



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

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Cons. #2-22-02-F-132

### Memorandum

To: Acting Regional Director, Region 2

From: Field Supervisor, New Mexico Ecological Services Field Office

Subject: Biological and Conference Opinions on Issuance of a 10(a)(1)(A) Enhancement of Survival Permit to Caroline H. and Thomas W. Paterson on 309 Acres of the Spur Ranch for Four Federally Listed and One Nonessential Experimental Species in New Mexico

This document transmits the U. S. Fish and Wildlife Service's (Service) biological and conference opinion for the application from Caroline H. and Thomas W. Paterson on 309 acres of the Spur Ranch for an Endangered Species Act (Act) section 10(a)(1)(A) Safe Harbor Enhancement of Survival Permit (TE035920-0). The proposed permit would cover habitat restoration activities on private lands for the following species: The endangered southwestern willow flycatcher (*Empidonax traillii extimus*), the threatened Mexican spotted owl (*Strix occidentalis lucida*), bald eagle (*Haliaeetus leucocephalus*) and loach minnow (*Tiaroga cobitis*), and the nonessential experimental population of the Mexican gray wolf (*Canis lupus baileyi*).

The primary objective of the Safe Harbor Agreement (Agreement or SHA) is to encourage voluntary habitat restoration or enhancement activities to benefit the above listed species. This Agreement follows the Service's June 17, 1999, final Safe Harbor Policy (64 FR 32717) and final regulations (64 FR 32705). This final policy encourages property owners to voluntarily conserve threatened and endangered species without the risk of further restrictions pursuant to section 9 of the Act. In order to provide the necessary assurances to participating property owners, while providing conservation benefits to the covered species, accompanying permits to Agreements are issued under section 10(a)(1)(A) of the Act (*i.e.*, enhancement of survival).

The Service has determined and the New Mexico Ecological Services Field Office (NMESFO) has concurred that issuance of this permit "is not likely to jeopardize" two additional species in the action area, the proposed threatened Chiricahua leopard frog (*Rana chiricahuaensis*) and the candidate Gila chub (*Gila intermedia*). The planned actions are designed to result in long-term beneficial effects on current habitat conditions for both species. Sites occupied by the Chiricahua leopard frog occur approximately 9 miles

downstream from the project area on the Reserve Ranger District of the Gila National Forest. No Chiricahua leopard frogs have been located during surveys of potential habitat within the project area. The project is designed to improve water quality and allow the establishment of woody riparian stands. These improvements should have a beneficial effect on potential habitat conditions. There are similarly no populations of the Gila chub in the project area (Rinne 1998). However, Centerfire Creek may provide potential habitat for reintroduction of the species. Proposed activities would maintain or improve potential aquatic habitat conditions for native fish by improving water quality, reducing sedimentation, and providing additional riparian habitat.

The remainder of these biological and conference opinions will deal with effects of implementation of a Safe Harbor program for conservation of the southwestern willow flycatcher (flycatcher), Mexican spotted owl (spotted owl), bald eagle, loach minnow, and the Mexican gray wolf (gray wolf) on 309 acres of the Spur Ranch in New Mexico. This biological opinion is based on information provided in the biological assessment for the Spur Ranch project faxed to the NMESFO by Mr. Paterson on October 25, 2001; telephone discussions with Mr. Paterson and U. S. Forest Service biological staff conducted in December 2001, and February and March 2002; the September 14, 1999, Private Lands Agreement (Service Agreement No. 20181-99-G649); and other sources of information in Service files. An administrative record of this consultation is on file at the NMESFO.

### **Consultation History**

On October 3, 2000, Caroline H. and Thomas W. Paterson (Cooperators or Permittees) submitted an application for an Enhancement of Survival Permit under section 10(a)(1)(A) of the Act. The availability of this final application and its draft environmental assessment were published in the *Federal Register* on May 10, 2001. The 30-day public comment period closed on June 11, 2001. The Service received no written comments on the application during the public comment period.

## **BIOLOGICAL AND CONFERENCE OPINIONS**

### **I. DESCRIPTION OF PROPOSED ACTION**

The proposed action is the issuance of a 30-year Enhancement of Survival Permit to the Cooperators that will make possible implementation of a Safe Harbor program for conservation of the flycatcher, spotted owl, bald eagle, loach minnow, and gray wolf on approximately 309 acres of the Spur Ranch in New Mexico. The associated Private Lands Agreement will be in effect for 10 years, beginning on September 14, 1999. The Spur Ranch is located in the Centerfire Creek drainage, northeast of Luna, Catron County, New Mexico, in the north half of section 25, township 5 south, range 20 west.

The objective of the Agreement is to improve stream, riparian, pine upland and grassland habitat conditions on a 309-acre portion of the Spur Ranch property. The proposed project

occurs entirely on private land owned by the Cooperators, but is under joint development and implementation with a number of agencies. The Cooperators plan to undertake a variety of conservation measures on the Spur Ranch. These measures include, but are not limited to, stream and riparian restoration activities, erosion control, forest thinning, controlled burning, and grazing management, which are described in detail below.

**Stream and Riparian Restoration Activities:** In conjunction with the Service, the Cooperators are undertaking a stream and riparian restoration project on Centerfire Creek, which passes through an incised, approximately 16-foot deep channel on the Spur Ranch. This project has at least two stages. Stage I, which has already been completed, consisted of building a 6.5-foot tall sediment retention structure near the southeast corner of the Spur Ranch. After the area behind this structure has filled with sediment, Stage II involves building a second, 8-foot tall sediment retention structure on top of the Stage I structure. Stage II is anticipated to be finished within four years, or by September 15, 2005. The two structures are expected to return Centerfire Creek close to its historic elevation. This project is also expected to improve water quality by reducing sediment load downstream, and to enhance perennial flow in Centerfire Creek. Woody riparian species would be planted in the channel and on adjacent benches to help restore riparian habitat composition and age-class diversity.

**Erosion Control:** In conjunction with the Natural Resources Conservation Service, the Cooperators plan to implement an erosion-control program on eroded, intermittent flow gullies on the Spur Ranch. This program would include dirt gully plugs to curtail existing erosion, and rock/wire structures to halt the formation of head-cuts in proximity to the riparian area on the Spur Ranch. The objectives of the erosion-control program are to improve water quality by reducing sediment load downstream, improve conditions of flow to enhance perennial flow in Centerfire Creek, restore the degraded meadow to approximately its original level, and raise the water table. Herbaceous species would be seeded to help stabilize disturbed soils and restore ground cover.

**Forest Thinning:** In conjunction with the Forestry Division of the New Mexico Energy, Minerals, and Natural Resources Department, the Cooperators have undertaken a forest stewardship program that includes thinning approximately 40 acres of ponderosa pine on the Spur Ranch. This activity will include removing approximately one-half of the 4- to 7.9-inch diameter trees, selective removal of one-half of the 8- to 11.9-inch diameter trees of poor form or health, and some trees greater than 12 inches in diameter. Approximately 2 or more 12-inch diameter trees per acre will be left for snags. The goal of this program is to thin the ponderosa pine forest to help augment growth of the remaining trees, as well as lessen the threat of catastrophic wildfires.

