

Trout Waters is located in the Recreational segment (1/4-mile above Cowles Bridge to 1/2-mile above the Mora River confluence): “Use only artificial flies and lures with single, barbless hooks, and daily bag limits of 2 fish, at least 12 inches long.”

### **Fish – Environmental Consequences**

Under the No Action Alternative, there would be no change from existing conditions just described. The Pecos River aquatic habitat and fisheries would continue to be maintained as a “high quality coldwater fisheries” stream.

#### All Action Alternatives

Under all action alternatives, water quality, riparian areas, and fish habitat would improve slightly over the existing conditions. The prohibition on removal of woody debris and cutting of snags and down logs would provide the largest benefit in the protection of fish habitat and is common to the three action alternatives. Allowing harvesting and prescribed fire to control fuels would help reduce the potential for the entire Pecos genetic stock to be lost in a catastrophic wildfire.

Under the No Grazing Option, there would be no notable effects to fisheries because existing water quality and aquatic conditions are already excellent.

### **3.14 Wildlife and Rare Plants– Affected Environment**

The WSR corridor contains a wide variety of habitats, which in turn results in a wide array of wildlife species (see Figure 10). Several game and non-game species inhabit or travel through the corridor. Bear, elk, deer, bighorn sheep, mountain lion, and bobcat are relatively common, along with an assortment of raptors, birds, small mammals, and reptiles. The corridor is also provides some habitat for federally threatened or endangered species, sensitive species, management indicator species, and migratory birds. Additional analysis of and details about wildlife and rare plants are contained in the project record.

The existing laws, regulations, directives and Forest Plan standards and guidelines offer sufficient protection of wildlife species. The existing conditions did not indicate a need for additional programmatic direction for wildlife in the corridor.

#### Threatened, Endangered, and Proposed Species

Table 6 below shows threatened or endangered wildlife and plant species, and those species proposed for listing, that may occur on the Santa Fe National Forest. Also refer to the Biological Assessment in the project record for additional details.

**Table 6 - Federally listed TE&P species which may occur on the SFNF**

Species Name	Status	Habitat in Corridor
Bald eagle	T	No
Black-footed ferret	E	No
Holy Ghost ipomopsis (plant)	E	Yes
Mexican spotted owl	T	Yes
Mountain plover (plant)	P	No
Southwestern willow flycatcher	E	No

T = threatened; E = endangered; P = proposed

Of the Threatened or Endangered Species above, only the Holy Ghost ipomopsis and the Mexican spotted owl have habitat in the corridor. The rest, which do not have breeding habitat in the corridor, would not be affected by this plan. For example, bald eagles are transient in the corridor, do not over winter in the area, and do not have suitable habitat for nesting and roosting. Southwestern willow flycatcher habitat consists of wide floodplains and backwaters with dense woody vegetation that does not exist in the WSR corridor (Sogge 1997). The black-footed ferret is a prairie dog-obligate species and there are no grasslands suitable for prairie dog towns in the corridor. Similarly, grasslands suitable for the mountain plover also do not exist in the corridor.

The Holy Ghost ipomopsis and Mexican spotted owl are the only federally listed species that occur or have habitat in or adjacent to the WSR corridor. The only known population of Holy Ghost ipomopsis is endemic to the Holy Ghost Canyon summer home area, which lies just outside the corridor boundary by 0.14 mile. This population inhabits approximately 200 acres along a 2.2-mile (3.5 km) stretch of Holy Ghost Canyon. The plant appears to prefer bare mineral soil and open forest canopy, reaching its highest densities on disturbed sites such as road embankments. About 80% of the population occurs on the cut-slopes of Forest Road 122. Fire suppression in Holy Ghost ipomopsis habitat has relegated the plant to disturbed sites such as these road cuts (Sivinski 1991). The ipomopsis has persisted despite heavy use and disturbance in Holy Ghost Canyon and on FR 122. A 1990 survey estimated that the population consists of approximately 2,500 individuals.

The WSR corridor does not contain designated critical habitat for Mexican spotted owl, although the Recreational segment of the corridor does contain Protected and Restricted habitat<sup>1</sup>. The Recreational segment of the corridor contains suitable habitat, characterized by steep topography, cool shady canyons, and mixed conifer forest (Douglas-fir, Englemann spruce, white fir). Ponderosa pine also occurs in this segment and may be used by spotted owls for foraging. The Wild segment does not contain suitable spotted owl habitat. Spotted owls have not been found in the corridor. Spotted

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<sup>1</sup> Protected habitat includes mixed conifer and pine-oak associations on slopes >40% not harvested in 20+ years, and any PACs. Restricted habitat includes all other mixed conifer and pine-oak areas, and riparian zones.

owl surveys were conducted in the Recreational segment between Cowles and the confluence with Jacks Creek, and in the Wild segment along several tributaries to the Pecos River, just outside the corridor. No spotted owls were found in any of the surveyed areas and no PACs (Protected Activity Centers) are located within or near the corridor.

Sensitive Species

There are many Forest Plan standards and guidelines designed for protection of sensitive species, including northern goshawk direction from the 1996 Forest Plan amendment and standards for peregrine falcon, along with Arizona willow direction from the interagency Conservation Agreement. The Biological Evaluation in the project record contains additional details about the sensitive species that may occur in the corridor.

Sensitive wildlife and plant species on the current Regional Forester's Sensitive Species list and the USFWS Candidate Notice of Review that may occur on the Santa Fe National Forest are listed in Table 7 (from USDA-FS 2000 and 2002 respectively).

