



United States Department of the Interior
Fish and Wildlife Service

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In Reply Refer To:

AESO/SE
2-21-91-F-341

March 3, 1997

MEMORANDUM

TO: Area Director, Bureau of Indian Affairs, Navajo Area Office, Gallup,
New Mexico

FROM: Field Supervisor

SUBJECT: Reconstruction of Navajo Route N-13 (7 and 8)

The U.S. Fish and Wildlife Service (Service) has reviewed the project proposal for the Reconstruction of Navajo Route N-13 (sections 7 and 8) located on the Navajo Reservation, Apache County, Arizona. Your initial April 10, 1996, request for formal consultation was not accepted due to the need for additional information as stated in the Service's April 29, 1996, memorandum. The requested additional information dated June 18, 1996, was received by the Service via facsimile on June 21, 1996. This document represents the Service's biological opinion on the effects of that action on the Mexican spotted owl (*Strix occidentalis lucida*) (MSO) and the American peregrine falcon (*Falco peregrinus anatum*) in accordance with section 7 of the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.).

According to your June 18, 1996, memorandum, the Bureau of Indian Affairs (BIA) has determined that the proposed action "may effect, and is likely to adversely affect" the MSO. In addition, the BIA has determined that the action "may effect, but is not likely to adversely affect" the American peregrine falcon and MSO critical habitat. The Service is unable to concur with your determination for the peregrine falcon and therefore has included the species in this biological opinion. The Service concurs with your determination of effect for MSO critical habitat.

This biological opinion is based on information provided in the Draft Environmental Assessment completed by the U.S. Army Corps of Engineers (March 15, 1996); the MSO Inventory Reports for 1994 and 1995; the Peregrine Falcon Survey and Evaluation Report for 1996; various letters from the Navajo Nation; and telephone conversations with the following persons: Rick Winslow, Navajo Fish and Wildlife Department, October 17, 1996; John Nystedt, Navajo Natural Heritage Program, October 24, 1996; Jeff Cole, Navajo Fish and Wildlife Department, October 29, 1996; David Mikesic, Navajo Natural Heritage Program, October 31, 1996, and; Leonard Robbins, BIA, Navajo Area Office, February 27, 1997, and other sources of information. Literature cited in this biological opinion does not represent a complete

bibliography of literature available on the MSO or the peregrine falcon or the effects of disturbance on these species, or other subjects that may have been considered in this opinion. A complete administrative record of this consultation is on file in the Arizona Ecological Services Field Office.

It is the Service's biological opinion that the proposed reconstruction of Navajo Route N-13 (7 and 8) is not likely to jeopardize the continued existence of the MSO or the peregrine falcon.

CONSULTATION HISTORY

On June 20, 1991, the Service responded to a May 30, 1991, request from the BIA for a species list for the proposed Navajo Route N-13. On February 11, 1994, the Service provided the BIA an updated species list for this project. In April 1995, the Navajo Fish and Wildlife Department provided the Service with a copy of the August 15, 1994, MSO Inventory Report for Navajo Route N-13 (7 and 8). The Service was provided with a copy of the January 31, 1996, follow-up letter from the Navajo Fish and Wildlife Department regarding the meeting between the Navajo Fish and Wildlife Department and the U.S. Corps of Engineers which took place on January 26, 1996. On April 15, 1996, the Service received the BIA's April 10, 1996, request for formal consultation for Navajo Route N-13 (7 and 8). This request for formal consultation was not accepted by the Service due to the need for additional information. The Service requested additional information in an April 29, 1996, memorandum. In June 1996, the Service received a copy of the May 24, 1996, comments from the Navajo Fish and Wildlife Department on the N-13 Environmental Assessment. On June 21, 1996, the Service received via facsimile the June 18, 1996 letter from the BIA providing the requested additional information for formal consultation. In addition, many conversations representing informal consultation have occurred between the Service and employees of the Navajo Fish and Wildlife Department, the BIA, and the Army Corps of Engineers. These discussions have primarily involved MSO survey and consultation recommendations.

The Draft Biological Opinion for this project was provided to the BIA as requested on November 4, 1996. Subsequent conversations between the Service and Leonard Robbins of the BIA indicated that written comments would be forthcoming. The Service received comments on the Draft Biological Opinion on February 24, 1997, from the BIA and the Navajo Area Branch of Roads in a letter dated February 18, 1997. A copy of the 1996 peregrine falcon survey report was included with the comments. The comments received from the BIA on the Draft Biological Opinion have been incorporated into the final biological opinion when possible; many of the comments involved the belief that there would not be adverse effects to the peregrine falcon because surveys had been conducted in 1996 with negative results. The Service has had numerous conversations with the BIA regarding the point that surveys for this species must be conducted the year of activity in any potential habitat. The comments received from the BIA and the Branch of Roads, February 18, 1997, indicate that "the Branch of Roads may conduct another survey for the peregrine falcon in the construction year if required." Because no firm commitment has been made to incorporate surveys for the peregrine falcon into the proposed action, the Service remains of the opinion that this project may adversely affect the species, and

therefore, we are including the species in the biological opinion. In addition, conversations with Leonard Robbins of the BIA indicate that the implementation of a portion of term and condition 3.1 of the Draft Biological Opinion does not fall within the authority of the BIA or the Branch of Roads. Of concern is the portion of that term and condition which states that the Wagon Wheel Campground will be closed. The BIA states that this action is under the jurisdiction of the Navajo Nation, and therefore, they cannot implement it (pers. comm. Leonard Robbins, BIA). The Service has modified this term and condition in response, and has added it as a third conservation measure.

BIOLOGICAL OPINION

DESCRIPTION OF PROPOSED ACTION

The action that is the subject of this biological opinion is the reconstruction of Navajo Route N-13, sections 7 and 8, between the communities of Lukachukai and Red Valley, Arizona, in the Chuska Mountains. The purpose of the reconstruction is provide access between two major growth centers on the Navajo Reservation: Shiprock, New Mexico, and Chinle, Arizona. The portions of N-13 proposed for reconstruction are located approximately two miles northeast of Lukachukai. The road ascends the western slopes of the Chuska Mountains to Buffalo Pass, descends the eastern slopes midway between the Diné Bi Kayah oil field and Roof Butte, and connects to the paved section of N-13, approximately 9 miles southwest of Red Valley, Arizona. Elevations along the proposed reconstruction route are between 7,200 and 8,500 feet.

