most areas would increase for visitors who do not possess the skills, knowledge or experience to recreate on the national forest because there would be more guided services available. In some areas there could be increased competition from new businesses where capacity allows. Over time these visitors could develop an appreciation for national forest goals and objectives and an understanding of agency management actions. They could also develop technical skills and low-impact techniques that would serve them on future outings.

Using the three consideration factors (public and agency need; identified capacity; and managerial capacity) would result in permits which provide improved quality experiences and could indirectly benefit surrounding communities and businesses. Visitors who travel to the area to take advantage of guided trips would likely spend money on lodging, food, and equipment. In addition, outfitter-guide businesses provide jobs and contribute to the economic sustainability of the area.

When compared to the existing condition, the proposed action would allow for improved administration of outfitter-guide permits by decreasing the amount of time it would take to manage longer term (priority use) permits, evaluate and process permit applications and allowing flexibility through the use of priority and temporary use service day pool. Holders of transitional priority use permits who are eligible for a priority use permit would have them authorized following this decision. Future applicants for temporary use permits (approximately 20-30 each year[7]) could be granted permits. Each of these could be issued without additional environmental analysis, provided their proposals fall within the description of the proposed action. This timeline would be less than under the current program management which requires individual consideration and varying levels of environmental analysis for each permit. In addition, current transitional priority permit

[7] Currently the forest receives approximately 20-30 applications for temporary use permits each year, but this number should drop as many temporary a permit applicants receive longer term permits.

holders could operate with increased security; there would be no break in service while waiting for individual environmental analysis to be completed.

The forest plan amendment to remove the capacity established for outfitter-guide hunting services on the Jicarilla District would allow additional opportunities for outfitter-guide businesses in the area and visitors when compared to the current management condition. While this may increase the potential for encounters with others, the option to work together in the pre-season to identify and coordinate use would minimize these conflicts.

Cumulative Effects

No cumulative effects are expected when considering the proposed actions in conjunction with past, present, and reasonably foreseeable management actions.

Water Resources

Existing Condition

There are 134 6th level watersheds located partially, or entirely, within the administrative boundaries of the Carson NF. Information on these watersheds was compiled into the Watershed Condition Tracking Tool (WCATT) database in 2010. Out of the 134 6th level watersheds on the Forest, 127 were rated as fair and seven were rated as in good condition (USDA Forest Service 2010c, USDA Forest Service, 2011). None were rated as in poor condition (USDA Forest Service 2010c).

The total miles of streams on the Carson NF designated under Section 303(d)[8] of the Clean Water Act, are summarized in table 2. The primary reasons for a total maximum daily load (TMDL) listing on the Forest are turbidity, temperature, sediment and nutrients (State of New Mexico, 2012 (associated GIS data)). Turbidity, water temperature and sediment are related, in part or totally, to increased amounts of sediment introduced into streams most often through increased surface runoff. Roads were defined as one of the main influences on stream channels and watershed health (Fryxell and Miller, 2014).

[8] Section 303(d) of the Clean Water Act requires the identification and prioritization of water bodies where state water quality standads are not met. For any waters on the 303(d) list, States and Tribes must develop a total maximum daily load (TMDL) for the pollutant. In practice, TMDLs are plans to improve water quality in a listed water body until water quality standards are met.

Table 2. Total miles of 303(d) listed streams by ranger district on the Carson NF

Ranger District	Category 4a[9]	Category 5a[10]	Category 5c[11]
Camino Real	0	42.9	5.7
Canjilon	5.3	0	30.1
El Rito	43.1	0	0
Questa	10.3	54.4	20.9
Tres Piedras	44.5	0	31.3
Jicarilla	0	0	0
Total	***103.2***	***97.3***	***88.0***

There are 61 acres of lakes and 130 miles of streams on the Carson NF which are designated by the State of New Mexico as Outstanding National Resource Waters, occurring within the Chama River Canyon, Cruces Basin, Latir Peak, and Wheeler Peak Wildernesses and within the Valle Vidal area. Approximately 693 acres of wetlands associated with the wilderness areas Outstanding National Resource Waters are distributed across the Carson NF.

The Forest has mapped locations of recreational campsites within wilderness areas. A total of 123 sites are located within 300 feet of Outstanding Natural Resource Water streams (59 within Cruces Basin Wilderness, 54 within Latir Peak Wilderness; and 9 within Wheeler Peak Wilderness).

There are no municipal watersheds designated in the forest plan for the Carson NF. However, there are approximately 38 Mutual Domestic Water Consumer Association (MDWCA) water systems within the administrative boundaries of the Forest. Twenty-three of these are located within the compartments established in the Carson NF's 2018 "Capacity Analysis and Outfitter-Guide Allocation." These are displayed in table 3. MDWCA water systems are formed under the New Mexico Sanitary Projects Act (NMSA 1978 § 3-29-1, et seq. 1) to: improve the public health of rural communities in New Mexico by providing for the establishment and maintenance of a political subdivision of the state that is empowered by the state to receive public funds for acquisition, construction and improvement of water supply, reuse, storm drainage and wastewater facilities in communities, and to operate and maintain such facilities for the public good (University of New Mexico 2013).

[9] Category 4a. Impaired for one or more designated uses, but does not require development of a TMDL.

[10] Category 5a. Impaired for one or more designated or existing uses and a TMDL is underway or scheduled.

[11] Category 5c. Imparied for one or more designated or existing uses and additonal data will be collected before a TMDL is scheduled.

Table 3. Summary of Mutual Domestic Water Consumer Association (MDWCA) water systems by compartments established in the 2018 Capacity Analysis and Outfitter-Guide Allocation for the Carson NF.

Compartment	MDWCA Name
Camino Real GFA	Fort Bergwin Research Center New Mexico National Guard Readiness Center Sipapu Lodge and Café Valle Escondido Homeowners Association
Eastside GFA	Austing Haus Chamisal MDWCA Fa Yun Prajna Monastery La Lama MDWCA Ojo Sarco MDWCA Red River Water System San Cristobal MDWCA Ski Tip Restaurant St Bernard Condominiums Trampas MDWCA Upper Ojioto MDWCA Village of Taos Ski Valley
Trout Lakes	Canjilon Water System
Westside GFA	Canon Plaza MDWCA El Rito Canyon MDWCA El Rito Regional Water & Waste Water Association La Madera MDWCA Tres Piedras MDWCA Vallecitos MDWCA

Riparian areas are especially important on the Carson NF. Approximately 2.5 percent of the forest (approximately 34,000 acres) is covered by riparian vegetation. These areas have high water tables due to their proximity to an aquatic ecosystem or subsurface water, and typically represent a transition between aquatic and upland systems. The soils and vegetation characteristics are typically distinct, reflecting the elevated influence of water.

Recreational pressures within the riparian areas came from both dispersed and developed use, including fishing. Forest roads and highways, the primary access route for the public, are often located in riparian areas. The primary attraction is water, and in the semi-arid southwest that concentrates folks looking for a cooler location to recreate (USDA Forest Service 1986). The recreation site data for wilderness areas collected by the forest shows that only two sites are within mapped riparian areas. These two sites occur within the Eastside GFA compartment; however, there is no data indicating what sites are related primarily to outfitter-guides or general public use.