**Controlled Burning:** In conjunction with the Forestry Division of the New Mexico Energy, Minerals, and Natural Resources Department and the U. S. Forest Service, the Cooperators plan to conduct controlled burns on the Spur Ranch to help restore fire-dependent ecological functions, regenerate herbaceous plant growth, and remove accumulated pine duff and slash from thinning.

**Grazing Management:** The Cooperators plan to graze livestock pursuant to a grazing management plan developed in conjunction with the U. S. Forest Service or U. S. Fish and Wildlife Service. This program would include installation of livestock and elk fencing to improve control of ungulate foraging in order to promote riparian recovery and ecosystem health. Ungulates would also be excluded from areas adjacent to Centerfire Creek newly planted with woody riparian vegetation to enhance vegetative recovery until the plants mature (P. Morrison, U. S. Forest Service, 2002, pers. comm.)

The following items are the proposed terms and conditions for the section 10(a)(1)(A) permit:

- A. The Permittees are authorized to take the Mexican gray wolf (*Canis lupus baileyi*), southwestern willow flycatcher (*Empidonax traillii extimus*), bald eagle (*Haliaeetus leucocephalus*), Mexican spotted owl (*Strix occidentalis lucida*), and loach minnow (*Tiaroga cobitis*), which are federally listed under the Endangered Species Act of 1973, as amended (Act), to the extent that take of these species would otherwise be prohibited under section 9 of the Act. Such take must be incidental to management activities affecting habitat associated with the activities described in section 7.0 of the Safe Harbor Agreement (SHA).
- B. At present, baseline conditions for the Mexican gray wolf, southwestern willow flycatcher, bald eagle, Mexican spotted owl, and loach minnow on the Spur Ranch property are zero.
- C. The Permittees, to the best of their ability, will ensure that the SHA is being implemented.
- D. The Permittees will make reasonable attempts to notify the Service in advance of major actions which could result in substantial take of the Mexican gray wolf, southwestern willow flycatcher, bald eagle, Mexican spotted owl, and/or loach minnow, to allow the Service or another appropriate party access to collect and relocate individuals if warranted.
- E. The Permittees assume responsibility for securing any permits or other authorizations needed to carry out the project.
- F. The Permittees will endeavor to arrange for sufficient funding to conduct the activities identified in the SHA and this permit.
- G. The Permittees reserve the right to take the baseline back to zero at the end of this agreement or prior to, if the Permittees decide to terminate the agreement. The Safe Harbor program allows for early termination of Agreements. Therefore, the agreement can be terminated prior to the expiration date and the Permittees can return the land to baseline conditions even if the expected 'net conservation benefits' have not been realized. However, the purpose of this SHA is to restore and enhance habitat

for these species. Thus, the Permittees have stated that there are no activities planned that would return the property to baseline conditions. If the Permittees wish to return to baseline conditions (*i.e.*, zero listed species and habitat), the Service requests reasonable advance written notice (60 days minimum, if possible), for the opportunity to relocate affected, listed species.

- H. Monitoring of take, as well as monitoring of the effectiveness of the Safe Harbor program will be accomplished by the Service and the Permittees. The Service shall monitor wildlife habitat development and species in the project area of the Spur Ranch at least once every five years. The Permittees agree to allow the Service (its members, agents, or assigns) access to the Spur Ranch, upon prior reasonable notice. The Permittees will provide an annual report to the Service on the effects and effectiveness of the SHA conservation actions on species to the Service, on or before March 31, of each year.
- I. Upon locating a dead, injured, or sick Mexican gray wolf, southwestern willow flycatcher, bald eagle, Mexican spotted owl, and/or loach minnow, or any other endangered or threatened species, the Permittees are required to contact the Service's Law Enforcement Office in Albuquerque, New Mexico, at 505/346-7828, for care and disposition instructions. Extreme care should be taken in handling sick or injured individuals to ensure effective and proper treatment. Care should also be taken in handling dead specimens to preserve biological materials in the best possible state for analysis of cause of death. In conjunction with the care of sick or injured endangered/threatened species, or preservation of biological materials from a dead specimen, the Permittees and their contractor/subcontractor have the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.
- J. Conditions of this permit shall be binding on and for the benefit of the Permittees and their respective successors and assigns. If the permit requires an administrative or minor amendment, the Service will process that amendment without the requirement of the Permittees preparing any new documents or providing any mitigation over and above that required in the original permit.

## II. STATUS OF THE SPECIES

### Listed species /critical habitat

#### **Southwestern Willow Flycatcher**

The southwestern willow flycatcher is a small passerine bird (Order Passeriformes, Family Tyrannidae) measuring approximately 5.75 inches in length from the tip of the bill to the tip of the tail and weighing 0.4 ounces. It has a grayish-green back and wings, whitish throat, light gray-olive breast, and pale yellowish belly. Two white wing bars are visible in adults; juveniles have buffy wing bars. The eye ring is faint or absent. The upper mandible is dark, and the lower is light yellow grading to black at the tip.

One of four currently recognized flycatcher subspecies (Phillips 1948, Unitt 1987, Browning 1993), the southwestern willow flycatcher is a neotropical migratory species that breeds in the southwestern United States and migrates to Mexico, Central America, and possibly northern South America during the non-breeding season (Phillips 1948, Stiles and Skutch 1989, Peterson 1990, Ridgely and Tudor 1994, Howell and Webb 1995). The historical range of the flycatcher included southern California, Arizona, New Mexico, extreme western Texas, southwestern Colorado, southern Utah, extreme southern Nevada, and extreme northwestern Mexico in Sonora and Baja (Unitt 1987).

The States of California (California Department of Fish and Game 1992) and New Mexico (New Mexico Department of Game and Fish 2000) list the flycatcher as endangered. Arizona lists the flycatcher as a species of special concern (Arizona Game and Fish Department 1996). A final rule listing this species as endangered was published on February 27, 1995 (U. S. Fish and Wildlife Service 1995a) and became effective on March 29, 1995.

The flycatcher breeds in dense riparian habitats from sea level in California to just over 8,000 feet in Arizona and southwestern Colorado. Historic egg/nest collections and species' descriptions throughout its range document the flycatcher's widespread use of willow (*Salix* sp.) for nesting (Phillips 1948, Phillips *et al.* 1964, Hubbard 1987, Unitt 1987, T. Huels, *in litt.*, 1993). Currently, flycatchers primarily use coyote, Geyer's, and Goodding's willow, boxelder (*Acer negundo*), saltcedar (*Tamarix* sp.), Russian olive (*Elaeagnus angustifolius*) and live oak (*Quercus agrifolia*) for nesting. Other plant species less commonly used for nesting include buttonbush (*Cephalanthus* sp.), black twinberry (*Lonicera involucrata*), cottonwood (*Populus* sp.), white alder (*Alnus rhombifolia*), blackberry (*Rubus ursinus*), and stinging nettle (*Urtica* sp.). Based on the diversity of plant species composition and complexity of habitat structure, four basic habitat types have been identified for the flycatcher: Monotypic willow, monotypic exotic, native broadleaf dominated, and mixed native/exotic (Sogge *et al.* 1997).