The existing roadway is a two lane, 22-foot wide dirt surface with no shoulder. Traffic along Navajo Route N-13 has been steadily increasing between Lukachukai and Red Valley since 1970, when traffic use was estimated to be 100 vehicles per day. The traffic count for 1991 was 385 vehicles per day. Current traffic includes cars and light trucks. The current design does not allow for large semi-truck traffic. The volume of traffic is projected to be 489 vehicles per day by the year 2015.

The proposed reconstruction would involve: roadway widening; construction of right-of-way fencing; replacement and improvement of existing drainages including improved grading, flattening of steep vertical grades and lengthening of horizontal curves to improve sight distances; construction of roadway shoulders; realignment of highway segments; and asphalt paving. Reconstruction would occur in two phases, beginning in March 1997 and ending in August 1998. The construction activity would occur between 6:00 a.m. and 8:00 p.m., Monday through Saturday, from March 1 through September 30, weather permitting.

The proposed action would construct two, 11-foot driving lanes, with 3-foot shoulders, for a total road width of 28 feet. Vegetation would be removed from within the safety clear zone, a 10-foot wide area along both sides of the reconstructed roadway; however some shrubs and small trees will remain. The proposed right-of-way is 200 feet (100 feet right and left of the road centerline). The reconstructed Navajo Route N-13 would be designated as a class 4 (local

use), all-weather, all season, roadway with permanent signing and pavement markings. The length of Navajo Route N-13(7) is 4.7 miles, and N-13(8) is 5.3 miles, for a total combined length of 10.0 miles.

No borrow will be used for the reconstruction of Navajo Route N-13, rather waste will be used for the construction of turnouts along the project. Staging areas and construction equipment will be confined to the existing corridor during roadway construction. Streambank and sedimentation control measures include: utilizing silt fencing and straw bales along encroachments to Lukachukai Creek, as well as within all cut sections having highly erodible soils; flat-bottom pipes will be used at all crossings of Lukachukai Creek to allow for the passage of aquatic organisms; gabions will be placed along the bank of Lukachukai Creek to prevent embankment fill from entering the creek; the construction contractor will not be permitted to park heavy equipment within 50 feet of Lukachukai Creek; the Navajo Area Branch of Roads will only remove vegetation within the construction limit and reseed and/or revegetate slopes within the construction limits to reduce erosion of soils; the natural meander of Lukachukai Creek will be maintained during the incorporation of stream bank protection measures; any damage to the natural spring found near station number 344+00 will be repaired to its natural condition; and 1,175 linear feet of streambank protection will be placed in Lukachukai Creek to protect against streambank erosion.

According to the Draft Environmental Assessment, the following mitigation measures designed to protect wildlife and livestock will be incorporated into the final design plans for this project: 1) portions of the N-13 highway right-of-way will be fenced to allow wildlife passage as specified by the Navajo Fish and Wildlife Department; 2) two cattle passes will be constructed; 3) clearing and grubbing will be restricted to the designated construction limits or safety clear zone; 4) revegetation of the right-of-way will be done in accordance with the FP-92 guidelines specified in Section 2.3 *Revegetation and Recontouring of Disturbed Areas*; 5) reconstruction will be scheduled to avoid critical areas of wildlife use (to the fullest extent possible); 6) construction equipment will stay outside of wildlife use areas during non-working hours in those areas identified by the Navajo Fish and Wildlife Department as critical wildlife habitat; 7) debris removed from trees will be loosely piled outside the right-of-way to create habitat for small mammals and birds; 8) "Operation Game Thief" and "Wildlife Crossing" signs will be posted; 9) the Navajo Fish and Wildlife Department and local Chapters shall recommend those non-BIA secondary access roads that they want closed to reduce access into wildlife areas, and lockable gates will be installed or the approaches to these roads will be recontoured to prevent access; and 10) existing picnic grounds along N-13 may be closed and relocated by the Navajo Nation Parks and Recreation Department as recommended by the Navajo Fish and Wildlife Department.

STATUS OF THE SPECIES

Species Description - Peregrine Falcon

The American peregrine falcon was listed as an endangered species on October 13, 1970 (35 FR 16047). No critical habitat has been designated for this species. The peregrine falcon is a

medium-sized raptor with various subspecies distributed worldwide. The American peregrine falcon occurs across much of North America. It nests on cliffs near sources of avian prey. The peregrine falcon has traditionally been strongly associated with cliffs near large bodies of water such as seacoasts, lakes, and large rivers (Ratcliffe 1980). However, the arid American southwest has recently been demonstrated to support the largest concentration of peregrines known in North America, excluding Alaska. Studies have documented high densities of breeding pairs in the Southwest, particularly the Colorado Plateau Province (Burnham and Enderson 1987, Hays and Tibbitts 1989, Tibbitts and Bibles 1990, Brown 1991). Local concentrations of nesting pairs have also been documented in the mountains of southeastern Arizona (Tibbitts and Ward 1990a and 1990b, Berner and Mannan 1992, Ward 1993).

In the Southwest, breeding peregrines are currently found where large cliffs (approximately ≥ 100 meters [m] in height) are available, with the exception of in the hottest and driest desert regions (Tibbitts and Ward 1990a, Ward 1993, USDI unpubl. data). Large cliffs overlooking chaparral, pinyon-juniper woodland, conifer forest, and riparian habitats apparently provide high-quality habitat. These cliffs are often occupied by breeding pairs throughout Arizona and southern Utah, even where surface water may be many miles distant. Even in the Sonoran desert, peregrine falcons may be found breeding on cliffs in areas with perennial surface water and associated avian prey populations are available.

The American peregrine falcon appears to be making considerable progress toward recovery throughout much of its range. On June 30, 1995, the Service published an advance notice of a proposal to remove the American peregrine falcon from the list of endangered and threatened wildlife, stating that data currently on file with the Service indicate that this subspecies has recovered following restrictions on the use of organochlorine pesticides in the United States and Canada and because of management activities including the reintroduction of captive-bred peregrine falcons (60 FR 34406).

Peregrines feed almost exclusively upon other birds, such as shorebirds, waterfowl, pigeons, doves, robins, flickers, jays, swifts, swallows, and other passerines that opportunity presents (Craig 1986). Although some individuals may become adept hunters, it is estimated that peregrine succeed in making kills only 10 to 40 percent of the time (Roalkvam 1985, Cade 1982). The falcon travels extensively when hunting. During the breeding season, a hunting range of 10 miles may be considered typical (Craig 1986). Proximity of a cliff to surface water may affect occupancy. In Arizona, nearly all nest sites which are great distances from extensive permanent water have nearby permanent water sources; rivers lakes and streams are the most important sources (Ellis 1982). The presence of rivers, riparian habitat, or other surface water in peregrine nesting habitat may be a feature in determining the presence of an adequate food supply.