Perennial rivers with associated floodplains on the Carson NF are listed in table 4. Intermittent channels are widespread across the Carson NF and may have associated floodplains. Current land management activities within floodplains include, but are not

restricted to: agriculture, residential buildings, grazing, roads and recreational facilities including campgrounds. Across the Carson NF, human related activities have modified the proper functioning condition of floodplains.

Table 4. Perennial rivers with floodplains on the Carson NF

Ranger District	River
Camino Real	Rio Fernando de Taos, Rio Chiquito, Rito de la Olla, Rio Grande del Rancho, Rito La Presa, Rio Pueblo, Rio Santa Barbara, Rio de Las Trampas
Canjilon	Rio Nutrias, Canjilon Creek
El Rito	El Rito Creek, Rio Vallecitos, Rio Tusas, Rio Ojo Caliente
Questa	Red River, Cabresto, Rio Hondo
Jicarilla	Carrizo Canyon (intermittent/flood response), Vaqueros Canyon, Cabresto Canyon
Tres Piedras	Rio de los Pinos, Rio San Antonio, Rio Tusas, Aguaje de la Petaca (intermittent with perennial pools), Jarosa Creek

Environmental Consequences of the Proposed Action

In general, recreational activities (whether the general public or outfitter-guide related) have the potential to impact water resources through ground compaction; channel, stream bank and lake shore alteration; loss of riparian and other vegetation; and risk of bacterial contamination due to human waste. Increased erosion, sedimentation, and pollution and decreased water quality, alteration of stream flow, channel modification, lake shore modification, increased risk of disease-bearing pathogens and a reduction or loss of aquatic species (USDA Forest Service 2012a) can also occur.

No unresolved conflicts or issues related to hydrology were identified during project scoping. This analysis evaluates the potential for the proposed action to impact wetlands, floodplains, riparian areas, stream channels, and municipal watersheds through changes in sedimentation and turbidity and erosion.

Direct and Indirect Effects

Under the proposed action, the areas with the highest potential for increased direct and indirect and short/long term effects are in the Trout Lakes and Camino Real compartments (USDA Forest Service 2018a). These compartments have both moderate potential for trampling and associated damage to vegetation and soil compaction, with increases in associated indirect effects. However, increased discernable impacts, short or long term would not be expected for 303(d) streams, Outstanding Natural Resource Waters and Municipal Domestic Water Consumer Associations in either compartment.

The proposed action is expected to have negligible direct, indirect, and cumulative impacts for these reasons:

- Outfitter-guide activity represents ½ to one percent of all visitor use on the forest, so any changes in use will have little effect on overall visitor impacts.
- Permits would be issued based on a determined capacity for a geographic compartment.
- Permit holders, including current outfitter-guides, could be limited to keep the total number of service days within allocations if capacity is a concern.
- Permits would contain stipulations to ensure protection of resources, including a requirement to camp more than 300 feet from water resources.
- Monitoring would be implemented in each compartment to determine if use remains within acceptable levels.
- Outfitter-guides have a financial incentive to comply with best practices that mitigate negative impacts, and to require clients to do so as well. Instead of working with each individual visitor, outfitter-guides help moderate the behavior of large numbers of people on behalf of the Carson NF.

The proposed Forest Plan amendment to eliminate the hunting capacity in the Jicarilla Ranger District could facilitate additional guided visitors to that area in the long term. Effects to water resources are expected to be negligible if permit stipulations are followed.

Cumulative Effects

A cumulative impact to watershed can be defined as the total impact on water quality that results from the incremental impact of an action, when added to other past, present and reasonably foreseeable future actions occurring within the same natural watershed. The boundary for hydrological cumulative effects is the boundary of the Carson NF and all 6th level watersheds located within the forest's administrative boundary or intersected by it.

No cumulative effects are expected when considering the proposed actions in conjunction with past, present, and reasonably foreseeable management actions as long as Best Management Practices (BMPs), forest plan standards and guidelines and permit stipulations are followed.

Botany and Invasive Plants

Existing Condition

Southwestern Region Sensitive Plant Species

There are no listed Threatened, Endangered, or Candidate plant species within the range of the Carson NF that would be affected by the proposed action. However, there are ten species on the Southwestern Region Sensitive Plant Species (2013) list that occur on the Carson NF (table 5).

Table 5. Southwestern Region Sensitive Plant Species that occur on the Carson NF, by Ranger District

Species	Canjilon	El Rito	Jicarilla	Camino Real	Tres Piedras	Questa	Comments
Tufted sand verbena *Abronia bigelovii*	X	X					Populations are usually small and are restricted to gypsum or strongly gypseous soils derived from gypsum outcrops. Hills and ridges of gypsum in the Todilto Formation, 1,750-2,250 m (5,700-7,400 ft).
Pagosa milk-vetch *Astragalus missouriensis var. humistratus*			X				Near head of Devils Canyon; northeast end of Carracas Mesa (known location found in 1987). Elevations of reported occurrences range from about 7,100 to 8,600 ft. (1,645 to 2,285 m). Soils are most often reported as clay or shale. This milkvetch is limited to clay soils of the Mancos and Lewis formations. Broadly associated with the Rocky Mountain Ponderosa Pine Woodland or Rocky Mountain Gambel Oak-Mixed Montane Shrubland ecological system types.
Ripley milkvetch *Astragalus ripleyii*					X	X	Sagebrush, piñon-juniper woodland, and Gambel oak thickets in ponderosa pine forest; 2,120-2,500 m (7,000-8,250 ft). Volcanic derived soils.
Yellow lady-slipper *Cypripedium parviflorum var. pubescens*				?		X	Elevations from sea level to 2,900 m (9,700 ft.) have been reported. In New Mexico, it has been found on east to northeast aspects. thought to occur in sandy loam soils that are perennially moist in spruce/fir vegetation type
Alpine larkspur *Delphinium alpestre*				X		X	Alpine tundra and open meadows in subalpine coniferous forest; 3,500-3,950 m (11,500-13,000 ft). Flowering in July.
Robust larkspur *Delphinium robustum*	X	X		X	X	X	Canyon bottoms and aspen groves in lower and upper montane coniferous forest; 2,200-3,400 m (7,200-11,200 ft). In New Mexico, is found in meadows between 2100 and 2600 m (6890 – 8530 ft) elevation. Flowers between July to September.
Small-head goldenweed *Ericameria microcephala*					X		Granitic rock crevices in open ponderosa pine forests; 2,440-2,600 m (8,000-8,500 ft). This species is locally abundant within its limited range between Tres Piedras and Petaca, New Mexico.
Pecos fleabane *Erigeron subglaber*				X		X	Rocky, (generally greater than 50% exposed rock) open meadows in subalpine coniferous forest; 3,050-3,500 m (10,000-11,500 ft).
Chama blazing star *Mentzelia conspicua*	X	?					Road cuts and barren hillsides, on gray to red shales and clays of the Mancos and Chinle formations in piñon-juniper woodland; 1,800-2,200 m (5,900-7,200 ft). Found in Echo Theater campground.
Arizona willow *Salix arizonica*				X	X	X	Sedge meadows and wet drainage ways in subalpine coniferous forest; occur between 9,560 – 11,680 ft. elevations;