**Table 7 - Region 3 (Southwest) Sensitive Species that may occur on the SFNF**

Species Type	Species Name	Habitat in Corridor
BIRDS	Boreal owl	Yes
	Northern goshawk	Yes
	Peregrine falcon	Yes
	White-tailed ptarmigan	Yes
	Yellow-billed cuckoo*	No
AMPHIBIANS	Jemez mountain salamander	No
MAMMALS	Black-tailed prairie dog*	No
	Goat peak pika	No
	New Mexican (meadow) jumping mouse	No
	Swift fox	No
FISH	Pecos pupfish	No
	Rio Grande cutthroat trout	Yes
INSECTS	Blue-black silverspot butterfly	Yes
PLANTS	Arizona willow	Yes
	Chiricahua (bloomer's) dock	Yes
	Hairless (Pecos) fleabane	No

\*USFWS candidate species

Of those sensitive species listed above, the following do not occur or do not have habitat in the corridor and therefore will not be discussed: yellow-billed cuckoo, Jemez mountain salamander, black-tailed prairie dog, goat peak pika, New Mexican (meadow) jumping mouse, swift fox, hairless (Pecos) fleabane, and Pecos pupfish.

Sensitive species that use or have potential habitat in the corridor are as follows:

Boreal owls inhabit mature to old growth, spruce-fir forests above 8000 feet, thus they may inhabit portions of the Wild segment. Potential threats to boreal owl populations are activities that remove snags and old-growth forest.

White-tailed ptarmigan reaches its southernmost limits in the Sangre de Cristo Mountains, where it inhabits alpine tundra and timberline above 10,000 feet. Habitat for this species occurs only in the uppermost extent of the corridor in the Wild segment. While this species is sensitive to human presence and livestock grazing, this area is excluded from grazing and few people hike into this remote area.

Northern goshawk uses ponderosa pine, mixed-conifer, and spruce-fir forests with varying degrees of canopy closure; these forest types occur throughout the corridor. Goshawks generally return to the same area each breeding season. The Iron Gate goshawk PFA (post-fledgling area) overlaps the corridor, and was established in 1991 after a nest was discovered. Monitoring in 1992, 1993 and 1994 found the territory inactive. No occupied nest sites have been found within or adjacent to the corridor. Goshawks are sensitive to habitat loss from timber harvest and stand-replacing wildfire, and to disturbances during the breeding season.

Peregrine falcons prefer ponderosa pine, mixed conifer, and spruce-fir forests at elevations from 6,500 to 9,000 feet, habitat that exists throughout the corridor. Falcons forage in these forests and nest on cliffs near water. There are no falcon territories in the corridor; however, there may be suitable cliffs for nesting habitat in the box canyon.

The blue-black silverspot butterfly species and subspecies are riparian obligates found in and near moist meadows, seeps, marshes, and flood plains. The butterflies lay eggs at the base of violets, and when the caterpillars hatch, they feed on the leaves. Adults are observable from July to September. They are declining due to loss of riparian habitat and more water diversion within their range. It is unknown if the subspecies *S.n.nokomis* or its host plant occurs in the WSR corridor, although potential riparian habitat exists. A survey of the Cowles lease lot area in 2001 did not locate any butterflies or host plants.

The Arizona willow is found in sedge meadows and wet drainages in subalpine coniferous forest (10,000-11,200 ft.), which only occurs in a small part of the Wild segment above 10,000 feet elevation. Results of the 2001 range inspection report showed that only 20% of the plant was being utilized by browsing animals, including elk, deer, horses or cattle. Since cattle prefer to graze in drier grassy areas as opposed to the wet conditions that support willow, while elk graze in wet or dry meadows; it is assumed that a large percentage of browsing on Arizona willow is by elk (W. Britton, pers. comm.). Atwood's inventory in the Pecos Wilderness describes these populations as in good to excellent condition.

The Chiricahua (bloomer's) dock is a rare Southwest endemic plant occurring in mid- to high-elevation riparian areas and marshy wetlands. The species is highly palatable to livestock, and can be heavily impacted by grazing where it occurs. It is also sensitive to water diversion, development, road construction, wildfire and

recreation. It is unknown if the plant occurs in the corridor, although it has been reported in the Pecos Wilderness.<sup>1</sup>

The Rio Grande cutthroat trout population in the Wild segment above Pecos Falls is secure. Non-native trout cannot expand because the falls form a significant barrier to upstream migration. Similarly, the cutthroat trout cannot expand downstream because it cannot successfully compete with exotic trout species. The aquatic habitat for the cutthroat is not a limiting factor in the corridor.

### Management Indicator Species

Management Indicator Species for the Santa Fe National Forest were selected during development of the Forest Plan and are described in the Environmental Impact Statement, Santa Fe National Forest Plan, 1987 (page 96, 16-148). A brief summary of the habitat that each MIS species represents is presented in the following Table.