The Peregrine Falcon Recovery Plan for the Southwest Population (USFWS 1984) recommends against land-use practices and development which adversely alters or eliminates the character of hunting habitat or prey base within 10 miles of an eyrie, and within 1 mile of the nesting cliff.

The degree of disturbance that peregrine falcons can tolerate is generally believed to be a function of the magnitude of the disturbance, the distance from the breeding site, and the falcon's habituation to human activities. Raptors in frequent contact with human activities tend to be less sensitive to additional disturbances than raptors nesting in remote areas. However, exposure to direct human harassment may make raptors more sensitive to disturbances (Newton 1979). Where prey is abundant, raptors may even occupy areas of high human activity, such as cities and airports (Newton 1979, Ratcliffe 1980, White et al. 1988). The timing, frequency, and predictability of the disturbance may also be factors. Raptors become less sensitive to human disturbance as their nesting cycle progresses (Newton 1979). Generally, peregrine falcons are least tolerant of disturbance during the prelaying through incubation periods. After young are hatched, peregrines exhibit considerably higher levels of tolerance and are unlikely to abandon the nesting attempt (Cade 1960, Cade and White 1976, Fyfe and Olendorff 1976, Eberhardt and Skaggs 1977, Olsen and Olsen 1978, Monk 1980, Roseneau et al. 1981).

Studies have suggested that human activities within breeding and nesting territories could effect raptors by changing home range movements (Anderson et al. 1990) and causing nest abandonment (Postovit and Postovit 1987, Porter et al. 1973). In areas of steep topographic "screening," Johnson (1988) suggests that human activity within a core area of about 1,300 feet of the nest might impact peregrine breeding efforts. His recommended core area increased to 2,950 feet in areas with no topographic screening. He based these distances on a model using thresholds for flight responses, not on verified impacts on productivity.

Exposure to direct human harassment may make raptors more sensitive to disturbances (Newton 1979). Construction activities, operation of heavy machinery, and aircraft activity, all with the notable absence of direct human harassment, were generally tolerated by nesting peregrine falcons and gyrfalcons (Platt 1977, Ellis 1981, Haugh 1982, White and Thurow 1985, Ritchie 1987, White et al. 1988). Peregrines have nested in situations where there is a high level of disturbance, such as on buildings in urban settings (Cade and Bird 1990). They have also nested near potential disturbance from low level military jets and sonic booms (Ellis 1981). Peregrine falcons and golden eagles have been known to nest successfully within a few hundred meters of areas such as airports, blasting, construction, quarrying, and mining sites (Pruett-Jones et al. 1980, Haugh 1982, White and Thurow 1985, White et al. 1988). Cade and Bird (1990) discussed the possible effects on peregrines of high levels of human activity, including noise and machinery such as compressors, blowing fans, and bright night lighting. They concluded that the effects were unknown. Apparently, responses vary considerably within the species.

There are 10 confirmed peregrine falcon eyries on the Navajo Reservation. In addition, 9 sites are located along the Colorado River, and some of these may be located on the Navajo Reservation (pers. comm. David Mikesic, Navajo Natural Heritage Program). Most of the Navajo Reservation is unsurveyed. David Ellis surveyed some of the Reservation for peregrine falcons in the 1980's, but no site specific information has been provided to the Navajo Natural Heritage Program. In addition, the Navajo Nation has conducted limited surveys in areas of planned timber sales and other projects (pers. comm. David Mikesic, Navajo Natural Heritage Program).

Species Description - Mexican Spotted Owl

A detailed account of the taxonomy, biology, and reproductive characteristics of the MSO is found in the Final Rule listing the MSO as a threatened species (58 FR:14248) and in the Final MSO Recovery Plan (USDI 1995). The information provided in those documents is included herein by reference.

Although the MSO's entire range covers a broad area of the southwestern United States and Mexico, much remains unknown about the species' distribution and ecology. This is especially true in Mexico where much of the MSO's range has not been surveyed. The MSO currently occupies a broad geographic area but does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to forested isolated mountain systems, canyons, and in some cases, steep, rocky canyon lands. The primary administrator of lands supporting MSO in the United States is the U.S. Forest Service. Most owls have been found within Forest Service Region 3 (including 11 National Forest in Arizona and New Mexico). Forest Service Regions 2 and 4 (including 2 National Forests in Colorado and 3 in Utah) support fewer owls. According to the Recovery Plan, 91% of MSO known to exist in the United States between 1990 and 1993 occurred on lands administered by the Forest Service.

Surveys have revealed that the species has an affinity for older, well-structured forest, and the species is known to inhabit a physically diverse landscape in the southwestern United States and Mexico. The range of the MSO has been divided into six Recovery Units (RUs), as discussed in the MSO Recovery Plan (USDI 1995). The Recovery Plan reports an estimate of owl sites. An owl "site" is defined as a visual sighting of at least one adult owl or a minimum of two auditory detections in the same vicinity in the same year. This information was reported for 1990-1993. The greatest known concentration of known owl sites in the United States occurs in the Upper Gila Mountains RU (55.9%), followed by the Basin and Range-East RU (16.0%), Basin and Range-West RU (13.6%), Colorado Plateau RU (8.2%), Southern Rocky Mountain-New Mexico RU (4.5%), and Southern Rocky Mountain-Colorado RU (1.8%). Owl surveys conducted from 1990 through 1993 indicate that the species persists in most locations reported prior to 1989.

A reliable estimate of the absolute numbers of MSO throughout its entire range is not available (USDI 1995) and the quality and quantity of information regarding numbers of MSO vary by source. USDI (1991) reported a total of 2,160 owls throughout the United States. Fletcher (1990) calculated that 2,074 owls existed in Arizona and New Mexico.

As of the end of the 1996 season, there were 27 confirmed PACs on the Navajo Reservation; approximately 3 million acres of potential habitat remains unsurveyed (pers. comm. Rick Winslow, Navajo Fish and Wildlife Department). At the end of the 1995 field season, the Forest Service reported a total of 866 management territories (MTs) established in locations where at least a single MSO had been identified (U.S. Forest Service, *in litt.* November 9, 1995). The information provided at that time also included a summary of territories and acres of suitable habitat in each RU. Subsequently, a summary of all territory and monitoring data for the 1995 field season on Forest Service lands was provided to the Service on January 22, 1996. There were minor discrepancies in the number of MTs reported in the November and

January data. For the purposes of this analysis we are using the more recent information. Table 1 displays the number of MTs and percentage of the total number of each Forest (U.S. Forest Service, in litt., January 22, 1996).