Invasive Plants

Most nonnative invasive plants prefer highly disturbed sites such as areas along rivers and streams, trails, trailheads, roadsides, building sites, wildlife bedding grounds, overgrazed areas

and campgrounds (Sheley and Petroff 1999). Wind, water, livestock, wildlife, vehicles, pets and human foot traffic all spread nonnative invasive plants. Weed infestations often start along roads, trails or other travel ways, as these are sites with disturbed soil conditions where introduction of weed propagules is more likely due to human traffic or other vectors including horses, pack animals and all-terrain vehicles. Generally, weed species pose a threat because of their ability to take over a vegetation community and their potential to spread. Once they become established across large areas, these species become difficult to eradicate.

Invasive and noxious weed infestations are estimated to cover 4,179 acres of the Carson NF. This is likely an underestimate, since many areas have not yet been surveyed. Table 6 lists the weed species found on the forest, and their known abundance.

In valley bottoms or in riparian areas, the salt cedar/Siberian elm/Russian olive/bull thistle complexes are common, along with populations of bull thistle, Canada thistle and musk thistle. Wildlife species depend heavily on riparian areas in the arid Southwest, and so the weeds' ability to reduce native plant diversity has an impact on wildlife habitat. Travel corridors have the most known weeds. Weeds along roads and trails are easily surveyed, and weeds also tend to become established in disturbed areas such as rights-of-way.

Away from valley bottoms, riparian areas, and main travel routes, Canada thistle, musk thistle, and bull thistle pose the largest threat of spreading because of their wide distribution. On the Jicarilla Ranger District, infestations of scotch thistle and musk thistle are found at natural gas wellheads and along roads leading to these facilities. Although the amount of scotch thistle is relatively small, the potential for spread is high because of the intermingled nature of land ownership and use in this area. Along the Rio Tusas drainage, the amount of leafy spurge is relatively small, but when the threat is seen in the context of infestations on adjacent private land, the threat increases.

Table 6. Weed Species and Their Known Abundance on the Carson NF (2013)

Common Name	Scientific Name	Acres*
Russian knapweed	*Acroptilon repens*	41
whitetop	*Cardaria draba*	49
musk thistle	*Carduus nutans*	585
diffuse knapweed	*Centaurea diffusa*	394
yellow star-thistle	*Centaurea solstitialis*	1
Canada thistle	*Cirsium arvense*	310
bull thistle	*Cirsium vulgare*	1,647
Russian olive	*Elaeagnus angustifolia*	331
leafy spurge	*Euphorbia esula*	9
black henbane	*Hyoscyamus niger*	44
perennial pepperweed	*Lepidium latifolium*	43
yellow toadflax	*Linaria vulgaris*	47
Scotch thistle	*Onopordum acanthium*	130
tamarisk / saltcedar	*Tamarix ramosissima*	548

* More than one species may exist in a mapped footprint

Environmental Consequences of the Proposed Action

Direct and Indirect Effects

Southwestern Region Sensitive Plant Species

Direct and indirect effects of the proposed action on sensitive plants are expected to be minimal. The issuance of any permits for priority use would not cause additional ground disturbance from the existing condition because the use would occur on designated roads and trails, authorized routes and in areas already authorized for outfitter-guide use. The sensitive plant species that occur on the forest and their habitats (including designated/proposed critical habitats) would not be affected by the proposed action. If Sensitive Plant occurrences are discovered, the forest Botany Program Manager would be notified, and the area(s) would be flagged and avoided until documentation is completed.

Furthermore, permits would include stipulations to ensure protection of resources, which would help mitigate any impacts to plant species.

Invasive Plants

There would be no additional ground disturbance associated with the proposed action, and the amount of use initially would remain the same as it currently exists. Additional permits may be issued in the future by compartment, only if additional use would not exceed capacity limits established for some compartments, and/or monitoring shows that natural and social resources are not at risk.

Potential impacts to Sensitive Plant habitat by noxious weeds is expected to be similar to the existing condition with the re- authorization of permits and addition of new permits. The issuance of permits may directly impact habitat due to disturbance associated with the presence of outfitter-guides and their clients traveling through areas and the use of campsites. All of the effects would be short term and would not result in any long term adverse effects. There are no indirect effects to any of the species listed because there would be minimal impacts to habitat across the forest as a result of issuing outfitter-guide permits. Permit stipulations would mitigate potential impacts of additional clients as a result of more permits being issued. As a result, little to no adverse effects to habitat or species is expected.

Direct and Indirect Effects Common to Both

The proposed Forest Plan amendment to eliminate the hunting capacity on the Jicarilla Ranger District could lead to a higher concentration of visitors in certain campsites and trails and occasionally cross-country on foot. However, these areas are already used by the general public and are currently authorized for outfitter-guide use. Stipulations would be added to new permits to lessen potential impacts.

Cumulative Effects

The cumulative effects analysis area is the Carson NF. Cumulative effects are not expected to result from the proposed action, as no direct effects are anticipated, and potential indirect effects do not represent significant new disturbances or risk in the project area.

Cultural Resources and Tribal Concerns

Existing Condition

The Carson National Forest is comprised of about 1.5 million acres containing at least 6,600 known cultural resources. Cultural resources are locations of significant human activity, and are typically over 50 years old. Prehistoric sites on the Carson National Forest date from the Paleoindian Period beginning over 11,000 years ago to contact with Europeans in 1539 A.D. Historic sites range in age from the Spanish Exploration Period through the American Period.

Sixteen American Indian tribes have ancestral or contemporary ties to lands within the Carson National Forest and consult with the Forest on a Government-to-Government basis to identify cultural resources of concern and to consult regarding appropriate management and use of such resources.

These sixteen tribes received scoping documents and requests for comments on the Proposed Action on April 14, 2014 and received information about the proposal with quarterly mailings of the Forest's Schedule of Proposed Actions (SOPA) list sent at the beginning of the second, third, and fourth quarters of Fiscal Year (FY) 2014; all quarters of FY 2015-2017; and the first, second and third quarters of FY 2018. Taos Pueblo commented regarding concerns that some permittees have violated the terms of their permits and have trespassed onto Taos Pueblo Lands and expressed a desire for increased permit monitoring and enforcement. No other responses were received related specifically to this project other than provide feedback that no concerns had been identified, though the Southern Ute Tribe requested additional information about the cultural resources inventories and resources identified within the Area of Potential Effect (APE) once available.