Open water, cienegas, marshy seeps, or saturated soil are typically in the vicinity of flycatcher territories and nests, and flycatchers sometimes nest in areas where nesting substrates are in standing water (Maynard 1995, Sferra *et al.* 1995, Sogge *et al.* 1997). However, hydrological conditions at a particular site can vary remarkably in the arid Southwest within seasons and between years. At some locations, particularly during drier years, water or saturated soil is only present early in the breeding season (*i.e.*, May and part of June). However, the total absence of water or visibly saturated soil has been documented at several sites where the river channel has been modified (*e.g.*, creation of pilot channels), where modification of subsurface flows has occurred (*e.g.*, agricultural runoff), or as a result of changes in river channel configuration after flood events (Spencer *et al.* 1996).

Flycatcher nests are fairly small (3.2 inches tall and 3.2 inches wide), and nest height in a shrub or tree varies throughout the subspecies' range (2.0 feet to 59.1 feet or more from the ground). Nests are open-cup structures typically placed in the fork of a branch. Nests have been found against the trunk of a shrub or tree in monotypic saltcedar and mixed native broadleaf/saltcedar habitats and on limbs as far away from the trunk as 10.8 feet (Spencer *et*

*al.* 1996). The flycatcher is an insectivore, foraging in dense shrub and tree vegetation along rivers, streams, and other wetlands. The bird typically perches on a branch and makes short direct flights, or sallies to capture flying insects. Drost *et al.* (1998) found that the major prey items of the flycatcher in Arizona and Colorado consisted of true flies (Diptera); ants, bees, and wasps (Hymenoptera); and true bugs (Hemiptera). Other insect prey taxa included leafhoppers (Homoptera: Cicadellidae); dragonflies and damselflies (Odonata); and caterpillars (Lepidoptera larvae). Non-insect prey included spiders (Araneae), sow bugs (Isopoda), and fragments of plant material.

Declining flycatcher numbers have been attributed to loss, modification, and fragmentation of riparian breeding habitat, loss of wintering habitat, and brood parasitism by the brown-headed cowbird (Sogge *et al.* 1997, McCarthy *et al.* 1998). Habitat loss and degradation are caused by a variety of factors, including urban, recreational, and agricultural development, water diversion and groundwater pumping, channelization, dams, and livestock grazing. Fire is an increasing threat to flycatcher habitat (Paxton *et al.* 1996), especially in monotypic saltcedar vegetation (DeLoach 1991) and where water diversions and/or groundwater pumping desiccates riparian vegetation (Sogge *et al.* 1997). The presence of livestock, watering facilities and corrals, agriculture, and urban golf courses, bird feeders, and trash areas, can provide feeding sites for cowbirds. Coupled with habitat fragmentation, these factors can facilitate cowbird parasitism of flycatcher nests (Hanna 1928, Mayfield 1977, Tibbitts *et al.* 1994).

Unitt (1987) reviewed historical and contemporary records of this subspecies throughout its range, determining that it had "declined precipitously." Although data reveal no trend in the past few years, the population is clearly much smaller now than 50 years ago, and no change in the factors responsible for the decline seem likely. Unitt documented the loss of more than 70 flycatcher breeding locations and estimated the range-wide population to be 500 to 1,000 pairs. In 2000, it was estimated that there were 209 known flycatcher breeding sites in California, Arizona, New Mexico, Nevada, Utah, and Colorado, containing approximately 933 territories (Sogge *et al.* 2001).

In New Mexico, flycatchers have been observed in the Rio Grande, Chama, Canadian, Zuni, San Francisco, San Juan and Gila River drainages. Flycatchers were reported at Elephant Butte State Park in the 1970s, the majority nesting in saltcedar (Hundertmark 1978, Hubbard 1987). Available habitat and overall numbers of flycatchers have declined Statewide. In recent years, breeding pairs have been found within the middle Rio Grande from Elephant Butte Reservoir upstream to the vicinity of Taos, on both the mainstem Rio Grande and on the Rio Grande del Rancho, a tributary to the upper Rio Grande. In recent years, breeding pairs have also been found on the Chama River, in the vicinity of Los Ojos.

In summary, more intensive and widespread surveys and monitoring efforts have documented the presence of a greater number of flycatchers than known at the time of listing. However, this does not imply an increase in the actual population, or that the status of the species has significantly improved. Recovery actions may take many years to implement and decades for

habitat to be restored. Protection of suitable habitats through section 7 consultation provides some stability for these populations, but the net result may still be a declining population.

### Mexican Spotted Owl

The Mexican spotted owl was listed as threatened on March 16, 1993. This spotted owl's range extends from Aguascalientes, Mexico, north through the mountains of Arizona, New Mexico, and western Texas, to the canyons of southern Utah and southwestern Colorado, and the Front Range of central Colorado. Because this is a broad area of the southwestern United States and Mexico, much remains unknown about the subspecies' distribution within this range. This is especially true in Mexico, where much of the spotted owl's range has not been surveyed. The spotted owl occupies a fragmented distribution throughout its United States range, corresponding to the occurrence of forested mountains and canyons and rocky canyon lands. Although there are no estimates of the spotted owl's historic population size, its historic range and present distribution are thought to be similar.

A current estimate of the number of spotted owls throughout its range is not available due to limited information. According to the recovery plan for this spotted owl (U. S. Fish and Wildlife Service 1995b), 91 percent of spotted owls known to exist in the United States between 1990 and 1993 occurred on land administered by the U. S. Forest Service. Most spotted owls have been found within Region 3 of the U. S. Forest Service, which includes 11 National Forests in New Mexico and Arizona. The recovery plan also identifies recovery criteria and provides distribution, abundance, and density estimates by recovery unit. The Upper Gila Mountain Recovery Unit has the greatest known concentration of spotted owl sites (55.9 percent), followed by the Basin and Range-East (16.0 percent), Basin and Range-West, (13.6 percent), Colorado Plateau (8.2 percent), Southern Rocky Mountain-New Mexico (4.5 percent), and Southern Rocky Mountain-Colorado (1.8 percent) Recovery Units.

These spotted owls nest, roost, forage, and disperse in a diverse array of biotic communities. Nesting habitat is typically in areas with complex forest structure or rocky canyons, and contain mature or old-growth stands that are uneven-aged, multi-storied, and have high canopy closure (Ganey and Balda 1989a, U. S. Fish and Wildlife Service 1991b). In the northern portion of the range (southern Utah and Colorado), most nests are in caves or on cliff ledges in steep-walled canyons. Elsewhere, the majority of nests appear to be in Douglas fir trees (*Pseudotsuga menziesii*) (Fletcher and Hollis 1994, Seamans and Gutierrez 1995). A wider variety of tree species are used for roosting; however, Douglas fir is the most commonly used species (Ganey 1988, Fletcher and Hollis 1994, Young *et al.* 1998). Spotted owls generally use a wider variety of forest conditions (riparian, mixed conifer, pine-oak, ponderosa pine (*Pinus ponderosa* var. *scopulorum*), piñon-juniper (*Pinus edulis*, *Juniperus* spp.) for foraging than they use for nesting and roosting (U. S. Fish and Wildlife Service 1995b).