**Table 8 - MIS Species and Habitats**

<b>Common Name</b>	<b>Habitat Type Represented</b>
Merriams turkey	Early seral stage habitat in the ponderosa pine zone which allows for grass, forbs and mast-producing vegetation to grow
Piñon jay	Foraging habitat and mast-producing species in the piñon-juniper
Hairy woodpecker	Maturing forest habitat and snags
Mourning dove	Low elevation forest and grasslands, including ponderosa pine, aspen, and piñon-juniper forests with grassy understories.
Mexican spotted owl	Mature and old growth forest
Rocky Mountain elk	Forage availability and early seral stage habitat
Rocky Mountain bighorn sheep	Rocky areas in high elevation tundra or alpine forests, as well as high meadows
Rio Grande cutthroat trout	Riparian habitat and water quality

All MIS except piñon jay have potential habitat within the corridor. Mexican spotted owl and Rio Grande cutthroat trout were previously addressed. An assessment of surveys, monitoring results and population trends of MIS is available at the Forest Supervisor's Office in Santa Fe, New Mexico. MIS with habitat in the corridor are as follows:

Merriam's turkey is found in many mountainous areas of northern New Mexico. The bird uses ponderosa pine as a source of mast and as its preferred roosting tree. The turkey population on the Forest has between 1,000 and 10,000 breeding

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<sup>1</sup> Federal Register July 29, 1998 (Volume 63, Number 145)

females, with a stable to increasing trend. Their populations are generally trending upward throughout the West. In the WSR corridor, suitable habitat for the turkey can be found in the Recreational segment. However, due to the high level of human presence, turkeys do not utilize this area.

The hairy woodpecker has an estimated 10,000 and 100,000 breeding pairs on the Santa Fe National Forest and is considered abundant, and the population has a stable to increasing trend. The species is a forest generalist, keying in on large snags and live aspen. The WSR corridor has suitable habitat for the hairy woodpecker.

Mourning dove populations are stable or decreasing in New Mexico. The only known threats to the mourning dove are human encroachment into its habitat or over-hunting. Mourning dove habitat is abundant in the Santa Fe National Forest, with between 1,000 and 10,000 breeding females.

The Rocky Mountain bighorn sheep population on the Forest is stable or increasing, with 100 to 1,000 breeding females. The Pecos Wilderness population is at capacity for the available habitat, and NMG&F has transplanted several bighorn sheep from the Pecos to other Wilderness areas in New Mexico. Bighorn prefer steep, rocky terrain adjacent to suitable foraging meadows, which is available in parts of the Wild segment of the corridor.

Rocky Mountain elk populations on the Forest are stable to increasing, with between 1,000 and 10,000 breeding females. Suitable elk habitat occurs in the forests and meadows in both segments of the corridor.

### Migratory Birds

Migratory birds and their habitat are protected under the Migratory Bird Treaty Act and Executive Order 13186, as well as the Wilderness Act, Forest Plan and other laws, regulations and policies. New Mexico State Partners in Flight lists migratory bird “species of concern” by habitat type. The “highest priority species of concern” are found in four habitat types that occur in the WSR corridor, described as follows:

#### *High Elevation Riparian Woodland*

Riparian woodland, which contains native willow and cottonwood, exists in both the Wild and Recreational segments of the WSR corridor. Riparian habitat is rare and declining in the southwest, and loss of this habitat type has a negative effect on many bird populations. The riparian area in the Recreational segment is heavily used by the public, and has been for many years. It is assumed that species adaptable to disturbance share the area with the public, and more sensitive species avoid the area. Migratory birds using this vegetation type are:

American Dipper  
Black Swift  
Hammond's Flycatcher  
MacGillivray's warbler  
Painted redstart

Red-naped sapsucker  
Veery

### *Spruce/Fir Forest*

These forests are found at high, subalpine elevations, ranging from 8,000 to 12,000 feet (Wild segment of the WSR corridor), and consist of Engelmann spruce, Douglas-fir, subalpine fir or corkbark fir, with small components of aspen or blue spruce. Migratory birds using this vegetation type are:

Boreal owl (previously addressed as a sensitive species)

### *Mixed Conifer Forest*

Mixed conifer stands in the Southwest primarily contain white fir, Douglas-fir, corkbark fir, limber pine, scattered ponderosa pine and patches of aspen. Mixed conifer generally occurs between 8,000 to 9,500 feet in elevation (Recreational and Wild segments of the WSR corridor). Migratory birds using this vegetation type are:

Dusky Flycatcher  
Mexican spotted owl (previously  
addressed)  
Northern goshawk (previously  
addressed)

Olive-sided flycatcher  
Red-faced warbler  
Williamson's sapsucker

### *Ponderosa Pine Forest*

Ponderosa pine forests are found from 6,500 to 8,000 feet elevation (Recreational segment). They are bordered on the lower elevations by woodlands and at higher elevations by mixed conifer forests. Migratory birds using this vegetation type are:

Flammulated owl  
Grace's warbler  
Greater pewee  
Mexican spotted owl  
Northern Goshawk  
Olive Warbler  
Virginia's Warbler

### *Important Bird Areas (IBAs) and Overwintering Areas*

The WSR corridor is not recognized as an important bird area. The corridor is also not recognized as an important overwintering area because large concentrations of birds do not occur here, nor do unique or a high diversity of birds winter here.

### **Wildlife and Rare Plants – Environmental Consequences**

Under the No Action Alternative there would be no change in existing conditions just described. Potential impacts to wildlife and plants would continue to be analyzed when specific projects are proposed.

#### All Action Alternatives

None of the alternatives would directly alter wildlife or plant habitat because the plan is programmatic in nature. Potential impacts of site-specific activities would be analyzed on a project-level basis.