The Forest Service has converted some MTs into protected activity centers (PACs) following the recommendations of the Draft MSO Recovery Plan released in March 1995. The completion of these conversions has typically been driven by project-level consultations with the Service and varies by agency and National Forest.

The Colorado Plateau RU includes most of southern and south-central Utah, plus portions of northern Arizona, northwestern New Mexico, and southwestern Colorado. Grasslands and shrub-steppes dominate the Colorado Plateau at lower elevations, but woodlands and forest dominate the higher elevations. Forest types in the woodland zone include ponderosa pine, mixed conifer, and spruce-fir. Conifers may extend to lower elevations in canyons. Deciduous woody species dominate riparian communities, and are most common along major streams (USDI 1995).

MSO habitat appears to be naturally fragmented in this RU, with most owls found in disjunct canyon systems or on isolated mountain ranges. In southern Utah, breeding owls primarily inhabit deep, steep-walled canyons. These canyons are typically surrounded by terrain that does not appear to support breeding MSO. Owls apparently prefer canyon terrain in southwestern Colorado, particularly in and around Mesa Verde National Park. In northern Arizona and New Mexico, MSO have been reported in both canyon and montane situations. Recent records of MSO exist for the Grand Canyon and Kaibab Plateau in Arizona, as well as for the Chuska Mountains, Black Mesa, Fort Defiance Plateau, and the Rainbow/Skeleton Plateau on the Navajo Reservation. In addition, records exist for the Zuni Mountains and Mount Taylor in New Mexico. Federal lands account for 44% of this RU. Tribal lands collectively total 30%, with the largest single entity being the Navajo Reservation (USDI 1995). Threats in the southeastern portion of this RU according to the MSO Recovery Plan (USDI 1995) include timber harvest, overgrazing, catastrophic fire, oil, gas, and mining development, and recreation.

Navajo Route N-13(7 and 8) is located entirely within critical habitat unit (CHU) AZ-NAIR-1. This CHU is comprised of a chain of forested montane and canyon habitat in the Chuska Mountains and the adjacent Carrizo Mountains to the north, on the Navajo Reservation. This CHU is 199,600 acres in size and is one of the five CHUs on the Navajo Reservation. The dominant plant community within the Chuska Mountains is mixed conifer woodland. Colorado blue spruce (*Picea pungens*), alpine fir (*Abies lasiocarpa* var. *arizonica*) and Douglas-fir (*Pseudotsuga menziessi* var. *glauca*) grow above 9,000 feet in elevation. Ponderosa pine (*Pinus ponderosa*), aspen (*populus tremuloides*), and Gambel oak (*Quercus gamelii*) grow on slopes above 7,000 feet, interspersed with open grass meadows. Spruce, fir, and aspen grow in canyons that indent the flanks of the Chuskas (Draft Environmental Assessment). The more accessible forested areas on the mesas, the above-canyon flats, and foothills have had considerable overstory removal and are primarily second growth, particularly on the Defiance Plateau. Even-aged silvicultural management across large management units have resulted in

Table 1. Number of MTs as reported by the Forest Service (U.S. Forest Service, *in litt.*, January 22, 1996), percent of MTs as a proportion of the MTs in Forest Service Region 3, and the percent of suitable habitat surveyed in each Forest by National Forest (Fletcher and Hollis 1994).

National Forest	No.MTs	% of MTs	Percent Suitable Habitat Surveyed
A/S	122	14.0	99
Carson	3	0.3	62
Cibola	43	5.0	41
Coconino	155	17.8	87
Coronado	108	12.4	49
Gila	197	22.7	50
Kaibab	6	0.7	96
Lincoln	126	14.5	90
Prescott	10	1.2	42
Santa Fe	33	3.8	44
Tonto	66	7.6	55
TOTAL	869	100	

fairly extensive modifications of habitat, typically to those areas most likely to be utilized as foraging habitat by MSO. There are 17 PACs currently identified in the Chuska Mountains and Fort Defiance Plateau (pers. comm. Rick Winslow, Navajo Fish and Wildlife Department).

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 which have undergone section 7 consultation, and the impacts of State and private actions which are contemporaneous with the consultation in progress. On the Navajo Nation, past and present Federal, State, private, and other human activities that occur in the project area include fuelwood gathering activities, homesite development, sheep and cattle grazing, development of recreation sites, timber sales, road construction and maintenance activities, mining, oil and gas development, and powerline construction.

Peregrine Falcon

Recovery of the peregrine falcon in the Rocky Mountain/Southwest region appears to be greatest on the Colorado Plateau of southern Utah, southwest Colorado, and northern Arizona, and in adjacent habitats in Arizona, Utah and Colorado. This region has experienced high total numbers of breeding pairs, high rates of site occupancy, and high reproductive success (Burnham and Enderson 1987, Enderson et al. 1991, Tibbitts and Bibles 1990, Tibbitts and Ward 1990a and 1990b, Ward 1993). Based on 1994 surveys, the current Rocky Mountain/Southwest population consists of 559 breeding pairs, surpassing the recovery objective by 376 pairs (60 FR:34406).

Arizona includes three physiographic provinces. The project area is located within the Colorado Plateau Province. This Province varies in elevation from 4,000 to 12,000 feet, and is characterized by slabs of flat-topped rock incised by deep canyons and topped with old volcanic cones. Productivity at breeding areas between 1992 and 1995 in the Colorado Plateau Province have had an occupancy rate of 89 percent and produced an average of 1.0 young fledged per breeding pair in 1995 (Garrison and Spencer 1996).

Mexican Spotted Owl

In Arizona and New Mexico, the Forest Service manages a total of 3,358,499 acres of designated critical habitat for the MSO. In these two states, tribal entities manage 809,000 acres of critical habitat (60 FR:29914). Critical habitat is a subset of the full range of the owl; therefore, the environmental baseline within critical habitat is a subset of the larger environmental baseline. Effects to critical habitat are incremental, representing only a portion of the effects on MSO populations, and thus, should be analyzed within the framework of the environmental baseline that exists within the range of the species.

The Forest Service has formally consulted on 164 timber sales and other projects in Arizona and New Mexico since August 1993. These projects have resulted in the anticipated incidental take of 40 owls. In addition, the Bureau of Indian Affairs has consulted on one timber sale on the Navajo Reservation which resulted in an anticipated take of four MSO. The Federal Highway Administration has consulted on one highway project that resulted in an undetermined amount of incidental take. ??