Seasonal movement patterns of spotted owls vary. Some individual spotted owls are year-round residents within an area, some remain in the same general area but show shifts in habitat use patterns, and some migrate from 12 to 31 miles during the winter to open habitat

at lower elevations (Ganey and Balda 1989b, Willey 1993, Ganey *et al.* 1998). Home-range sizes also appear to vary considerably among habitats and/or geographic areas (U. S. Fish and Wildlife Service 1995b), ranging in size from 647 to 3,688 acres for individuals birds, and 945 to 3,846 acres for pairs (Ganey and Balda 1989b, Ganey *et al.* 1999). Little is known about habitat use of juveniles during natal dispersal. Ganey *et al.* (1998) found dispersing juveniles in a variety of habitats ranging from high-elevation forests to piñon-juniper woodlands and riparian areas surrounded by desert grasslands.

Spotted owls consume a variety of prey throughout their range, but commonly eat small and medium sized rodents, such as woodrats (*Neotoma* spp.), peromyscid mice (*Peromyscus* spp.), and microtine voles (*Microtus* spp.). They may also consume bats, birds, reptiles, and arthropods (Ward and Block 1995). Each prey species uses a unique habitat. Deer mice (*Peromyscus maniculatus*) are ubiquitous in distribution compared to brush mice (*Peromyscus boylei*), which are restricted to drier, rockier substrates with sparse tree cover. Mexican woodrats (*N. mexicana*) are typically found in areas with considerable shrub or understory tree cover and high log volumes or rocky outcrops. Mexican voles (*Microtus mexicanus*) are associated with high herbaceous cover, generally grasses; whereas, long-tailed voles (*M. longicaudus*) are found in dense herbaceous cover, primarily forbs, with many shrubs and limited tree cover. Therefore, the spotted owl's prey base is dependant on the availability and quality of diverse habitats.

Past, current, and future timber harvest practices in Region 3 of the U. S. Forest Service, in addition to catastrophic wildfire, were cited as primary factors leading to the listing of the spotted owl as a federally-threatened species. Other factors leading to the decline of this subspecies may have included a lack of adequate regulatory mechanisms. In addition, the recovery plan notes that forest management practices have created ecotones favored by great horned owls, increasing the likelihood of predation on the spotted owl. Finally, there is a potential for the barred owl (*Strix varia*) to expand its range, resulting in competition and/or hybridization with the spotted owl.

### **Bald Eagle**

The Service proposed to remove the bald eagle from the list of endangered species for the lower 48 States on July 6, 1999 (U. S. Fish and Wildlife Service 1999). The recovery of this species is primarily attributed to habitat protection and the reduction in levels of persistent organochlorine pesticides in the environment. Bald eagle populations have increased from 417 breeding pairs in 1963 to 5,748 pairs in 1998 (U. S. Fish and Wildlife Service 1999).

Bald eagles are associated with aquatic ecosystems, such as estuaries, seacoasts, large lakes, reservoirs, and major rivers. In winter, bald eagles often congregate at specific wintering sites that are generally close to open water and offer suitable perch trees and night roosts. Fish typically comprise the main portion of the bald eagle's diet, but this species also consumes waterfowl, gulls, and carrion. The nesting season lasts about six months and begins as early as October in the south and as late as June in the north. Bald eagles require large trees or cliffs near water with abundant fish for nesting. The female lays a clutch of one

to three eggs. A second clutch may be laid if the first is lost. Incubation begins when the first egg is laid and usually lasts 34 to 36 days. The young generally fledge in 11 to 12 weeks, but the adults continue to feed them for another 4 to 6 weeks while they learn to hunt. Bald eagles reach sexual maturity at 4 to 6 years of age, and can live for 30 years (U. S. Fish and Wildlife Service 1982b).

Historically, the bald eagle was found throughout the United States, Canada, and northern Mexico, but was not very abundant in the southwestern United States. Bald eagles nested on both coasts of the United States, from Florida to Baja California in the south and from Labrador, Newfoundland, to the Aleutian Islands in the north (U. S. Fish and Wildlife Service 1982b). In the southwestern United States, wintering bald eagles from the northern United States and Canada arrive in October and November, depending on climatic conditions, and normally migrate north by March and April (Ohmart and Sell 1980). The main population of bald eagles inhabiting the desert southwest consists of wintering bald eagles. In New Mexico, bald eagles regularly migrate and winter from the northern border of New Mexico southward, to the Gila, lower San Juan River, middle Pecos, and Canadian River valleys. Wintering bald eagles in New Mexico are associated with unfrozen lacustrine, riverine, and riparian habitats (Ohmart and Sell 1980). Distribution appears dependent on prey density, suitable perch and roost sites, weather conditions, and lack of human disturbance (Ohmart and Sell 1980). Key habitat areas include Navajo Lake, the Chama Valley, Cochiti Lake, the northeastern lakes from Raton to Las Vegas, the lower Canadian Valley, Sumner Lake, Elephant Butte and Caballo Reservoirs, and the upper Gila Basin. The mid-winter annual surveys conducted from 1990 to 1996 by the New Mexico Department of Game and Fish demonstrated that the number of wintering bald eagles in New Mexico has steadily increased, averaging 430 eagles per year. There were three known nests in New Mexico in 1999 (New Mexico Department of Game and Fish 2000).

One pair of bald eagles nested in the San Francisco River drainage in 1979 and 1980, but no nesting has been detected there since. Bald eagle use of the project area is sporadic and occasional. Birds move through the area foraging, but do not roost on a regular basis. This may be due to a limited prey base, including small fish and low numbers of waterfowl, and the lack of suitable roost trees (P. Morrison, U. S. Forest Service, 2001, pers. comm.).

### **Loach Minnow**

The loach minnow was listed as a threatened species under the Act on October 28, 1986, based on the reduction of its range and numbers due to habitat destruction and competition with non-native fish species (U. S. Fish and Wildlife Service 1986). The Service has found that a petition to reclassify the species to endangered status is warranted. Reclassification is precluded due to work on other higher priority listing actions (U. S. Fish and Wildlife Service 1994a). The need for reclassification was based on threats to a large portion of its habitat. The loach minnow is listed as a threatened species by the State of New Mexico (New Mexico Department of Game and Fish 2000). The Service published the Loach Minnow Recovery Plan in 1991 (U. S. Fish and Wildlife Service 1991a).

On April 25, 2000, the Service designated critical habitat for the loach minnow in Arizona and New Mexico (*Federal Register* 65(80):24328-24372). A total of approximately 898 miles of rivers and creeks was included in the designation. Critical habitat includes portions of the Gila, San Francisco, Blue, Black, Verde, and San Pedro Rivers and some of their tributaries. Counties with designated critical habitat include Apache, Cochise, Gila, Graham, Greenlee, Pima, Pinal, and Yavapai Counties in Arizona; and Catron, Grant, and Hidalgo Counties in New Mexico. Critical habitat includes the stream channels within the identified stream reaches, and areas within these reaches potentially inundated by high flow events. These areas provide for the physiological, behavioral, and ecological features essential for the conservation of the loach minnow. There is no loach minnow critical habitat designated within the action area of this project.

The loach minnow is a small, slender, elongate fish, rarely exceeding 60 millimeters (2.4 inches) in length (Minckley 1973). The eyes are directed upward and the mouth is terminal with no barbels. Loach minnows have an olivaceous coloration that is highly blotched with darker pigment. Whitish spots are present at the origin and insertion of the dorsal fin, as well as the dorsal and ventral portions of the caudal fin base. Breeding males develop bright red-orange coloration at the bases of the paired fins, on adjacent fins, on the base of the caudal opening, and often on the abdomen. Breeding females become yellowish on their fins and lower body (Minckley 1973).