Under all action alternatives, restrictions on uncontrolled dispersed camping, parking, off road vehicles and user-created trails would reduce the amount of noise and traffic disturbance in the Recreational segment, particularly near the river, and restore some habitat. The restrictions would also protect rare plants that may be damaged by the uncontrolled recreational activities currently taking place. Regardless of the alternative selected, recreational use would still remain high in the Recreational segment; habitat improvements would be minor, and would not greatly affect species or their habitat. Species sensitive to noise disturbance either avoid the area or have become accustomed to human presence. For example, Mexican spotted owls are not particularly sensitive to noise, so there would be little difference between the alternatives in terms of disturbance to this species. In the Wild segment, use levels would remain low and the level of habitat protection would not be noticeably altered by any of the alternatives.

All action alternatives would improve vegetation recovery and habitat quality, such as by reducing the number of user-created trails and restoring ground vegetation in denuded areas. Under all action alternatives, permitting management activities such as thinning, harvesting and prescribed burning would create temporary habitat disturbances. However, that same management direction would open up overly dense canopies, increase understory vegetation, and reduce the risk of catastrophic wildfire, which would beneficially affect species and their habitat in the long-term since high severity wildfire is a much greater threat to these species than the management activities allowed in the corridor.

Eliminating and re-vegetating user-created roads and trails would further increase ground vegetation and thereby provide food and cover for prey species such as mice and voles, while adding to the diversity of plant communities in the corridor.

The No Grazing Option would not have noticeably different effects on wildlife or their habitats because cattle grazing is very limited in extent, duration and frequency within the corridor as described in the Livestock Grazing section. Since cattle do not use any of the Recreational segment, nor the high elevation spruce-fir or alpine habitat, they would not have any affect on those habitats. Grazing does not appear to be causing any significant damage to the riparian or uplands vegetation in the Wild segment where it occurs. It is not causing impairment of water quality or adversely impacting fish habitat, as described in the Water/Riparian and Fish sections. However, grazing does have the potential to reduce the abundance of the Chiricahua dock, so the No Grazing Option would improve habitat for the dock plant in the short stretch of stream above Pecos Falls. However, Atwood<sup>1</sup> discovered several populations in the drainages of the Pecos in the Wilderness and concluded that the species should not be considered rare.

The limited grazing that occurs within the corridor would have no measurable effect on the overall population or habitat of MIS (bird species) or migratory birds. None of the areas that are grazed by cattle are IBA's or overwintering areas. Therefore, the No Grazing Option would not be different than allowing current (limited) grazing with respect to effects to MIS and migratory birds. For elk, the No Grazing Option would reduce the competition for forage between cattle and elk in the portion of the Wild segment grazed by cattle. This would not likely result in an appreciable change in numbers of elk because the area of the WSR corridor grazed by both cattle and elk is small compared to the overall range of the elk herd. Competition for forage between bighorn sheep and cattle is unlikely because the sheep inhabit the high mountain alpine meadows where cattle are excluded by a fence.

### **3.15 Vegetation, Fire and Fuels – Affected Environment**

This section adds to the descriptions of wildlife and rare plant habitat from the proceeding section while avoiding duplication. Section 3.14 described the major forest types in the corridor: spruce-fir, mixed conifer and ponderosa pine. The Water and Riparian section described riparian vegetation that includes marshes and wetlands.

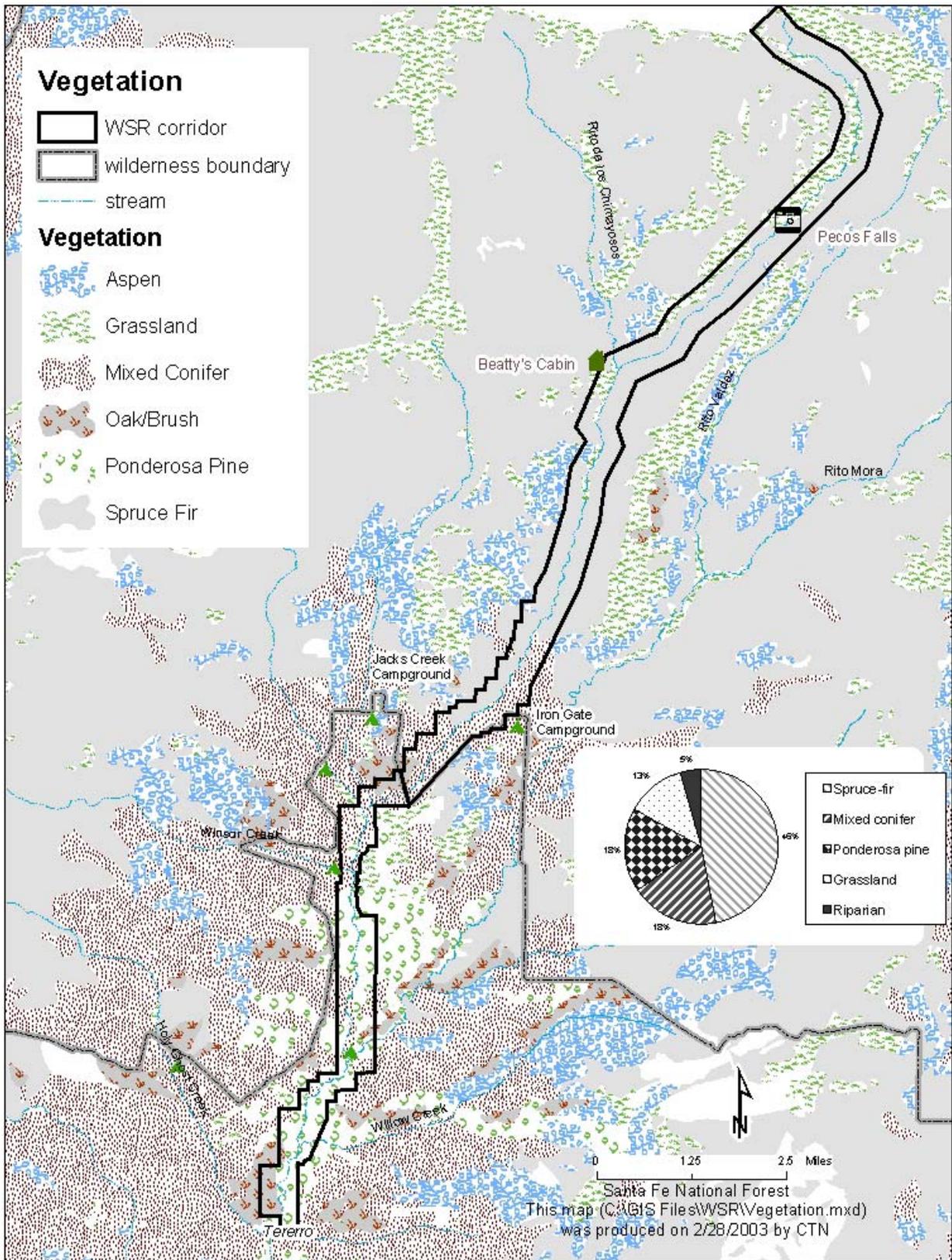
In addition to the major forest types listed above, alpine meadows, montane grasslands and wet meadows are interspersed with the forested areas throughout the corridor. Aspen is also interspersed in a few of the mixed conifer and spruce-fir stands in the corridor, and forms a large portion of the Wilderness landscape adjacent to the corridor. Aspen is an early seral species that readily regenerates from rootstock following disturbance by fire, windthrow or other events. It is relatively short-lived and is most often found as remnants in conifer stands over 120 years old.