EFFECTS OF THE ACTION

Direct Effects - Peregrine Falcon

* According to the Draft Environmental Assessment, potential nesting habitat for the peregrine falcon occurs in the project area approximately 1/2 mile west of Wagon Wheel Campground and at the beginning of Navajo N-13 section 8. Potential nesting habitat is located within 0.1 miles of the N-13 roadway; surveys for this species were conducted in this habitat in 1996 with negative results (pers. comm. John Nystedt, Navajo Natural Heritage Program; 1996 Peregrine Falcon Survey and Evaluation Report for N-13 (7 and 8), June 1996).

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The Draft Environmental Assessment does not provide information regarding scheduled follow-up surveys of the potential nesting habitat in the project area. Comments received from the BIA on the Draft Biological Opinion indicate Navajo Branch of Roads may conduct another survey for the peregrine falcon in the construction year if required. Given the proximity of this habitat to Lukachukai Creek and the expanding population of peregrine falcons in Arizona, occupancy of this habitat at some time is possible. Nesting habitat within 1/2 mile of disturbing activities should be surveyed each year, prior to the activity, as peregrines may occupy sites in a given year that were not occupied previously.

As stated previously, the effects of noise on the peregrine falcon vary greatly. Studies suggest that human activities within breeding and nesting territories could effect raptors by changing home range movements and causing nest abandonment, particularly disturbance from activities during the prelaying and incubation periods of the reproductive effort.

As no follow-up surveys for peregrine are scheduled for the two years of reconstruction activity, and given that potential nesting habitat is located within 1/2 mile of proposed construction activity, the Service believes that the project may adversely effect the peregrine falcon. Noise disturbance caused by construction activities within 1/2 mile of an eyrie during the breeding season (March 1 - July 15) could affect breeding attempts in the unsurveyed habitat through either disrupting the breeding attempt altogether or displacing a nesting female.

Direct Effects - Mexican Spotted Owl

In June and July 1993, MSO responses were heard three different nights by Army Corps of Engineers personnel along Navajo N-13 (Rick Winslow, History of Buffalo Pass PAC, facsimile received July 12, 1996). Navajo Route N-13 (7 and 8) was surveyed for MSO according to Forest Service Region 3 protocol in 1994 and 1995. A pair of MSO at a day-time roost site were observed on July 13, 1994, in the vicinity of Wagon Wheel Campground, just off of Navajo Route N-13. It is not known if the pair nested or reproduced in 1994. The Buffalo Pass MSO management territory (MT) (#5333) was designated by the Navajo Fish and Wildlife Department in 1994 based on available location information. Reproductive surveys in the MT located one female on June 9, 1995, in the same vicinity as the 1994 roost location. On April 3, 1996, and May 29, 1996, reproductive surveys visually located a single MSO in the same general vicinity as previous roost sites; reproduction was not confirmed in 1996 (pers. comm. Rick Winslow, Navajo Fish and Wildlife Department).

The MSO Recovery Plan recommends protection of all MSO sites known from 1989 through the life of the Recovery Plan. These PACs should be identified around the "activity center," which is defined as the nest site, roost grove commonly used during the breeding season if a verified nest site cannot be identified, or the best nest/roost habitat if both nesting and roosting information is lacking. An owl site is identified as a visual sighting of a least one adult MSO or a minimum of two auditory detections in the same vicinity in the same year (USDI 1995). The Buffalo Pass PAC (#664410) was established in 1996. This PAC is 665 acres in size. The Navajo Nation Fish and Wildlife Department has indicated that this MSO occurrence should, for

all intents and purposes, be considered a nest site. This is based on the fact that the site exhibits features of nesting habitat, a pair of MSO were confirmed at the site, owls exhibit territorial behavior, MSO have occurred at the site from year to year, and there is sign of regular use (Memorandum from Navajo Fish and Wildlife Department to BIA, May 24, 1996). The Service agrees that although reproduction was not confirmed at this site for 1994-1996, location information indicates that the Buffalo Pass PAC is a viable owl site, and that regardless of future occupation by MSO, this PAC should remain designated through the life of the Recovery Plan (until the MSO is delisted).

The Navajo Fish and Wildlife Department describe the Buffalo Pass PAC as consisting of mixed conifer habitat, with aspen and Gambel oak on the north facing slopes, pinyon/juniper, ponderosa pine, and mixed conifer on the south facing slopes, and a well developed riparian corridor along Lukachukai Creek. Small rock outcrops are present but do not represent a large habitat component of the PAC. The roost site is located on the north-facing slope that consists primarily of mixed conifer habitat, with riparian vegetation present below the roost. Primary threats to the PAC are identified as road development, timber harvest, and recreation. The roost site is located near a popular campground/picnic area (Rick Winslow, History of Buffalo Pass PAC, facsimile received July 12, 1996).

A MSO roost site has been located in a shallow drainage that faces Navajo Route N-13. It is not well sheltered from activities along the roadway (Memorandum from Navajo Fish and Wildlife Department to BIA, May 24, 1996). The roost site is located 328 feet from the N-13 roadway (Draft Environmental Assessment, March 15, 1996). The Draft Environmental Assessment indicates the "Navajo Area Branch of Roads will construct the project during times of the year that avoid critical areas of wildlife use to the fullest extent possible." No further specifics are given, thus the Service assumes that no MSO breeding season restrictions for construction activity is planned. Reconstruction activity is expected to take place during the 1997 and 1998 breeding seasons. Noise disturbance caused by construction activities within 1/4 mile of the nest/roost site during the breeding season (March 1 - August 31) could affect breeding in the Buffalo Pass PAC through either disrupting the breeding attempt altogether or displacing a nesting female, and thus causing mortality to eggs and chicks.

The Recovery Plan states that no new road construction should occur within MSO PACs. The Service believes the reconstruction of Navajo N-13, which enters the Buffalo Pas PAC in two places, overlaps the roadway for 2,000 feet, and removes 0.2 acres of mixed conifer habitat (Draft Environmental Assessment, March 15, 1996; Memorandum from Navajo Fish and Wildlife Department to BIA, May 24, 1996), may adversely affect the MSO. The MSO Recovery Plan recommends that no trees over 9 inches diameter at breast height (dbh) be removed from within PAC. Although this information was not provided in the Draft Environmental Assessment, discussions with Jeff Cole (Navajo Fish and Wildlife Department) indicate that many trees over 9-inch dbh are currently present in the PAC along the existing road that are likely to be removed during reconstruction. Although the removal of 0.2 acres of habitat within the PAC is relatively small, the removed habitat is within the MSO nest/roost buffer, which is the 100 acres in the immediate vicinity of the nest/roost site, as specified in the

MSO Recovery Plan. Removal of habitat within the nest/roost buffer, even this relatively small amount, may effect the existing microclimate of the site, and may increase the visibility of the road from the nest/roost site, thus effecting the integrity of this PAC. The Service believes that the mitigating actions proposed by the BIA, namely limiting tree removal, replanting trees in the right-of-way, and monitoring of the MSO during the reconstruction activities, will not reduce the immediate or long-term impacts of the removal of habitat within the nest/roost buffer of this PAC.