The loach minnow is found in turbulent, rocky riffles of rivers and tributaries up to about 7,200 feet elevation. Loach minnows are bottom-dwelling inhabitants of shallow, swift waters flowing over gravel, cobble, and rubble substrates in mainstream rivers and tributaries (Rinne 1989, Propst and Bestgen 1991). Most growth occurs during the first summer. Longevity is typically 15 months to 2 years, although loach minnows can live as long as 3 years (Britt 1982, Propst *et al.* 1988, Propst and Bestgen 1991). Loach minnows use the spaces between, and in the lee of, larger substrates for resting and spawning (Propst *et al.* 1988, Rinne 1989). The species is rare or absent from habitats where fine sediments fill the interstitial spaces (Propst and Bestgen 1991).

Loach minnows feed exclusively on aquatic insects (Abarca 1987, Barber and Minckley 1983, Britt 1982). Loach minnows are opportunistic benthic insectivores, feeding primarily on riffle-dwelling larval ephemeropterans, simuliid, and chironomid dipterans. They actively seek their food among bottom substrates, rather than pursuing food items in the drift.

Recent biochemical investigations on this species indicates that there are substantial differences in genetic makeup between the remnant loach minnow populations that occupy isolated fragments of the Gila River basin (Tibbets 1992). Therefore, it is important to preserve isolated loach minnow populations.

Present populations are geographically isolated and inhabit the upstream ends of their historic range. The loach minnow is endemic to the Gila River basin of Arizona and New Mexico, and Sonora, Mexico. Historic range included the basins of the Verde, Salt, San Pedro, San Francisco, and Gila Rivers (Minckley 1973, Sublette *et al.* 1990). The species is believed to

be extirpated from Mexico. In New Mexico, the loach minnow historically occupied approximately 205 stream miles. Currently, it is found in about 160 stream miles, although it has become very rare in substantial portions of this remaining range. The species still occurs in the upper Gila River, including the east, middle, and west forks, the San Francisco and Tularosa Rivers, and Dry Blue Creek. The closest known occupied site to the Spur Ranch project is 12 miles downstream in the San Francisco River on the Gila National Forest.

Natural flooding characteristics of desert streams need to be reestablished in order to restore habitat for the loach minnow and reduce competition from non-native species (Minckley and Meffe 1987). Recovery needs also include reducing detrimental land- and water-use practices; ensuring perennial flows with natural hydrographs; curtailing the introduction of non-native fishes; and identifying, acquiring, and protecting important land and water rights (Minckley and Meffe 1987).

#### **Proposed species /critical habitat: Mexican Gray Wolf**

The Mexican gray wolf was listed as endangered under the Act in May 1976. In 1978, all North American gray wolves (*Canis lupus*) occurring south of the Canada/United States border were listed as endangered, except in northern Minnesota, where they were listed as threatened. The Mexican gray wolf remains a separate recovery unit of the gray wolf and has been assigned a recovery priority of 3C by the Service. This indicates that it is an endangered subspecies with a high degree of threat and recovery potential, and whose recovery may conflict with some form of economic activity (U. S. Fish and Wildlife Service 1982a). The Mexican gray wolves that are currently part of a reintroduction program being conducted in the Southwest are designated as "nonessential and experimental" under section 10(j) of the Act and are subject to a special rule for management and allowable take. This designation also requires that they be treated as a species proposed for listing for purposes of section 7 consultation, not as a listed species. Therefore, the gray wolves considered in the current proposed action are being addressed by this conference opinion.

The Mexican gray wolf is the most endangered and southernmost-occurring gray wolf in North America and is considered a taxonomically distinct subspecies (Goldman 1944, Bogan and Mehlhop 1983, Nowak 1995). Historically, the Mexican gray wolf ranged the mountainous regions of the Southwest, from Mexico City north through southeastern Arizona, southern New Mexico, and southwestern Texas (Parsons and Nicholopoulos 1995). Primary habitat included the pine, oak, and pinyon-juniper woodlands and adjacent grasslands above 4,500 feet in elevation. Its primary prey was large ungulates and may have included white-tailed and mule deer (*Odocoileus virginianus* and *O. hemionus*) and elk (*Cervus elaphus*) (Bednarz 1988).

Key components of gray wolf habitat include: (1) An adequate year-round prey base of ungulates and alternate prey, (2) suitable and secluded denning and rendezvous sites, and (3) sufficient space and protection from human persecution (U. S. Fish and Wildlife Service 1994b). For gray wolves that inhabited relatively arid habitats, access to water may have been important (U. S. Fish and Wildlife Service 1996). Gray wolves typically breed in

February and March and have pups 63 days later (McBride 1980). Relatively little is known of life history characteristics, such as social behavior, pack size, territory size, and dispersal, because wild populations were eliminated before they could be studied (Bednarz 1988).

Beginning in the late 1800s and continuing through about 1950, gray wolves were subjected to an intensive extermination campaign on behalf of the livestock industry and early game managers, who believed that predator eradication was necessary for maintenance of huntable ungulate populations (Brown 1983). Bounties were paid through private and government sources. Eradication efforts became especially intense with the creation of the Predatory Animal and Rodent Control Branch of the U. S. Biological Survey in 1915.

The last records of gray wolves taken in the United States were in 1970, and the last verified sighting of a gray wolf in the wild was in Chihuahua, Mexico, in 1980. Reports of "wolves" are occasionally received and investigated, when appropriate and feasible (Girmendonk 1994, Wolok 1994). Although not conclusive, recent surveys in Mexico (Carrera 1994, Gonzalez 1997) have not confirmed the existence of wild gray wolves. Intensive efforts in the United States (Groebner *et al.* 1995, Whitaker *et al.* 1995, Brown and Rutz 1996, Heinrich *et al.* 1996) yielded no evidence of surviving wild populations or individuals. The Service considers this gray wolf to be extirpated from the United States' portion of its range (U. S. Fish and Wildlife Service 1982a). However, because McBride (1980) estimated that up to 50 pairs of gray wolves might exist in Mexico in 1980, dispersing gray wolves could cross the border into the southwestern United States.

Recovery efforts were initiated between 1977 and 1980, with capture of wild gray wolves in Chihuahua and Durango to begin captive breeding programs for conservation of this subspecies. A recovery plan, which is currently under revision, was approved in 1982. Initial recovery goals included maintenance of a captive population and reestablishment of a wild population of at least 100 animals. The captive population numbered 175 animals in January 1998, and is managed for the Service and Mexican Government by 27 zoos and facilities in the United States and 5 in Mexico.

The Service began reintroduction of gray wolves from captive stock into a portion of their historic range in Arizona in 1998 (U. S. Fish and Wildlife Service 1996). Gray wolves were released into the Apache National Forest in southeastern Arizona and allowed to disperse throughout the Blue Range Wolf Recovery Area, which consists of all of the Apache and Gila National Forests in southeastern Arizona and southwestern New Mexico. Releases of approximately three family groups per year will continue for five years, or until natural reproduction is adequate to sustain the population. The objective is to reestablish approximately 100 wolves over at least 5,000 square miles of historic range.