Distribution of the major vegetation types is displayed in Figure 10.

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<sup>1</sup> Duane Atwood, Final report for the inventory of Salix arizonica on the Santa Fe National Forest

Figure 10: Distribution of the major vegetation types



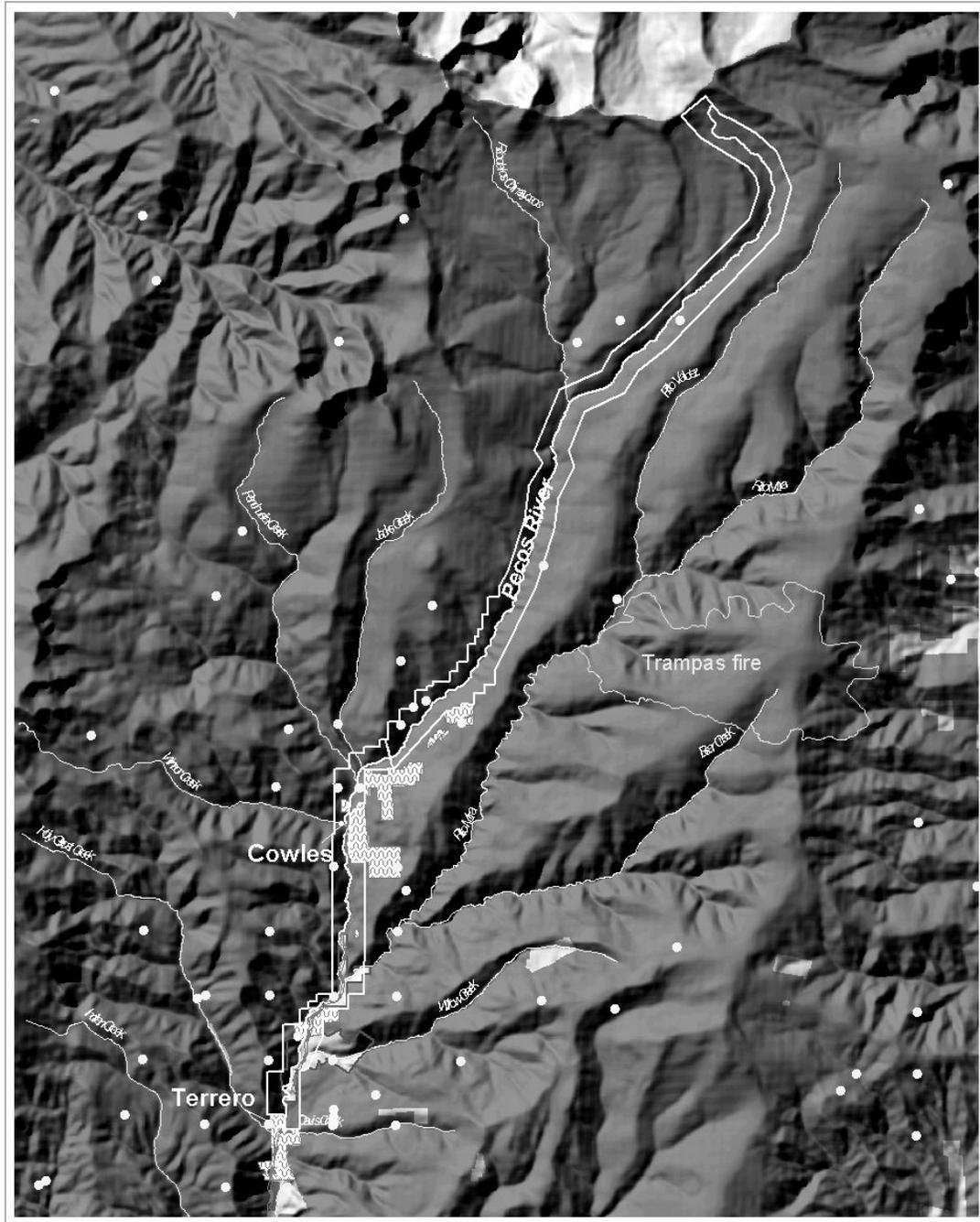
In addition to the diverse mix of vegetation types and species, there is a variety of size classes and stand structure (a mix of open and closed canopies and multi-storied canopies). Forest composition and structure is mostly influenced by natural succession patterns and disturbance from recreational activities. The forests, grasslands and riparian vegetation are in very good condition overall, other than in the localized disturbed sites previously described and some overly dense forest stands that are at high risk of mortality by wildfire. In the forests surrounding the corridor, the multi-storied closed-canopied forest structure creates a risk of a catastrophic fire, which could convert a large area of forest to an early successional stage of grasses, shrubs, aspen and other early seral species.