In terms of analysis of effects to cultural resources, the APE for the purposes of this document consists of designated wilderness areas within the Carson NF. The non-wilderness portions of the forest have been previously analyzed through the forest's four separate Travel Management decisions covering the Camino Real Ranger District, the Questa Ranger District, the Jicarilla Ranger District, and the Westside Zone (comprised of the Canjilon, El Rito and Tres Piedras Ranger Districts). Most, if not all, dispersed camp locations were identified and surveyed for cultural resources as part of the Travel Management decisions in consultation with the New Mexico State Historic Preservation Office (SHPO).

For purposes of analysis to effects of cultural resources, the area of analysis includes portions of the five designated wilderness areas managed by the Carson NF. The designated wilderness areas include the Columbine-Hondo Wilderness; the Cruces Basin Wilderness; the Latir Peak Wilderness; the Pecos Wilderness (only the portion on the Carson NF); and the Wheeler Peak Wilderness.

A total of only 415 acres (less than 1% of total wilderness) have been inventoried for cultural resources within wilderness areas on the Carson NF and a total of 14 cultural resources, including two prehistoric sites and 12 historic sites, have been documented within designated wilderness areas.

Environmental Consequences of the Proposed Action

In general, the Forest has limited information about potential effects to cultural resources in wilderness areas from outfitter-guide permitting because limited location information has been

obtained from permittees about where they conduct their operations and the scale and intensity of use of stock in wilderness areas. Consequently, the forest will require detailed final use reporting that includes specific campsites and areas used as well as typical duration and intensity of use. This will allow the forest to more effectively monitor use and informs future decisions related to outfitting and guide use.

Current and projected use associated with outfitter-guide permit activities within wilderness areas indicate that the most significant potential effects of outfitter-guide use to cultural resources could result from temporary camping areas primarily associated with the overnight use of horses/pack stock that may occur where archaeological resources are present. Outfitter-guide camping is restricted to a group size of 15 people or fewer in wilderness areas across the forest and so is not considered likely to adversely affect cultural resources except in cases where repeated, heavy use occurs, which is relatively rare. Use of riding stock and pack stock overnight in wilderness areas, however, could cause impacts to cultural resources by concentrating use on archaeological sites, which could lead to ground disturbance, removal of vegetation, and erosion.

Direct and Indirect Effects

Impacts to heritage resources result from direct or indirect project effects. Direct effects are caused by physical destruction such as vandalism or ground disturbing activities (e.g., milling, trampling, or trailing by stock animals). Indirect effects can result from other processes related to project activities, such as increased erosion over time due to exposing or disturbing the ground surface or removing vegetation.

Compared to other permitted activities on the forest, outfitter guide use has a relatively light impact on the landscape, and in general, the Carson NF's wilderness areas have low site density and relatively low potential to contain large, complex, significant sites (Lane 2016). This estimated potential is based on a GIS archaeological probability model developed by Lane (2015) which considers the following environmental variables: elevation, landform, slope, soils, vegetation, and cost/path distance to springs, which is calculated based on a digital elevation model and factors effort (as well as distance) to springs.

As a result, the potential for outfitter-guide permit activities to adversely affect historic properties is very low given the low potential for significant archaeological sites combined with the fact that ground disturbing activity is geographically limited and temporary at an individual camp level, and very diffuse and sporadic at a landscape level. In addition, terms and conditions (permit stipulations) listed in all outfitter-guide operating plans contribute to the overall low potential for adverse effects to historic properties.

The effects of the proposed Forest Plan amendment to eliminate the hunting capacity on the Jicarilla Ranger District would be similar to the effects listed for the non-wilderness areas on the Forest. There are no designated wilderness areas affected by the change.

Cumulative Effects

As the analysis area for cultural resources for this action is limited to wilderness areas, cumulative effects from other forest actions are not expected. Previous analysis for the forest's Travel Management decisions did not result in identification of significant cumulative effects to cultural resources for travel and dispersed camping throughout the forest.

Wilderness

Existing Condition

There are six wilderness areas on the Carson NF that are included in this analysis.

The **Wheeler Peak Wilderness** is the most heavily used wilderness on the forest. Designated by Congress in 1964, it is located in the Sangre De Christo Mountains and is 19,661 acres. Wheeler Peak, the highest point in New Mexico, rises to 13,161 feet. Hiking, backpacking, and snow-related activities are popular.

The **Pecos Wilderness,** designated in 1964, is jointly managed by the Santa Fe National Forest. This analysis only considers the Carson NF portion of the wilderness. Taken as a whole, this wilderness is 223,333 acres, of which the Carson manages 25,000 acres. This wilderness includes the second highest point in New Mexico, South Truchas Peak. Hiking, backpacking and hunting are popular wilderness activities.

The **Latir Peak Wilderness,** designated in 1980, includes alpine lakes and forested terrain. At 20,000 acres, it has few trails and is not heavily used. Cabresto Lake is the most popular destination in the wilderness.

The **Cruces Basin Wilderness,** designated in 1980, is the smallest wilderness area on the forest at 18,000 acres. Located just south of the New Mexico/Colorado border, lack of trails and difficult access allows for solitude and remoteness for visitors. Fishing is popular in some of the creeks.

The **Columbine Hondo Wilderness** was designated as a wilderness study area in 1980 and was designated as wilderness in 2014. This is the second most heavily used wilderness on the forest. Hiking and snow related activities are very popular.

The **Chama River Canyon Wilderness** has a total of 50,300 acres, the majority of which is located on the Santa Fe NF. Only 2,900 acres are located on the Carson NF. The Rio Chama Wild and Scenic River flows for six miles through this wilderness. Floating is possible through the Chama River canyon, as is backpacking along the river. Colorful rock formations, bluffs, a trout fishery, and many species of birds are among the unique features of this wilderness area.

Current Limitations

<u>Wheeler Peak Wilderness</u>

In 2001 outfitter-guide service days were capped administratively at 150 service days in summer and up to 30 additional service days for hunting (maximum two guides) in fall. This decision also instituted a policy of no overnight commercial use or hunts in Opportunity Class IV, the portion of the wilderness west of Taos Ski Valley, with the exception of bighorn sheep hunts. Limits of Acceptable Change (LAC) standards, which describe desired conditions for each Wilderness Recreation Opportunity Class (WROS)[12], were set in 1995 (table 7):

[12] The Wilderness Recreation Opportunity Spectrum (WROS) provides a way to describe the variations in the degree of isolation from the sounds and influences of people, and the amount of recreation visitor use. Generally the WROS ranges from the most pristine (I) to the most heavily used (IV) zones.

Table 7. Wheeler Peak Wilderness Limitations

WROS Class	I	II	III	IV
Location	West of TSV & Lake Fork Peak	East Quarter to Old Mike Peak	All trails but Williams Lake	Williams Lake Basin and Trail
Desired human encounters	2 max	7 max	20 max	30 max
Desired equestrian encounters	0	5 max	5 max	5 max
Desired camps in sight	1 max	3 max	6 max	6 max

The 2018 Outfitter-Guide Needs Assessment and Capacity Analysis process determined that these standards should remain in place due to high visitor use and impacts to solitude; however, the outfitter-guide allocation would be revisited using the same formula as the rest of the compartments. The team determined, and public comments pointed out, that there were portions of the wilderness that were less visited, and with appropriate stipulations, additional service days over the 150 could be authorized.