### **III. ENVIRONMENTAL BASELINE**

Under section 7(a)(2) of the Act, when considering the effects of the action on federally listed species, the Service is required to take into consideration the environmental baseline. Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the

past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects that have undergone section 7 consultation, and the impacts of State and private actions that are contemporaneous with the consultation in progress.

The 309-acre project area portion of Spur Ranch, located in Centerfire Creek drainage, contains three major vegetation types. The southwest 128-acre portion of the property consists of rolling hills, forested with a mixture of ponderosa pine, piñon pine and juniper, with a minor component of Gambel's oak. The pine has been harvested for a variety of products since settlement. The resulting stand is an open, park-like, two-storied stand, primarily composed of 2- to 6-inch diameter trees and 8- to 12-inch diameter trees, with about 10 trees per acre over 14 inches in diameter at breast height (DBH). The stand lacks trees over 30 inches DBH. Trees occur in even-aged clumps and scattered individual larger trees. The stand is relatively healthy with little sign of disease. Fuel levels are low to moderate, with significant patches of needle cast under the more dense stands.

The remaining 181 acres of the property is mountain grassland, bisected by a deeply incised gully containing a perennial river channel about 5-feet wide. There is a narrow band of mostly herbaceous riparian vegetation within the channel associated with the perennial flow. Narrow-leaf cottonwoods and willows are sparsely scattered within the incised channel's narrow flood plain. Fewer than six mature cottonwoods are present. All willows and cottonwood sprouts display heavy browsing by ungulates as well as damage from high flows. Centerfire Creek supports a healthy native fishery, consisting of speckled dace, longfin dace and desert sucker.

Centerfire Creek and the downstream segment of the San Francisco River are listed by the New Mexico Environment Department Surface Water Quality Bureau as "impaired stream reaches." This indicates that water quality in these reaches does not support the declared use of the stream. Transported sediment is the major source of pollution in this stream. The Datil alluvial soils in the upper watershed and in the drainage bottoms are fragile and easily eroded. Maintenance of ground cover is critical to holding the soil. A healthy, functioning riparian area will absorb much of the force of high run-off events, trap sediment on-site, and mitigate sediment loss from upstream.

Currently, no federally listed species or any designated critical habitat are known to occur on the property for the proposed Spur Ranch project. Baseline conditions were determined by the Quemado-Reserve Ranger District of the U. S. Forest Service.

#### **IV. EFFECTS OF THE ACTION**

The overall effects of the proposed action should be beneficial, as the Agreement is designed to provide a net conservation benefit for the above described species. The net conservation effect will occur through creating, restoring and/or enhancing habitat for these species. In addition, this action should directly or indirectly contribute to recovery of the above described species. However, with the exception of the loach minnow during project

implementation, there is also the very remote possibility that there could be minor adverse effects to all of the other listed species or their habitats addressed in these biological and conference opinions during implementation of this project. Furthermore, more likely adverse effects could result to all of the listed species described above from returning the environment back to its baseline condition at any time during the Agreement.

### **Listed species /critical habitat**

#### **Bald Eagle**

Few bald eagles nest in New Mexico; they primarily winter in the State. However, improvements to the watershed in the project area could attract wintering bald eagles.

The proposed pine thinning is a "thin from below" effort designed to maintain the health of the stand and to retain large trees. This would not significantly decrease the current number of large trees and snags for roosting and perching available for bald eagles. Thinning may occur in any season. Current bald eagle use of the project site is sporadic and occasional. Birds move through the area foraging, but do not roost on a regular basis. It is unlikely that many individual birds would be disturbed by treatments, as most thinning operations occur from March to November when bald eagles are rarely present. Proposed reduction of pine density would have no effect on the species or its habitat.

Proposed gradient control, seeding, planting and associated watershed/riparian treatments are designed to improve the quality and quantity of riparian habitat on the project site. Because there are currently fewer than six mature cottonwood trees in the 1-mile reach of stream, any increase in riparian woody habitat would improve perch and roost availability. There is some evidence from stands above and below the project area that this reach has the potential to support woody riparian vegetation. Improved riparian conditions may attract waterfowl as a potential prey base for bald eagles. Currently, improved stream conditions have occasionally resulted in ponded water behind the sediment control structure, attracting dozens of ducks. Any improvement in riparian condition from the current level would result in a beneficial effect on bald eagle habitat availability and quality.

Proposed levels of livestock grazing are designed to maintain riparian and rangeland health, and grazing will be monitored to achieve this goal. These levels should not adversely affect perch tree availability or riparian habitat condition. Although livestock grazing may occur during periods when bald eagles are present, the proposed use should not significantly disturb many wintering birds.

#### **Southwestern Willow Flycatcher**

The southwestern willow flycatcher will benefit directly from the riparian management project on Centerfire Creek. Planting native woody riparian species will help restore riparian habitat, increasing the probability that flycatchers could occur on the property in the future. No occupied or unoccupied suitable habitat currently exists within or adjacent to the project

area. The area provides potential habitat only. Proposed treatments to improve watershed and riparian conditions may affect flycatcher potential habitat by creating suitable habitat in at least three areas in the project area along Centerfire Creek (P. Morrison, U. S. Forest Service, 2002, pers. comm.). Because the habitat is not currently suitable and is not occupied, there would be no direct effect on the species initially as a result of the treatments. In the event that treatments improve riparian habitat conditions by increasing or establishing woody riparian stands, the improvement would benefit flycatchers by increasing the availability and quality of potential migration and nesting habitat. Improvement in water quality by removal of sediment may cause a minor change in insect species composition or abundance by changing the habitat conditions for immature insects utilized by the flycatcher.

Proposed livestock grazing would not occur within five miles of any currently occupied habitat. Direct disturbance of birds is unlikely at the present time, because the habitat is not currently suitable, there are no occupied habitats adjacent to the site, habitat potential is limited by site characteristics, and there are no flycatchers currently using the existing habitat. However, as restoration proceeds, flycatchers may begin to nest in the Spur Ranch project area and adverse effects could result from livestock management activities, such as direct disturbance of nest trees or attracting an increased number of parasitic cowbirds.

Activities associated with thinning of ponderosa pine and fuel treatments would have little effect on the flycatcher or its habitat because most of these activities would occur in habitats that are not utilized by the flycatcher. The activities would not result in off-site sedimentation or changes to riparian habitats, but could result in minor noise or human activity disturbance .

### **Mexican Spotted Owl**

Forest thinning and controlled burning are important management activities to conserve Mexican spotted owl habitat. Although ponderosa pine is not considered typical spotted owl nesting or roosting habitat, spotted owls have been observed foraging in these forest types (U. S. Fish and Wildlife Service 1995). Prescribed burning can improve forage for spotted owls by increasing prey species abundance and accessibility. In addition, successful implementation of the prescribed fire treatments may limit or prevent future catastrophic wildfires. Minor adverse effects in the form of disturbance to a foraging bird could result from these activities.

There are no mixed conifer or pine/oak habitats within the project area. The riparian habitat, which is classified as restricted habitat for the spotted owl, consists of a few isolated willows and cottonwoods scattered along an incised active channel that supports primarily herbaceous riparian and non-riparian species. This riparian area does not presently constitute suitable habitat for nesting, roosting, foraging or resting habitat for the spotted owl. There are no spotted owls presently occupying this habitat.