Part of the reason for the overly dense and vulnerable condition of the forest is due to a century-long policy to suppress all wildfires. Thus, forest stand densities are higher than what historically existed under natural fire regimes. In ponderosa pine stands, shade-tolerant Douglas-fir and white fir are increasing under mature pine trees. These “ladder fuels” exacerbate the potential for a high severity crown fire, and gradually take over former pine stands. Young conifer trees are also gradually taking over meadows that were historically maintained by fire. The exclusion of fire has altered the natural fire regime, which would normally create a patchy mosaic of openings in the forest canopy. Overall the fuel loadings and risk of a stand-replacement wildfire in the corridor are moderate to high, and the Recreational segment is within a “wildland urban interface” area containing residential cabins, administrative sites, and campgrounds.

Although the majority of the forested acres in the river corridor are on slopes greater than 40%, which limits the agency’s ability to thin the forest, it is important to maintain options to treat forest stands as needed to protect and enhance river values. The Forest Plan and agency directives currently allow prescribed burning to occur, even within the Wilderness under certain circumstances.

In addition, invasive non-native plants (also known as noxious weeds) are likely to occur in the corridor, particularly in the Recreational segment along the highway or in other disturbed sites. Invasive plants can be spread through the corridor by highway vehicles, recreational vehicles, mine remediation equipment, livestock, and the wind. These plants can reduce the abundance and diversity of native vegetation, resulting in a gradual decline in the sustainability of the native ecosystems.

Figure 11: Pecos Wild and Scenic River: Past Fires



-  WSR corridor
-  State road
-  Streams
-  Private property
-  State land
-  Past fire location

## **Vegetation, Fire and Fuels – Environmental Consequences**

Under the No Action Alternative, there would be no change in the existing conditions just described.

### All Action Alternatives

Under the action alternatives, the effects would be similar to those described for wildlife and rare plant habitats. By restoring heavily used dispersed camping and parking sites, user-created roads, trails and other denuded sites, there would be an increase in vegetative productivity and diversity. By allowing thinning, harvesting and prescribed burning, the long-term health and sustainability of the forests in and around the corridor would improve. Thinning the smaller trees and/or using prescribed burning to create openings in continuously dense stands would promote increases in grasses, forbs, shrubs and aspen, development of mature and old growth characteristics (such as larger trees, snags and down logs), and restoration of natural fire regimes.

Under the No Grazing Option, there would be a very slight potential increase in the height of grasses and forbs in the corridor, which would increase surface fuel loadings. However, the difference would not be sufficient to alter expected fire behavior if a fire is ignited in the WSR corridor.

### **3.16 Cumulative Effects**

Cumulative effects are those effects from other activities that may add to the effects of the alternatives analyzed in this EA. The other activities, called cumulative actions, are past, present or reasonably foreseeable future activities and land uses within or in close proximity to the corridor. The past, ongoing and foreseeable future activities have been described in the Affected Environment section of this chapter. Reasonably foreseeable future actions included federal land management activities scheduled or proposed for NEPA analysis, as well as any activities scheduled or planned on non-federal lands. Speculative future actions were not used in analyzing potential cumulative effects.

### **Recreation – Developed, Dispersed, and Trails**

The action alternatives would reduce dispersed and developed camping within the corridor. The Terrero Mine remediation project (including the closure of the Willow Creek road) has reduced the available dispersed and developed camping within the corridor and adjacent areas. Upon its completion, some camping would become available at the Willow Creek site. The proposed Links Tract Campground would also provide a substantial amount of developed camping just outside the corridor. The reduction of dispersed sites within and just outside the corridor would push dispersed camping further up the Davis-Willow Road and create additional impacts to this area. Dispersed camping on State lands would remain unchanged, providing ample opportunity for such camping off of National Forest System lands. Cumulatively, because the overall amount of dispersed camping would be reduced, new, user-created dispersed camping areas would likely be created outside the corridor.

The proposed management direction would reduce the amount of developed camping within the corridor. The temporary closure of developed sites at Willow Creek Campground in 1998 for the Terrero Mine remediation will continue for another two years or more. Outside the corridor, the proposed construction of Links Tract Campground in the Davis Willow area would provide additional developed camping. Cumulatively, there would be less developed camping in the corridor, and more outside the corridor in the uplands.