Garcia Park, Osha Mountain, Pecos Wilderness

A decision memo signed in November 2000 stated that no new outfitter-guide permits or increases in service days would be authorized pending a capacity study in the following areas: all sections within the legal description T20N-R12E, T20N-R13E, T21N-R12E, T21N-R13E (Pecos Wilderness) and all sections within T24N-R14E, T24N-R15E (Garcia Park and Osha Mountain area). Concerns listed were number and diversity of existing commercial and personal uses in the area; user conflict potential; existing and future conditions of the road/trail system; the District's limited ability to monitor and maintain the existing and future road/trail system; and concern for public safety. The decision memo also noted that commercial proposals had increased in the past few years and that the existing, popular trail systems have a use threshold above which results in adverse resource impacts and/or user conflict situations.

The 2018 Needs Assessment and Capacity Analysis process determined that in some cases new permits could be issued pending examination of current service days authorized/used to ensure that capacity for these areas are not being reached. In addition, new permits would need to comply with the findings of the Needs Assessment.

Wilderness Character

The US Forest Service is required to manage federally designated Wilderness in accordance with the Wilderness Act of 1964. The Wilderness Act directs managers to preserve Wilderness character, and mandates that both wildness and naturalness be preserved. Congress defined Wilderness as an area "...in contrast with those areas where man and his works dominate the landscape, as an area where the earth and its community of life are untrammeled by man." Untrammeled, as mentioned in the Wilderness Act, is often defined as unmanipulated, self-willed, autonomous, and wild, or that which "retains its primeval character and influence, without permanent improvements." Congress further defined Wilderness as an area that is

"protected and managed so as to preserve its natural conditions… with the imprint of man's work substantially unnoticeable" and that Wilderness "has outstanding opportunities for solitude or a primitive and unconfined type of recreation" (Public Law 88-577 [16 USC 1131-1136]).

The Wilderness Act does not define wilderness character, but according to Landres et al. (2005), Wilderness character may be described as the "combination of biophysical, experiential, and symbolic ideals that distinguish Wilderness from all other lands." There are four qualities of wilderness that may be used to approximate wilderness character for the purposes of monitoring changes to wilderness character over time. These qualities, which were identified based on the definition of wilderness, Section 2(c) from the 1964 Wilderness Act, and are described below, are equally important and reinforce one another.

Untrammeled—The Wilderness Act states that wilderness is "an area where the earth and its community of life are untrammeled by man" and "generally appears to have been affected primarily by the forces of nature." This quality refers to wilderness being essentially unhindered and free from modern human control or manipulation.

Though management actions occasionally occur within the wilderness areas, including fire suppression and livestock grazing operations, generally few trammeling actions manipulate the environment.

Natural—The Wilderness Act states that Wilderness is "protected and managed so as to preserve its natural conditions." This quality refers to the intended and unintended effects of modern people on ecological systems inside Wilderness since the time of designation.

The wilderness areas are largely in a natural state, although past and ongoing actions have caused changes in natural processes. These include invasive species establishment and changes in natural fire regimes.

Undeveloped—The Wilderness Act states that Wilderness is "an area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation." The undeveloped quality refers to the presence of structures, construction, habitations, and other evidence of modern human presence or occupation, including the development level of trails and campsites.

The undeveloped quality also refers to the absence of mechanical transport and motorized equipment. Wilderness was partly established "in order to assure that…growing mechanization, does not occupy and modify all areas within the United States…" (Wilderness Act, Section 2a).

Trail systems exist in four wilderness areas, but trail density is low. Mechanical transport and motorized equipment is rarely used and only after an analysis of the minimum tool needed.

Outstanding opportunities for solitude or a primitive and unconfined type of recreation—The Wilderness Act states that Wilderness has "outstanding opportunities for solitude or a primitive and unconfined type of recreation." This quality includes the values of inspiration and physical and mental challenge. Primitive recreation in Wilderness has largely been interpreted as travel by nonmotorized and nonmechanical means. It also encompasses reliance on personal skills to travel and camp in an area. Unconfined encompasses attributes such as self-discovery, exploration, and freedom from societal and managerial controls.

All six Wilderness areas offer opportunities for solitude, although in some areas being away from sights and sounds of humans may be difficult. Challenge and risk exists, especially off trails and in the Cruces Basin Wilderness, where only informal trails exist. Concentration of visitors in some desired destinations, such as Wheeler Peak and in the riparian corridor of the Pecos Wilderness can mean less opportunities for solitude and remoteness in certain times and seasons.

Environmental Consequences of the Proposed Action

Direct and Indirect Effects

The qualities of untrammeled, undeveloped and natural would not be affected under the proposed action. These are related to large-scale ecological processes, management actions that manipulate the environment, the presence of non-recreational structures and developments, and the use of motorized equipment and mechanized transport. Authorized outfitter-guides would be using existing trails and campsites and would be subject to permit stipulations. In addition, issuance of new permits would be considered under the findings of the Needs Assessment, which identified those activities that meet the "extent necessary" criteria under the Wilderness Act.

The proposed action would allow for additional outfitter-guide businesses and conversion of transitional priority permits to priority. It is unlikely that all service days will be allocated each season. Outfitter-guide allocations could either increase or decrease in the wilderness areas, depending on the compartment and requests from proponents. While it is possible that certain locations may receive increased use and others may receive less, overall, visitors would still be able to find opportunities for solitude and primitive and unconfined recreation in the wilderness areas.

There would be no effects of the proposed Forest Plan amendment to eliminate the hunting capacity on the Jicarilla Ranger District, as there are no Wilderness areas on that District.

Cumulative Effects

No cumulative effects are expected.

Wildlife

Existing Condition

Federally Threatened, Endangered and Proposed Species

The Information, Planning and Conservation System (IPAC) website for U.S. Fish and Wildlife Service was used to determine which listed species are found in Colfax, Mora, Rio Arriba and Taos counties where the project area is located. The list was generated on March 30, 2015. Species lists are requested to fulfill the requirement under Section 7(c) of the Endangered Species Act (ESA) and the review of this website meets this requirement. Table 8 is a list of all federally threatened, endangered and proposed wildlife species on the Carson NF.