The project is designed to improve water quality and allow the establishment of woody riparian stands. Improvement in water quality by removal of sediment may cause a minor

change in prey composition or abundance by changing the habitat conditions for rodents within the riparian area. Improved water quality would not have a direct effect on spotted owls, nor is any indirect effect predicted, because the spotted owl is not dependent on prey species that rely on aquatic conditions. Establishment of woody riparian stands at the project site may beneficially affect woody riparian condition or availability within the potential restricted habitat. There is no habitat currently available for the spotted owl, but the project may improve conditions for future use of the riparian habitat by spotted owls.

Even with the positive riparian restoration actions proposed, it is unlikely that this habitat would become suitable in the near future. Proposed grazing by livestock would not occur within one mile of any currently occupied habitat. Direct disturbance of birds is discountable, because the habitat is not currently suitable, there are no occupied habitats adjacent to the site, habitat potential is limited by site characteristics, and there are no spotted owls currently using the existing habitat.

### **Loach Minnow**

Sites occupied by the loach minnow occur approximately 12 miles downstream from the project area. The live stream, Centerfire Creek, within the project area does not contain this species (Rinne 1998). There are no historical records of species occurrence in this stream reach. The reach is above the San Francisco Box that forms a barrier to upstream migration of the loach minnow from currently occupied habitat. The San Francisco River reach between the project area and the loach minnow population contains rainbow trout and other non-native species that may limit potential occupancy by loach minnow of the intervening stretch. Lack of gravel riffles in the fine sediments of the substrate may limit potential for loach minnow in this project area.

This project is designed to improve water quality and riparian habitat conditions in the project area. Off-site sedimentation or water quality effects where loach minnow currently occur are not likely to be measurable.

If the sediment control structures on Centerfire Creek are removed, which could occur at any time during this Agreement, there is a remote possibility that the released sediment could reach downstream occupied loach minnow habitat. If this were to occur, there would likely be adverse effects to the loach minnow caused by removal of the sediment control structures.

### **Proposed species /critical habitat: Mexican Gray Wolf**

Mexican gray wolves were extirpated from the Gila River basin in the 1900s. Reintroduction of the subspecies is in progress in Arizona and New Mexico. The project area is within the gray wolf recovery area or expansion range for the gray wolf. There are no release or denning sites within the action area. However, released gray wolves have been documented near the property. Gray wolves are wide-ranging, opportunistic predators. Predicted improvements in riparian habitat conditions may produce an indirect, beneficial effect on prey composition and availability. However, considering the foraging range of the species

and the small size and effect of the project, any direct effect on the gray wolf is not likely. Therefore, net conservation benefits to the gray wolf will be indirect. Any improvements to the watershed could improve available travel corridors for this species.

If the number of gray wolves in the vicinity increases and they begin to occupy the action area, adverse effects could result from human disturbance associated with any of the proposed actions, either during project implementation or by returning the area to baseline conditions. Furthermore, returning the area to baseline conditions would result in adverse effects by removing the habitat enhancements that encouraged gray wolves to occupy the action area.

## **V. CUMULATIVE EFFECTS**

Cumulative effects include the effects of future State, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section, because they require separate consultation following section 7 of the Act.

Other than those aspects of the present project delineated in the Agreement, there are no present and future projects, authorized or under review, that are expected to contribute to any cumulative losses to the above listed species or their habitats.

## **VI. CONCLUSION**

### **Listed species /critical habitat**

After reviewing the current status of the southwestern willow flycatcher, Mexican spotted owl, bald eagle, and loach minnow, the environmental baseline for the action area, the effects of the proposed issuance of a section 10(a)(1)(A) Safe Harbor Enhancement of Survival Permit on 309 acres of the Spur Ranch, and cumulative effects, it is the Service's biological opinion that this action, as proposed, is not likely to jeopardize the continued existence of these species. No critical habitat has been designated for the flycatcher and bald eagle, therefore, none will be affected. Critical habitat for the spotted owl and loach minnow have been designated in areas of New Mexico, however, this action would not affect those areas and no destruction or adverse modification of critical habitat is anticipated.

### **Proposed species /critical habitat**

After reviewing the current status of the Mexican gray wolf, the environmental baseline for the action area, the effects of the proposed issuance of a section 10(a)(1)(A) Safe Harbor Enhancement of Survival Permit on 309 acres of the Spur Ranch, and cumulative effects, it is the Service's conference opinion that the action, as proposed, is not likely to jeopardize the continued existence of this species. No critical habitat has been proposed for the Mexican gray wolf.

## INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act, provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The Agreement for 309 acres of the Spur Ranch clearly identifies the conservation measures that will be implemented to provide a net conservation benefit to and a contribution to recovery of the affected listed species included in the section 10(a)(1)(A) permit. The Agreement also clearly identifies the anticipated impacts to affected listed species likely to result from the proposed taking should the Cooperators return to the agreed upon baseline conditions. All conservation measures described in the Agreement and any section 10(a)(1)(A) permit, are hereby incorporated by reference as reasonable and prudent measures and terms and conditions within the incidental take statement pursuant to 50 CFR §402.14(i). Such terms and conditions are non-discretionary and must be undertaken for the exemptions under section 10(a)(1)(A) and section 7(o)(2) of the Act to apply. If the Cooperators fail to adhere to these terms and conditions, the protective coverage of the section 10(a)(1)(A) permit and section 7(o)(2) may lapse. The amount or extent of incidental take anticipated under the Agreement for the project area on the Spur Ranch, associated reporting requirements, and provisions for disposition of dead or injured animals are as described in the Agreement and its accompanying section 10(a)(1)(A) permit.

### I. AMOUNT OR EXTENT OF TAKE

#### Listed species /critical habitat

Because all of the habitat restoration projects will be carried out in currently unoccupied, unsuitable habitat (zero baseline), no incidental taking of any of the above listed species is anticipated for restoration activities at the inception of project implementation. As restoration proceeds, listed species may begin to occur in the action area. The Service has developed the following incidental take statement based on the premise that the reasonable and prudent measures will be implemented.