The Navajo N-13 roadway is currently 22 feet wide. The reconstructed N-13 will have a width of 22 feet, with 3 foot shoulders on each side, for a total of 28 feet. Vegetation will be removed within these 28 feet, as well as within the safety clear zone, a 10-foot wide area along both sides of the reconstructed N-13 roadway (Draft Environmental Assessment, March 15, 1996), although some shrubs and small trees will remain (comments from BIA for Draft Biological Opinion, February 18, 1997). The proposed reconstruction will remove trees within and adjacent to the Buffalo Pass PAC, and may effect MSO (particularly juveniles) that forage and/or disperse along the roadway and through the open overstory, making them more vulnerable to predation (USFWS 1991; USDI 1992). Therefore, there may be a greater loss of MSO over time. Because potential prey are more visible in open areas, MSO may be attracted to the opening in the forest created by the roadway. This attraction to the roadway is likely to be increased with proposed mitigation measure number 7 which indicates that slash will be piled along the right-of-way to create habitat for rodents (Draft Environmental Assessment, March 15, 1996). The BIA's February 18, 1997, comments for the Draft Biological Opinion, indicate that the Branch of Roads is not in the practice of piling slash along the right-of way (comment number 15); therefore, the Service is unclear why this action is proposed as a mitigation measure in the Draft Environmental Assessment.

As a mitigation action, the BIA proposes to monitor the MSO during construction activities to determine if disturbance is occurring. The Service does not believe that such monitoring will remove the potential for adverse effects and that this action will not mitigate the effects of disturbance to nesting MSO in the Buffalo Pass PAC. Determining if disturbance to MSO has or is occurring is very difficult and linking a behavior of the MSO to the construction activity may not be possible. Regardless, if disturbance is detected through an obvious behavioral action by the owl(s), such as abandoning the area, the disturbance will have already occurred, thus making prevention impossible. [The Service believes that disturbing activities within 1/4 mile of an occupied PAC with no identified nest site and/or within 1/4 mile of an identified nest site, may adversely affect the MSO if such actions are conducted during the breeding season.]

Surveys of potential MSO nest/roost habitat along the Navajo N-13 (7 and 8) roadway occurred in 1994 and 1995. No surveys occurred in 1996 (pers. comm. Rick Winslow, Navajo Fish and Wildlife Department), and according to the Draft Environmental Assessment, no additional surveys of the action area are planned. Comments received from the BIA on the Draft Biological Opinion (February 18, 1997) indicate that the Branch of Roads may conduct a survey in 1997 or the year before construction and during the construction year. In 1994, 14 calling points were located along the proposed N-13 right-of-way concentrating in areas with potential and suitable MSO roosting and nesting habitat, based upon past experience within the Navajo Commercial Forest (BIA N-13 Threatened and Endangered Species Inventory: Mexican Spotted

Owl, August 15, 1994). Given that more than one year will have elapsed between surveys in 1995 and the 1997 breeding season, the Service views this habitat as inadequately surveyed in regard to current protocols. Existing nest/roost habitat outside the Buffalo Pass PAC has the potential to be occupied by MSO. Given this, and the fact that the Branch of Roads has not made a firm commitment to conducting an additional year of survey for MSO, the Service believes the proposed reconstruction of N-13 has the potential to adversely affect MSO in the inadequately surveyed areas, particularly if construction occurs during the breeding season.

Activities that disturb or remove the primary constituent elements within designated CHUs may adversely affect the MSO's critical habitat. These activities include actions that reduce the canopy closure of a forest stand, reduce the density or average diameter of trees in a stand, modify the multi-layered structure of a stand, reduce the availability of nesting structures and sites, reduce the regeneration or modify the structure of riparian habitat, and/or reduce the suitability of habitats for prey species (60 FR:29914). For an action to result in destruction or adverse modification of critical habitat, the action's effects must appreciably reduce the value of critical habitat for survival and recovery over a significant portion of the species' range. Altering major portions of a RU may preclude recovery of the species.

Proposed reconstruction of Navajo N-13 will remove 4.5 acres of critical habitat along the existing roadway in AZ-NAIR-1. This habitat consists of mixed conifer, considered restricted habitat in the MSO Recovery Plan (USDI 1995). In addition, 0.2 acres of protected mixed conifer habitat located in the Buffalo Pass PAC (#664411) will be removed in the proposed reconstruction. The Service believes that although there will be minor effects to critical habitat at a local level within CHU AZ-NAIR-1; these impacts will not disrupt the function of this CHU. Sufficient owl habitat will remain for owls to nest, roost, forage and disperse in the CHU.

Indirect, Interdependent, and Interrelated Effects - Mexican Spotted Owl

The Service must consider the indirect, interdependent, and interrelated effects to the MSO from the reconstruction of Navajo Route N-13. Indirect effects are those caused by, or resulting from, the proposed action, and are later in time, but reasonably certain to occur. Interdependent actions are actions that have no independent utility apart from the action under consideration. Interrelated actions are actions that are part of a larger action, and are dependent on the larger action for their justification. The Service is concerned with the following indirect and interrelated effects.

Long-term impacts of the road will continue for as long as use and maintenance of this road is desired. The proposed action will facilitate a projected 21 percent increase in traffic by the year 2015 (Draft Environmental Assessment, March 15, 1996). The Service believes that the long-term effects of widening and paving of N-13 may adversely affect the MSO. This is of particular concern because approximately two miles of the northern perimeter of the PAC either overlaps N-13 or is within 1/4 mile of the roadway. Noise disturbance caused by vehicular traffic in and adjacent to the PAC may impact the ability of MSO in this PAC to forage successfully, and/or to successfully nest in proximity to the road. In addition, MSO have been known to be hit by vehicles (USFWS 1991; USDI 1995; Gutierrez *et. al*, 1995). While vehicles

traveling up the steep (14 percent) climb to Buffalo Pass are likely to be travelling within the posted maximum speed limit of 25 miles per hour, vehicles coming downhill from Buffalo Pass could pick up speed and may be more likely to collide with MSO. It is not clear exactly why MSO collide with vehicles; the speed a vehicle is traveling may play a role as well as blinding by vehicle headlights. Therefore, given the proximity of N-13 to the Buffalo Pass PAC, the projected number of vehicles travelling on this road, both now and into the future, the speed at which they will likely be travelling, and the fact that vehicles will be travelling along this road at night when MSO are most active, the Service believes MSO have an increased potential to be hit by vehicles.