Table 8. Federally Threatened, Endangered, and Proposed Wildlife Species on the Carson NF

Species	Legal Status	Habitat Present	Habitat not present	Habitat present but not affected	Does not occur in area	Comments
Birds						
Interior least tern (*Sterna antillarum*)	Endangered		X			Forest is not within the range of this species.
Mexican spotted owl (*Strix*	Threatened			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect

Species	Legal Status	Habitat Present	Habitat not present	Habitat present but not affected	Does not occur in area	Comments
occidentalis lucida)						habitat components (conifer tree species).
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered			X		Habitat is present on the Forest however issuance of outfitter-guide permits will not affect habitat components (*Salix* sp. and other riparian vegetation).
Western Yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Threatened			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat component (large cottonwood trees).
Amphibians						
Jemez Mountains salamander (*Plethodon neomexicanus*)	Endangered			X	X	Jemez Mountain Salamander is only found in the moist microclimate of the Jemez Mountain Range in New Mexico. The project area is outside of the Jemez Mountain Range. Species does not occur within project area. No further analysis required.
Mammals						
Black-footed ferret (*Mustela nigripes)*	Endangered			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (prairie dog towns over 200 acres).
Canada lynx (*Lynx canadensis*)	Threatened			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (spruce-fir stands).
New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	Endangered			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not remove their habitat component (wet meadow with 2-3 feet forb vegetation height)
Fish						
Rio Grande silvery minnow *(Hybognathus amarus)*	Endangered		X			Forest is not within the range of this species.

Forest Service Sensitive Species

There are 33 wildlife species on the USDA R3 Regional Forester's Sensitive Species 2013 list that occur on the Carson NF. The Forest has developed a list (USDA 2015a) that breaks down the range of species by district. Table 9 is a list of Forest Service sensitive wildlife species on the Carson NF.

Table 9. Region 3 Regional Forester's Sensitive Wildlife Species on the Carson NF

Species	Habitat present	Habitat not present	Habitat present but not affected	Does not occur in area	Comments
Invertebrates					
Nokomis fritillary (*Speyeria nokomis Nokomis*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (bog violets and composite plants).
Birds					
Bald eagle (*Haliaeetus leucocephalus*)			X		Winter habitat is present on the Forest however issuance of outfitter-guide permits will not affect habitat components (large roosting trees and open bodies of water).
Northern goshawk (*Accipiter gentiles*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (conifer and aspen stands).
Western burrowing owl (*Athene cumicularia hypugaea*)			X		Habitat is present on the Forest however issuance of outfitter- guide permits would not affect habitat components (grasslands)
Peregrine falcon (*Falco peregrinus*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect their habitat components (cliff habitat for nesting).
Western Yellow-billed cuckoo (*Coccyzus americanus occidentalis*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (large cottonwood trees)
Boreal owl (*Aegolius funereus*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (mature and old growth spruce fir and lodgepole stands).
Gray Vireo (*Vireo vicinior*)			X		Habitat present and occurs on the Jicarilla Ranger District. Issuance of the outfitter-guide permits would not affect habitat components (chaparral-juniper, and mixed piñon)
White-tailed ptarmigan (*Lagopus leucurus*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (Tundra

Species	Habitat present	Habitat not present	Habitat present but not affected	Does not occur in area	Comments
					shrub (willows), rocky tundra).
Amphibians					
Northern leopard frog (*Rana pipiens*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (wet meadows, riparian areas, waterways).
Boreal toad (*Bufo boreas boreas*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (high elevation wetlands, near open water).
Mammals					
Gunnison's prairie dog (*Cynomys gunnisoni*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (grasslands).
American marten (*Martes americana origenes*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (old-growth spruce-fir habitat) .
Pika (*Ochotona princes*)			X		Habitat present however issuance of outfitter-guide permits would not remove their habitat component (rock talus)
Cinereus (masked) shrew (*Sorex cinereus cinereus*)			X		Habitat is present on the Forest, however issuance of outfitter-guide permits would not affect habitat components.
Water shrew (*Sorex palustris navigator*)			X		Habitat is present on the Forest, however issuance of outfitter-guide permits would not affect habitat components (streams, riparian vegetation, beaver lodges, floating logs)..
Spotted bat (*Euderma maculatum*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (Ponderosa pine forests, desert scrub, marshlands).
Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (caves, lava tubes, abandoned mines, riparian areas).
Rio Grande Sucker (*Catostomus plebeius*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (perennial cold water streams)
Rio Grande Chub (*Gila pandora*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would

Species	Habitat present	Habitat not present	Habitat present but not affected	Does not occur in area	Comments
					not affect habitat components (perennial cold water streams)
Rio Grande Cutthroat Trout (*Oncorhynchus clarki virginalis*)			X		Habitat is present on the Forest however issuance of outfitter-guide permits would not affect habitat components (perennial cold water streams)
Sangre De Cristo Pea clam *(Pisidium sanguinichristi)*			X		Habitat and occurs in Middle Fork Lake on the Questa Ranger District however issuance of outfitter-guide permits would not affect habitat at Middle Fork Lake

Management Indicator Species

The Carson National Forest Land and Resource Management Plan (as amended) identified 11 wildlife species as management indicator species (MIS) to monitor the health of the forest's ecosystems (USDA 1986). The forest plan provides direction on managing quality habitat for MIS by management area (MA). All 11 MIS were considered in the Forest's issuance of priority outfitter-guide service day allocations. Effects to MIS can occur as a result of the presence of outfitter-guides and their clients. The wildlife report for this project lists the MIS and their habitat in more detail, but as stated in the report the MIS are not analyzed in detail because there are minimal effects to the habitat components these species are an indicator for.

Migratory Birds

New Mexico Partners in Flight identifies physiographic areas and high priority migratory bird species by broad habitat types (NMPIF 2003). The west-side of the Carson NF is within the Southern Rockies/Colorado Plateau bird conservation region. New Mexico Partners in Flight has also developed a list of highest priority breeding bird species by habitat type. The U.S. Fish and Wildlife Service released its updated "Birds of Conservation Concern Report" in December 2008 (USDI 2008). This analysis considers birds from both sources. See the wildlife report for more information on migratory birds and their associated habitat.

Environmental Consequences of the Proposed Action

Direct and Indirect Effects

Federally Threatened, Endangered and Proposed Species, Forest Service Sensitive Species and Management Indicator Species (MIS)

Direct effects from the proposed action on the species listed in tables 8 and 9 and MIS (see wildlife report for list of MIS) may occur to individual amphibians, birds and mammals if they are present in areas where outfitter-guides and their clients are passing through or in areas where they are camping. Individual species may by disturbed or temporarily displace from these areas while humans are present. The effect would be short term and minimal to all species listed in tables 8 and 9. Once guided groups have passed through or vacated areas, individual wildlife species will likely return to these areas. The risk and frequency of this occurring is very low and

would only affect individuals because not all outfitter-guides would be using the forest at the same time or in the same areas. The proposed action could have less impact in the long term in some high-use compartments where, potentially, less guided use could occur because of the allocation restrictions in those areas. Though allocations may change over time, these compartments were identified as receiving more visitor use and would likely continue to have some type of allocation in the future. In summary, effects are likely to be short term and would not result in any long term adverse effects.

Migratory Birds

The proposed action may affect migratory birds due to disturbance associated with the presence of outfitter-guides and their clients. It could result in temporary displacement of birds and the effect would be short term and minimal. In areas where outfitter-guides and their groups are camping, disturbance would occur for a longer period of time due to overnight stays. If birds are nesting in camping areas, it could result in individual birds leaving nests for periods of time. This may have an adverse effect depending on how close the nest is to camping areas and how long individual birds leave a nest. Under the proposed action, outfitter-guides would use the same areas for camping as the general public. Birds occupying these areas may be used to the periodic presence of humans and may remain in the area. The effect would be short term because birds would likely return to these areas once disturbance has ceased. The risk and frequency of this occurring is also low because not all outfitter-guides would be operating on the forest at the same time in the same areas throughout the year.