The closure of the Willow Creek road slightly reduced off-road driving in the corridor; the action alternatives would further reduce it on National Forest System lands. Off-road driving would still be available on State lands.

Cumulatively, there would be less off-road driving available.



**One of the pipe barriers in place north of the Mora Campground**

In recent years, the closure of the Willow Creek Site for the mine remediation and the pipe barriers at Mora has slightly reduced fishing access. The additional restrictions on dispersed use and parking would cause some cumulative reduction in fishing access.

### **Scenic Resources**

The action alternatives would improve scenery by reducing problematic activities in the immediate foreground. The remediation of the Terrero Mine has impacted the scenic quality for the short term. Scenery would improve in the long term as the site is re-vegetated. Other short term negative effects have resulted from prescribed burns done adjacent to the corridor. These effects are also temporary in nature and, coupled with new direction on fuels, may actually reduce the potential for large-scale effects from a catastrophic fire.

In the past decade, recreational users have been displaced by a variety of mine restoration projects. These users moved elsewhere in the corridor, and have created some impacts



**Overcrowding at the Mora Campground**

to scenery with user-created sites. In addition, much of the riparian area in the State campgrounds, as well as dispersed uplands sites on Forest Service land between Terrero and Cowles have been damaged and heavily altered as a result of uncontrolled vehicular and pedestrian traffic. NMG&F has recently installed pipe railing along portions of the river near Mora Campground as a vehicle barrier in order to rehabilitate the area. Walk-in use continues to be very heavy. Compacted soil, denuded vegetation, “browed out” areas, and erosion detract from the scenic integrity within the immediate foreground of these areas.

Cumulatively, the action alternatives would slightly improve the scenery in the immediate foreground of National Forest System lands; State lands would remain unchanged.

### **Cultural and Historic**

The action alternatives would protect cultural and historic resources. The Terrero Mine remediation has altered the remaining visible portion of the mine, and therefore to some degree, the historical context of the area. Trail use and dispersed camping on state lands would continue, so historic sites there may not be protected. Cumulatively, sites on National Forest System lands would be protected.

### **Livestock Grazing**

A small number of cattle and/or horses graze private lands in the Recreational segment; the No Grazing Option would not affect this either way. Each year, some grazing capacity is lost through competition with wildlife and tree encroachment. Cumulatively, the No Grazing Option would further reduce grazing opportunities.

### **Fisheries, Water, Riparian & Soils**

The action alternatives would improve water quality, fisheries, riparian conditions, and soils. Recent events and actions have created short-term adverse effects water quality. The mine remediation has caused short-term increases in sedimentation. Re-surfacing roads, working to improve stream channel stability in Willow creek, and removing or capping the tailings have all led to some effects. The mine remediation also temporarily displaced recreationists from developed sites, leading to increased use of dispersed areas. The Trampas Fire of 2002 has adversely affected water quality in the lower 3.4 miles of the corridor. Ash and sediment from the fire were visible in the river during heavy rains late last summer. These inputs have had some effect on water chemistry, turbidity, and sediment deposition downstream.

A number of efforts have attempted to remedy some of the conditions created by these actions. For example, the mine is being remediated, and the State has attempted to control recreational use.

Cumulatively, the action alternatives would substantially reduce the amount of soil compaction, erosion, stream sedimentation and damage to riparian vegetation; thus improvements in water quality and fish habitat would be realized.

Because cattle do not cause any significant effects to water quality in the Wild segment, there are no cumulative effects. As a side note, elk graze a greater portion of the corridor, including riparian areas, than do cattle. Elk wallows detract from water quality (see photo).



**An elk wallow in the Wild segment**

### **Wildlife & Rare Plants**

The effect of any of the action alternatives to wildlife and rare plants would be positive. The Terrero Mine remediation, private land development, small timber harvesting on private lands, and prescribed burns would cause very modest disturbance to wildlife and rare plants in the short term. Cumulatively, the action alternatives would improve wildlife and rare plant habitat.

The cumulative effects of cattle and elk grazing, and recreation use on water quality has been discussed previously. The effects to Rio Grande Cutthroat trout would be the same with no significant effects. The No Grazing Option would not result in noticeably different effects on the cutthroat or its habitat.

### **Vegetation, Fire & Fuels**

Most of the current conditions of the vegetation and fuels are a result of past practices. Past prescribed burning and, to a much lesser extent, harvesting on private land has created some areas where fuels are less continuous. These extremely modest effects would add to the effects of the action alternatives and would improve the long-term health and sustainability of the forests through reducing fuel loads and catastrophic fire risk.

A contradictory effect does exist, however. The increase in private land development, and shifts to dispersed recreation has increased the potential for “man caused” fire starts. Campfires, vehicles, smoking and power lines are all sources of ignition and with more people using the corridor this potential has increased.