The Draft Environmental Assessment indicates that the proposed reconstruction of Navajo Route N-13 will facilitate additional homesite development along the road. This development may take place inside and/or outside and adjacent to the Buffalo Pass PAC. With homesite development comes an increase of domestic and feral dogs, increased use of adjacent lands by homeowners, and increased potential for fuelwood gathering in the Buffalo Pass PAC. All of these factors may lead to disturbance of MSO during the breeding season, and may affect habitat components of the PAC.

In addition of homesite development, the proposed reconstruction is likely to cause an increase in recreational use along the roadway. This may be recognized in the development of picnic pullouts along the road, increased use of existing secondary roads off the N-13 roadway, and the potential development of additional secondary roads. Wagon Wheel Campground, also known as a picnic area, is located within the Buffalo Pass PAC, and proximate to the identified roost site. The project proposal indicates a paved pullout to this picnic area is planned (Draft Environmental Assessment, March 15, 1996, page 31). Use of this recreational area will be increased through this improvement and through the reconstruction of N-13. There is some discussion in the Draft Environmental Assessment that some campgrounds/picnic areas may be closed and relocated, but which facilities these will be, and where they will be moved is unknown at this time (pers. comm. Leonard Robbins, BIA). The Service believes that recreational use of this area may cause disturbance to the Buffalo Pass MSO and the PAC. Increased recreational development and homesite development also brings with it the increased potential and risk of damage from wildfire, one of the primary threats to the MSO throughout its range. The BIA's comments for the Draft Biological Opinion (February 18, 1997) indicate that a paved pullout at the Wagon Wheel Campground will not be provided as part of this project; the Service is unclear if this is a change to the project as proposed, or is in response term and condition 3.1 of the draft biological opinion. Regardless, we strongly concur with the change.

The above activities have the potential to render the Buffalo Pass PAC and habitat both in and adjacent to the PAC unsuitable for nesting and roosting by MSO.

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 pursuant to section 7 of ESA.

Tribal lands are held in "trust" by the Federal Government for the beneficial use of the Tribes. They are not considered public lands or part of the public domain. Tribes are sovereign governments with management authority over wildlife and other Tribal land resources. For purposes of this biological opinion, Tribal management of MSO habitat that does not involve Federal agency actions is considered non-Federal and therefore is considered under this cumulative effects analysis (USFWS 1996).

Non-Federal actions which may effect MSO habitat in the action area include cattle and sheep grazing, homesite development, recreational development, construction of non-BIA roads, and fuelwood cutting.

CONCLUSION

After reviewing the current status of the peregrine falcon and the MSO, the environmental baseline for the action area, the effects of the proposed reconstruction, and the cumulative effects, it is the Service's biological opinion that the reconstruction of Navajo Route N-13, as proposed, is not likely to jeopardize the continued existence of the peregrine falcon or the MSO. The proposed action may adversely affect peregrine falcon nesting in habitat that is not surveyed the year(s) of construction activity if that activity occurs within 1/2 mile of the habitat. The proposed road reconstruction will adversely affect the Buffalo Pass PAC and any additional MSO located in inadequately surveyed habitat in the project area. Adverse effects will be caused by construction actions occurring during the MSO breeding season within and adjacent to the Buffalo Pass PAC and potentially within additional occupied habitat within the project area, removal of trees within the Buffalo Pass PAC, and the indirect and interrelated effects of mortalities caused by vehicular traffic, the effects of recreational and homesite development, and the increased risk of wildfire caused by these actions. The proposed action will not reduce the ability of the CHU to perform the functions for which it was designated or impede the MSO's ability to nest, roost, forage or disperse within the Colorado Plateau Recovery Unit.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of ESA, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.

Harass is defined as 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 any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. 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 a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The BIA has a continuing responsibility to regulate the activity covered by this incidental take statement. If the BIA (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

For the purposes of consideration of incidental take of peregrine falcons and MSO by the proposed project under consultation, incidental take can be broadly defined as either the direct mortality of individual birds, or the alteration of habitat that affects the behavior (i.e. breeding or foraging) of birds to such a degree that the birds are considered lost as viable members of the population and thus "taken." They may fail to breed, fail to successfully rear young, raise less fit young, or desert the area because of disturbance or because habitat no longer meets the owl's needs.

In past Biological Opinions, the management territory was used to quantify incidental take thresholds for the MSO (see Biological Opinions provided by the Service to the Forest Service and BIA from August 23, 1993 to date). The current section 7 consultation policy provides for incidental take if an activity compromises the integrity of a PAC. Actions outside PACs will generally not be considered incidental take, except in cases when areas that may support owls have not been adequately surveyed.

Using available information as presented within this document, the Service has identified conditions of probable take for the peregrine falcon, and for MSO located in the Buffalo Pass PAC and inadequately surveyed habitat within the project area. Based on the best available information concerning the peregrine falcon and the MSO, habitat needs of these species, the project description, and information furnished by the Navajo Fish and Wildlife Department, take is considered likely for the peregrine and the MSO as a result of the following:

Peregrine Falcon

- 1) Non-use of potential breeding sites, reduction or elimination of successful fledging of young at unsurveyed peregrine falcon nesting habitat within 1/2 mile of reconstruction activities, during the breeding season.

Mexican Spotted Owl

- 1) Tree removal within the Buffalo Pass PAC.
- 2) Reconstruction activity occurring during the MSO breeding season in and adjacent to the Buffalo Pass PAC and the inadequately surveyed MSO nest/roost habitat in the project area.
- 3) Mortalities caused by the improvement and long-term use of Navajo Route N-13 in and adjacent to the Buffalo Pass PAC, and the inadequately surveyed MSO nest/roost habitat in the project area.
- 4) Recreational use within the Buffalo Pass PAC, and the indirect effects of this which include disturbance to MSO during the breeding season, removal of important habitat components, namely down woody material for fuelwood, and the increased risk of wildfire caused by this use.