Direct and Indirect Effects Common to All

Best Management Practices (BMPs) related to hydrology would limit where roads and campsites are located thus minimizing effects to riparian and water dependent species. It also minimizes any effects associated with the use of these areas by outfitter-guides and their groups. These BMPs as well as the permit stipulations would mitigate effects to natural and cultural resources and would minimize any effects outfitter-guide use would have on the environment. There would be no additional ground disturbance associated with the issuance of permits and the amount of use would remain comparable to the existing condition. Additional permits may be issued in the future by compartment and would only be issued if additional use would not exceed capacity limits established or would cause impacts above thresholds for the compartments without allocations.

The proposed Forest Plan amendment to eliminate the hunting capacity on the Jicarilla Ranger District could lead to a higher concentration of visitors in certain campsites and trails and occasionally cross-country on foot. However, these areas are already used by the general public and are currently authorized for outfitter-guide use. Stipulations would be added to new permits to lessen potential impacts.

Cumulative Effects

The spatial scale for the cumulative effects for this project is the Carson NF, and the temporal scale is 10 years or the life of the permit. The presence of outfitter guides and their clients may result in temporary disturbance to species that are in the area where activities occur, however species are likely used to the intermittent presence of humans along trails and roads and even in camping areas. There would be no long term adverse effects to species as a result. When added to all activities that have occurred, are occurring or may occur in the foreseeable future, the project would not result in a cumulative effect to any species listed in this document.

Other Disclosures

Civil Rights and Environmental Justice

See earlier discussion of the consultation and the involvement of Native American Tribes. There have been no issues or concerns raised with adverse effects to Native American Tribes. There are no known direct, indirect, or cumulative effects on Native Americans, minority groups, women, or civil rights.

Environmental Justice means that, to the extent practical and permitted by law, all populations are provided the opportunity to comment before decisions are made and are allowed to share in the benefits of government programs and activities affecting human health and the environment.

Executive Order 12898 on environmental justice requires federal agencies to identify and address any disproportionately high and adverse human health or environmental effects on minority and low income populations. The proposed action alternative would have no disproportionately high or adverse effects to minority or disadvantaged groups qualifying under the environmental justice order. Scoping has raised no issues or concerns associated with the principles of environmental justice. The proposed action alternative does not have a disproportionately high and adverse human health effects, high or adverse environmental effects, substantial environmental hazard or effects to differential patterns of consumption of natural resources. All interested parties will continue to be involved with commenting on the project and the decision making process.

Congressionally Designated Areas

This analysis discusses why action is needed and the effects of the project on congressionally designated areas such as the wilderness areas on the Carson NF. No wilderness area or other designated area would be adversely affected by the proposed activities. No significant irreversible or irretrievable commitment of resources would occur under the proposed action because outfitter-guide permits are controlled by permit stipulations that serve to protect the area.

Prime Farm and Forest Lands and Wetlands

The Secretary of Agriculture issued Memorandum 1827 which is intended to protect prime farm lands and range lands. The project area does not contain any prime farmlands or rangelands. Prime forestland is not applicable to lands within the National Forest System. There would be no direct, indirect, or cumulative adverse effects to these resources and thus are in compliance with the Farmland Protection Act and Departmental Regulation 9500-3, “Land Use Policy.” Potential effects to wetlands are considered in the “Water Resources” section of this analysis. The analysis concluded there are no negative impacts of the proposed action alternative to wetlands.

Compliance with Other Policies, Plans, Jurisdiction

The proposed action alternative is consistent with the goals, objectives and direction contained in the Carson National Forest Land and Resource Management Plan. Implementation would be consistent with relevant federal, state and local laws, regulations, and requirements designed for the protection of the environment including the Clean Air and Clean Water Act. Effects meet or exceed state water and air quality standards.

Persons and Agencies Consulted

The development of this environmental analysis involved numerous people, agencies, groups, and governments. The following is a list of the person(s) and agencies consulted.

- Angel Fire Chamber of Commerce
- Aztec Chamber of Commerce
- Bloomfield Chamber of Commerce
- Boy Scouts of America
- Bureau of Land Management, Taos Field Office
- Center for Biological Diversity
- Enchanted Forest Cross Country Ski Area
- Farmington Chamber of Commerce
- Forest Guild
- Ghost Ranch
- La Jicarita News
- Mayor, Angel Fire
- Mayor, City of Aztec
- Mayor, City of Farmington
- Mayor, Town of Red River
- Mayor, Town of Taos
- Mayor, Village of Taos Ski Valley
- Mayor, Village of Questa
- NM Department of Game and Fish
- NM Environment Department, Surface Water Quality Division
- NMOHVA
- NM Wilderness Alliance
- NM Wildlife Federation
- Philmont Scout Ranch
- Quivira Coalition
- Red River Ski Area
- Rio Arriba County Chamber of Commerce
- WildEarth Guardians
- Sipapu Ski and Summer Resort
- Sportsmen for Fish & Wildlife New Mexico
- Taos Ski Valley
- Trout Unlimited, Truchas Chapter
- All permitted outfitter-guides on the Carson NF

Currently permitted outfitters and a variety of individuals who had expressed interest in similar projects were also notified.

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Appendix A. Outfitter-Guide Operating Plan Terms and Conditions (or Stipulations)

These are EXAMPLES (not a comprehensive list) of permit stipulations that are included in each outfitter-guide's operating plan (Carson NF, 2015). They are representative of the types of stipulations often included in permits. Permit stipulations are developed to protect natural and social resources. Permit stipulations may vary as appropriate based on specific activities, areas, needs, conditions and/or changes in management direction.

A. General Provisions

1. All operations and activities will practice the techniques and concepts of "Leave No Trace", as described and outlined in the "Leave No Trace" materials available upon request prior to permit authorization. All outfitters and guides operating under the permit will be familiar with and will practice these outdoor ethics. If the use of ATVs or other off highway vehicles is authorized, then the permittee must follow the Tread Lightly! Principles.

2. All prohibitions and regulations will be known and followed upon entering an area, including temporary restrictions on fires, smoking, and use of mechanized equipment. Permittees shall inform members of their party of all regulations and prohibitions and shall do all in their power to obtain compliance by such members.

3. Shortcutting switchbacks on trails is prohibited (both motorized and non-motorized, vehicle, foot and horse traffic).

4. All gates encountered will be closed, unless posted otherwise.

5. Motorized travel shall conform to the Forest restrictions or Travel Area Legends on the Carson National Forest Map or the Motor Vehicle Use Map (MVUM). For specific information, please contact your permit administrator.

B. Camp Operations

1. Permanent camps and/or improvements are not allowed. Temporary camp locations, duration of stay and temporary improvements must be approved in advance by the appropriate district contact. Temporary camp locations shall not be repeatedly used if permit monitoring indicates resource damage is occurring.