During implementation of the Agreement, the Service anticipates that take of listed species is a very remote possibility. This is partially because many of the proposed restoration actions would be conducted to avoid adverse effects to listed species. In addition, the action area has somewhat limited potential to develop suitable habitat that could be occupied by some of the listed species considered in this biological opinion. The Service does not anticipate that the proposed action will incidentally take any loach minnows during implementation of this project. Because there is limited restorable or suitable habitat available for the Mexican spotted owl in the action area for this project, the Service anticipates that only one Mexican spotted owl could be taken as a result of this proposed action. The incidental take is expected to be in the form of harassment during project implementation, for example, during controlled burning or forest thinning. There is greater likelihood that bald eagles and southwestern willow flycatchers could occupy the project area. The incidence of ponded water should increase in duration and quantity as implementation of stream restoration activities proceeds, and this should attract waterfowl species that constitute prey for bald eagles. Furthermore, there should be more cottonwood trees to provide roosting habitat for bald eagles. At least three areas of willow restoration along Centerfire Creek should develop into suitable nesting habitat for flycatchers. Therefore, the Service anticipates that four bald eagles could be taken by harassment and three pairs or six individual adult flycatchers and their offspring could be taken in the form of harm or harassment as a result of this proposed action. This incidental take is expected to occur during implementation of this project, from activities related to grazing management, forest thinning or prescribed burning. The Service will not refer the incidental take of any bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald and Golden Eagle Protection Act of 1918, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

If habitat improvements result in occupancy by the any of these species, and the Cooperators choose to return the restored habitat to baseline conditions (*e.g.*, through activities such as clearing for agricultural purposes, intensive grazing, discontinuing habitat enhancement, or other activities), incidental take of these species will occur. The extent of incidental take that will result from such activities will depend on the extent to which the restored habitat is occupied by the species. As described above, it is the Service's opinion that occupancy by the Mexican spotted owl is extremely unlikely. In the remote event that this species occupies the action area at the end of the Agreement, the Service anticipates take of only one Mexican spotted owl in the form of harm or harassment through activities such as intensive grazing or timber harvest.

As described above, bald eagles and southwestern willow flycatchers are more likely to occupy the action area in low numbers. Therefore, based on the estimated habitat that could be created by this project, the Service anticipates that four bald eagles could be taken by harassment and three pairs or six individual adult flycatchers and their offspring could be taken in the form of harm or harassment at the end of this Agreement, if the Cooperators choose to return the restored occupied habitat to baseline conditions. This take could occur from activities such as intensive grazing or timber harvest, or removal of sediment control structures.

Should the Cooperators remove the sediment retention structure at the end of this Agreement and sediment reaches occupied loach minnow habitat currently 12 miles downstream, the Service anticipates that loach minnows and their propagules could be taken. The Service also anticipates that incidental take of loach minnows will be difficult to detect for the following reasons: The loach minnow has a small body size and finding a dead or impaired specimen is unlikely due to predation, the cryptic nature of the loach minnow, and its small size. However, take in the form of harm or harassment can be anticipated through the loss of water quality and quantity, food and cover essential to the species. The Service authorizes take of any loach minnows and their propagules that are injured or killed by the increased sediment concentration caused by removal of the sediment retention structures on the 309-acre project area of the Spur Ranch. It is the Service's opinion that further quantifying this amount of take would be infeasible, because removal of the sediment retention structures would occur at an unknown future point in time, and future loach minnow populations in this reach are difficult to predict.

#### **Proposed species /critical habitat**

Because Mexican gray wolves have already been detected in the vicinity of this project area and the number of gray wolves may increase within the duration of this 30-year Agreement, the Service anticipates that five Mexican gray wolves could be taken as a result of this proposed action from human disturbance associated with activities such as forest thinning, controlled burning or grazing management. This incidental take is expected to be in the form of harassment during implementation of this project. Should the Cooperators return the restored habitat to baseline conditions, the Service anticipates that five Mexican gray wolves could be taken as a result of this action in the form of harm or harassment from activities such as intensive grazing or timber harvest, clearing for agricultural purposes or removal of the sediment control structures.

This is the total level of take anticipated for the proposed actions as described in the Description of Proposed Action section of this opinion. Absent written agreement to the contrary or waiver, the Cooperators shall notify the Service at least 60 days in advance of when they expect to carry out an activity that is likely to result in the taking of a listed covered species to provide the Service with an opportunity to rescue affected individuals of such species, if possible and appropriate. Such notification shall be provided to:

Field Supervisor  
U. S. Fish and Wildlife Service  
New Mexico Ecological Services Field Office  
2105 Osuna, N.E.  
Albuquerque, New Mexico 87113  
Phone: 505/346-2525

## II. EFFECT OF THE TAKE

In the accompanying biological and conference opinions, the Service determined that these levels of anticipated take are not likely to result in jeopardy to any of the above species affected by the Agreement or destruction or adverse modification of any critical habitat associated with any of these species.

### REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize or avoid impacts of incidental take to the southwestern willow flycatcher, Mexican spotted owl, bald eagle, and loach minnow. The prohibitions against taking the Mexican gray wolf found in section 9 of the Act do not apply until the 10(j) nonessential experimental designation is removed from the Mexican gray wolf and the subspecies is considered to be listed for purposes of this section 7 consultation. However, the Service advises that the following reasonable and prudent measure be implemented. If this conference opinion is adopted as a biological opinion following a revised listing or designation, these measures, with their implementing terms and conditions, will be nondiscretionary.

1. The Service shall require that the applicant comply with and implement the issued section 10(a)(1)(A) incidental take permit.

#### Terms and conditions

In order to be exempt from the prohibitions of section 9 of the Act, the following non-discretionary terms and conditions, which implement the reasonable and prudent measures described above, must be complied with:

- 1.1 The Service shall require that the authorization granted by the section 10(a)(1)(A) permit is subject to full and complete compliance with, and implementation of, the Agreement for Caroline H. and Thomas W. Paterson and all specific conditions contained in the permit.
- 1.2 The Service shall require Caroline H. and Thomas W. Paterson to report activities conducted under the section 10(a)(1)(A) permit to the Service annually.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize or avoid the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. Caroline H. and Thomas W. Paterson must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

### **Conservation Recommendations**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. We recommend the following:

1. The NMESFO should seek to participate with the Cooperators to implement adaptive management procedures to regularly assess and improve attainment of the restoration goals of the Agreement.
2. The NMESFO should seek to amend this Agreement to include any species that become listed during its duration, as appropriate.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

### **REINITIATION NOTICE**

This concludes formal consultation and conference on the actions outlined in the request. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

You may ask the Service to confirm the conference opinion for the Mexican gray wolf as a biological opinion issued through formal consultation if the 10(j) nonessential experimental designation is removed and the subspecies is considered to be listed for purposes of this section 7 consultation. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

After revising the listing of the Mexican gray wolf to remove its 10(j) status and any subsequent adoption of this conference opinion, the Federal agency shall request reinitiation of consultation if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect the species or critical habitat in a manner or to an extent not considered in this conference opinion; (3) the agency action is

subsequently modified in a manner that causes an effect to the species or critical habitat that was not considered in this conference opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

The incidental take statement provided in this conference opinion does not become effective until the species is listed and the conference opinion is adopted as the biological opinion issued through formal consultation. At that time, the project will be reviewed to determine whether any take of the Mexican gray wolf has occurred. Modifications of the opinion and incidental take statement may be appropriate to reflect that take. No take of the Mexican gray wolf may occur between the revision of the listing to remove 10(j) status for the subspecies and the adoption of the conference opinion through formal consultation, or the completion of a subsequent formal consultation.



Joy E. Nicholopoulos

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry and Resources Conservation Division, Santa Fe, New Mexico

District Ranger, Quemado-Luna Ranger District, Gila National Forest, P.O. Box 159, Quemado, New Mexico 87829

District Ranger, Reserve Ranger District, Gila National Forest, P.O. Box 170, Reserve, New Mexico 87830

Forest Supervisor, Gila National Forest, 3005 E. Camino del Bosque, Silver City, New Mexico 88061

Assistant Regional Director for Ecological Services, U. S. Fish and Wildlife Service, Albuquerque, New Mexico

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