## Past and On-Going Activities and Land Uses In and Around the WSR Corridor

**Table 9 - Summary table of cumulative effects**

Activity/Land Use	Positive Effects	Negative Effects
Hiking & user-created trails	access, recreation opportunities	riparian, water quality/ sedimentation, erosion, fish, heritage resources, scenery
Campgrounds and Use, Developed	access, recreation opportunity, reduces concentrated use impacts, reduces resource damage	localized “car camping” impacts near river to riparian, water quality/sedimentation, erosion, scenery
Campground and Use, Dispersed	access, recreation opportunity	riparian, water quality/ sedimentation, fish habitat, erosion, wildlife habitat, scenery
Backcountry camping	access	soil erosion & compaction
Hunting (minimal in corridor)	no effect	no effect
Fishing	recreation opportunity	
Horseback riding	recreation opportunity	grazing/vegetation, sedimentation, trail damage, horse manure & flies on trails
Picnicking	recreation opportunity	vegetation, riparian, water quality/ sedimentation, erosion, scenery
ORV use	recreation opportunity	vegetation, water quality, soil erosion & compaction, noise/ serenity
Water play- Wading	recreation opportunity	
Snow play, snowmobiling & skiing on side roads	no effect (minimal use in corridor)	no effect (minimal use in corridor)
Utility Lines	social value	scenery
Mine Remediation	long-term reduction in contaminants, improved water quality, vegetation, soil productivity	short-term impacts to scenery, rec. opportunity, water quality/ sedimentation, erosion, vegetation
Private Homes/On-going Development	social value/living near river	scenery, riparian, non-native species
Lease Lots	provides a unique recreational experience to lessees	riparian, non-native vegetation, rec. opportunity/perceived limitation to public access
Highway, Roads, and Road Use	social value, access	minor, localized erosion, water quality/ sedimentation

Activity/Land Use	Positive Effects	Negative Effects
Parking near river	↑ access, recreation opportunity	↓ vegetation, water quality, scenic integrity
Historic cattle and sheep grazing	↑ social and economic benefits	lingering evidence of damage to vegetation & soil
Elk grazing	↑ hunting & wildlife viewing opportunities	↓ riparian and upland vegetation
Past fires and prescribed burns	↓ fire risk; ↑ aspen, meadows, wildlife forage, biological diversity	temporary ↑ erosion, sedimentation, smoke
Long-term fire suppression	↓ fire & smoke impacts in short-term	↑ fire risk, ↓ biological diversity, ↓ wildlife habitat quality
Gabions, log and rock structures in river	↑ streambank stability, fish habitat (logs)	↓ scenic integrity
Irrigation ditches; small water diversions	↑ water supply, economic & social benefits	↓ scenic integrity
Fish stocking	↑ recreation/fishing opportunity	↑ native fish
Hazard tree removal	↑ safety	↓ woody debris in river, snags
Maintenance of roads and campgrounds	↑ user comfort & satisfaction	temporary ↓ traffic flows
Law enforcement	↑ safety, resource protection	↓ sense of freedom for some users
Past conversion of forest to golf course at Links Tract site	↑ wildlife viewing, forage and grasslands	↓ forest vegetation, ↑ non-native species
Riparian planting and fencing on State land near Willow Creek	↑ water quality, habitat diversity	
Private land logging (very limited; 5 ac)	↑ economic benefit	

## Foreseeable Future Actions/Uses Other than in WSR Mgt. Plan

**Table 10 - Summary table of Foreseeable Future Actions/Uses Other than in WSR Mgmt Plan**

Activity/Land Use	Positive Effects	Negative Effects
Build new Links Tract Campground outside corridor	↑ developed recreation opportunities, ↓ resource damage, ↓ ORV users	minor ↓ vegetative productivity

Activity/Land Use	Positive Effects	Negative Effects
Davis Rx Burn, wildlife burn	↑ wildlife use, habitat diversity, scenic values, ↓ fuels & fire danger,	Short-term ↑ smoke
<u>WSR Management Plan- Alts 2, 3, 4</u>		
Activity/Land Use	Positive Effects	Negative Effects
Restricting camping, off-road driving, parking, level of development.	↑ public information and interpretation, safety, scenery, soil stability, riparian, vegetation, wildlife habitat & diversity, water quality, fish habitat, cultural resource protection; reduced crowding, ↓ trash and sanitation problems	↑ displacement of some users, potential impacts outside corridor
Trail management: eliminate user-created trails; providing for universal access; providing safe water crossings	↑ vegetative productivity, soil stability, wildlife habitat quality, scenic & recreation values, safety, access for people with physical disabilities; ↓ conflicts with motorized/non- motorized uses	Some ↓ of “favorite” user-created trails along river; some user inconvenience (longer distance to river)
Restricting new campground construction	↑ vegetation, soil stability, riparian values, scenic values, safety	↑ demand for developed sites outside corridor
Provide trash and sanitary facilities	↑ visitor convenience, health & safety, scenic integrity, water quality	
Provide designated parking	↑ safety, vegetation, soil stability, wildlife habitat, scenic values, cultural resource protection	↓ level of convenience, ↑ distance to river, dissatisfaction for some
Increase Special Trout Waters	↑ fishing quality	↓ fishing/fish quantity

Activity/Land Use	Positive Effects	Negative Effects
Limiting highway widening /upgrading	↑ scenic values	↓ visibility on curves, safety at higher speeds
Improving interagency consistency and cooperation	↑ consistency, compliance resource protection, public relations, vegetative management	
Riparian restoration; rehabilitation of denuded sites	↑ wildlife habitat quality, soil stability, vegetation, riparian values, water quality	
<b>No Grazing Alternative</b>		
Activity/Land Use	Positive Effects	Negative Effects
Eliminate cattle grazing (in Wild segment of corridor)	minor ↑ in protection for cultural resources & Chiricahua dock plant, forage for elk and recreational horse grazing	↓ livestock management costs, inconveniences, hardships