2. Camps may be set up a maximum of five days prior to use. Camps and equipment shall be removed within 5 days after use unless approved in advance by the Authorized Officer. Permanent caches of equipment or gear are not allowed. Caches are not authorized within wilderness. Camp site use shall not exceed 14 days at a time.

3. Care shall be taken to prevent contamination or pollution of natural water sources. Equipment, dishes, clothes, and bodies will be washed at least 200 feet from any water source. All camps must be located at least 50 feet from any water source (for example - streams, lakes, creeks, wetlands, etc.)

4. All refuse will be packed out. No trash or food waste will be buried or burned.

5. Use of dead and down wood for temporary improvements such as hitch and game hanging rails and tent frames is permitted, but must be removed within 5 days. When camps and temporary improvements are dismantled, wood will be scattered or placed so as to blend into the natural setting. Standing dead or live trees or branches of live trees will not be cut. Dead and down wood or green trees shall not be cut or removed from riparian areas.

C. Livestock Provisions

1. Only safe, sound, well-broken saddle and pack stock will be used.

2. Racing and other hazardous horsemanship practices will not be allowed.

3. All riders will be given specific instruction concerning stock handling.

4. Stock should be fed exclusively weed-free or pelletized feed for a minimum of 24 hours prior to entry on National Forest land. Pelletized feed will be packed in for all livestock unless grazing is specifically authorized for an area. Hay and straw shall not be brought onto the National Forest, unless certified weed free.

5. Stock shall not be tied to trees for more than two hours or the time needed to pack, unload, or saddle animals. Stock restrained for longer periods of time will be high-lined, picketed, or hobbled. Trees used for high-lining or tying will be at least four inches in diameter. Holes pawed by stock will be filled and naturalized.

6. Temporary electric fence corrals are authorized for control of livestock.

7. There will be no loose herding of stock, except in unsafe conditions.

8. Only livestock actually used for a particular operation shall be permitted.

9. If a temporary corral is authorized and constructed, all of it must be removed prior to leaving, and the site shall be naturalized.

10. Stock will be high-lined, picketed, and fed at least 200 feet from any surface water. Outfitters may not have more stock than necessary for current activity. All livestock no longer being used must be removed from the Forest immediately; livestock may not be maintained on the Forest in anticipation of future need. There will be NO OPEN GRAZING of stock associated with uses authorized under this permit. Weed-free feed must be provided for all livestock.

D. General Wilderness/Wilderness Study Area Provisions

1. "Pack It In, Pack It Out". Cat holes are the preferred method of human waste disposal. Please refer to the "Leave No Trace" guidelines for specific details of construction. Toilet pits or latrines must have prior approval by the authorized officer.

2. Camp stoves are preferred. The amount of dead and down wood at the site, the fire hazard, and the need for the campfire should be evaluated before a fire is started. Standing dead or green wood will not be used for campfires. Firewood will not be collected from riparian areas. Fires will be built using a fire pan or the fire pit method. Rock rings will not be constructed.

3. It is prohibited to use or possess motorized equipment or mechanized transport in designated wilderness. This includes but is not limited to motor vehicles, chainsaws, generator, cars, bicycles, and cordless electric drills. Manual or electric wheelchairs are exempt.

4. All operations within designated wilderness and wilderness study areas will be conducted with "awareness for wilderness values." Each operator is responsible for protection of unimpaired conditions and promotion of an appreciation of the untrammeled nature wilderness.

The following lists of conditions are EXAMPLES (not a comprehensive list) specific to the Ranger District(s) in which you are operating. If a provision listed below is more stringent than in the above guidelines, then the stricter requirement must be followed:

QUESTA RANGER DISTRICT PROVISIONS

Wheeler Peak and Latir Peak Wildernesses, Columbine Hondo Wilderness Study Area

- No campfires or camping within 300' of Horseshoe Lake, Lost Lake, Williams Lake or Heart Lake.
- Group size is limited to 15 people and 15 stock animals.
- Camping is prohibited within 50' of a trail or any water source (streams, lakes, creeks, wetlands, etc.).
- All "Leave No Trace" principles must be followed for camps *and livestock*.
- Wheeler Peak Wilderness has an established capacity for Outfitter/Guide service days.
- Stock will be high-lined, picketed, and fed at least 200 feet from any water. Outfitters may not have more stock than necessary for current activity. All livestock no longer being used must be removed from the Forest immediately; livestock may not be maintained on the Forest in anticipation of future need. There will be **NO GRAZING** by livestock owned or operated by outfitters or guides on these designated wildernesses or wilderness study areas. Weed-free feed must be provided for all livestock.
- Latrines, rather, than cat holes, must be used if a camp is in place for more than 3 nights or for any camp of 6 or more people. If a latrine is used, it must be located at least 200 feet from water. Toilet pits will be filled with earth when the excrement level reaches a point one foot below ground level. A new location will then be selected. All pits will be covered with a minimum of 12 inches of earth when use is terminated. Pits should be wider than they are deep.

As professional outfitters with regard to backcountry use, and having a very high profile and status as a result of our profession, we will do our best to set the example for other Forest users regarding "Leave No Trace" Practices, backcountry ethics, and caring for the land and other users. As a wilderness outfitter it is my responsibility to preserve and

protect the wilderness resource. Listed below are the characteristics I, and those that work for me, will do our best to exemplify as wilderness outfitters:

- Have an understanding of and a personal appreciation of the wilderness resource.
- Place the wilderness resource above the ease and convenience of ourselves and our clients.
- We will not sacrifice the wilderness resource for economic gain.
- We will be keen observers and interpreters of natural processes.
- Pass on to our clients, wilderness history, ethics and values.
- We will continually experiment with "light-on-the-land" techniques.
- We recognize the value of opportunities for solitude in the wilderness experience.
- Our advertising represents the experience as primitive and unconfined recreation; and prepares clients in advance for a "wilderness" experience in contrast with their daily life.
- We take pride in keeping traditional skills alive.

VALLE VIDAL PROVISIONS

- Parking within the unit is restricted to established parking lots, campgrounds, and within 20 feet of most open roads. Some designated areas along roads are closed to all parking. Signs identify these areas.
- Camping is permitted ***only*** in developed campgrounds, or backcountry camping is available in all areas ***except***: within ½ mile of open roads, within 100 yards of all natural waters, within 300 feet of all man-made waters.
- Saddle and pack stock users in the campgrounds are required to keep their stock in designated areas, following rules posted in the campground.
- Motorized travel, including ATV's, is restricted to FR 1900, 1910, 1913, and 1914, 1950. Off-road motorized travel is prohibited.
- There are two seasonal closures for protection of wildlife. Contact the Questa Ranger District for specific information.

Motorized Travel

- All motorized travel is restricted to designated forest roads and motorized trails. Direct motorized access from these roads and trails to temporary campsites within 100 feet is permitted where such use will not damage the land, vegetation, streams or wetlands.
- Seasonal road closures for wildlife or other resource protection must be observed.