AMOUNT OR EXTENT OF TAKE

The Service anticipates that the proposed reconstruction of Navajo Route N-13 may result in incidental take of two peregrine falcons (one breeding pair) associated with the adjacent nesting habitat, and two MSO (one breeding pair) connected with the Buffalo Pass PAC in the form of harm and harassment due to disruption of normal reproduction and behavior. In addition, reconstruction activities may result in the incidental take of 4 (2 pairs) MSO located in the inadequately surveyed habitat in the project area.

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the peregrine falcon or the MSO.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take.

- 1) The BIA shall minimize adverse effects of the reconstruction of Navajo Route N-13 to the potential peregrine nesting habitat located within 1/2 mile of the project.
- 2) The BIA shall minimize adverse effects of the reconstruction of Navajo Route N-13, both to the Buffalo Pass MSO PAC and the inadequately surveyed MSO habitat in the project area.

- 3) The BIA shall minimize the indirect effects of reconstruction actions, to the extent possible.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of ESA, the BIA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

- 1.1 a) All reconstruction activity within 1/2 mile of potential peregrine habitat will occur outside the breeding season (March 1 - July 15);

-OR-

- b) All peregrine nesting habitat within 1/2 mile of the project will be surveyed by a qualified biologist with the oversight of the Navajo Nation Fish and Wildlife Department or Natural Heritage Program, according to the methods described in Ward (1994) prior to any activities occurring within 1/2 mile of that habitat. Surveys will take place each year actions are planned within 1/2 mile of habitat. If an active peregrine eyrie is located in a given year, no reconstruction activity will occur within 1/2 mile of the eyrie during the breeding season (March 1 - July 15).

- 2.1 All reconstruction activity within 1/4 mile of a MSO nest site will occur outside the breeding season (March 1 - August 31).

- a) The Buffalo Pass PAC will be surveyed each year project activity occurs within 1/4 mile of the PAC. These surveys will take place early in the breeding season with the objective of determining where the MSO are located in the PAC. No construction activity may take place within 1/4 mile of the PAC until nesting status can be determined. Survey of the PAC will be conducted by a permitted qualified biologist with the oversight of the Navajo Fish and Wildlife Department or Natural Heritage Program.

- b) If MSO are determined to be nesting in a given year, no construction activity may occur within 1/4 mile of the nest site during the breeding season (March 1 - August 31).

- c) If the MSO are present but cannot be located or nesting status determined in the Buffalo Pass PAC in a given year, no construction activity will occur in the PAC or within 1/4 mile of the PAC boundary.

- d) If MSO are determined to be non-nesting in a given year, no breeding season restriction is necessary. This determination must be made by a qualified biologist

with the oversight of the Navajo Fish and Wildlife Department of the Navajo Natural Heritage Program.

- 2.2 a) No construction activity will occur during the MSO breeding season (March 1 - August 30) within 1/4 mile of inadequately surveyed nest/roost habitat in the project area;

-OR-

b) An additional year of MSO surveys will be conducted in 1997 according to Forest Service Region 3 protocol, using the same calling points as those established in 1995. If construction activity lasts longer than expected, surveys will be conducted every second year (i.e. 1999, 2001, etc.) prior to reconstruction activities. No more than one visit can occur prior to April 15 and four complete visits must be spaced at least five days apart, thus the Service anticipates that surveys can be completed by early May at the latest. No construction activity can occur within 1/4 mile of the inadequately surveyed habitat until all four visits are completed. If additional MSO are located, no construction activity can occur within 1/4 mile of the nest/roost site during the breeding season. A PAC will be drawn for any additional MSO located as specified in the MSO Recovery Plan. If a PAC overlaps Navajo N-13 (7 and 8), consultation should be reinitiated.

- 3.1 No turnout will be constructed to provide access to the Wagon Wheel Campground as part of the N-13 reconstruction action.
- 3.2 Slash created by reconstruction actions will not be piled along the roadway. Any piling of slash will occur at least 200 feet from the reconstructed roadway.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. With the implementation of these measures, the Service believes that no more than two MSO associated with the Buffalo Pass PAC will be incidentally taken. The Service believes that implementation of these terms and conditions will remove the potential for incidental take of peregrine falcons and of MSO located in inadequately surveyed habitat in the project area. If, during the course of the action, this level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Federal agency 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.

Notice: While the incidental take statement provided in this consultation satisfies the requirements of the Endangered Species Act, as amended, it does not constitute an exemption from the prohibitions of take of listed migratory birds under the more restrictive provisions of the Migratory Bird Treaty Act.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of ESA directs Federal agencies to utilize their authorities to further the purposes of ESA 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.

1. The BIA should attempt to minimize effects to the Buffalo Pass PAC and any additional PACs located along Navajo Route N-13 (7 and 8) through the closure of secondary access roads located within PACs.
2. Disturbed areas along the reconstructed road should be seeded with native or sterile non-native species. Your local Natural Resources Conservation Services office should be able to assist you in determining these species.
3. The access to the Wagon Wheel Campground/picnic area located within the Buffalo Pass PAC should be closed and access blocked, and the site abandoned and/or relocated. Any relocation of this recreational site should be outside of the Buffalo Pass PAC.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in the draft biological evaluation and draft environmental assessment. 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 maintained (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 that was 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.

Thank you for your consideration of threatened and endangered species. For further information please contact Michele James or Bruce Palmer. Please refer to the consultation number 2-21-91-F-341, in future correspondence concerning this project.

Sincerely,



Sam F. Spiller
Field Supervisor

cc: Regional Director, Fish and Wildlife Service, Albuquerque, NM (GM:AZ)
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BIOLOGICAL OPINION SUMMARY
Navajo Route N-13 (7 and 8)

Date of opinion: February 28, 1997

Action agency: Bureau of Indian Affairs (BIA), Navajo Area Office, Gallup, New Mexico

Project: Reconstruction of Navajo Route N-13, sections 7 and 8. The BIA proposes to widen and pave 10 miles of the existing two-lane dirt surface of N-13, located in the Chuska Mountains on the Navajo Reservation. The purpose of the project is to provide access between two major growth centers on the Navajo Reservation: Shiprock, New Mexico and Chinle, Arizona. The road reconstruction is located proximate to potential peregrine falcon nesting habitat and bisects the edge of a Mexican spotted owl (MSO) protected activity center (PAC).

Location: Apache County, Arizona.

Listed species affected: Mexican spotted owl (*Strix occidentalis lucida*), a listed threatened species, and its critical habitat; American peregrine falcon (*Falco peregrinus anatum*), a listed endangered species without critical habitat.

Biological opinion: Nonjeopardy

Incidental take statement:

Level of take anticipated: Anticipated take of two peregrine falcons (one breeding pair), two MSO (one breeding pair) associated with the Buffalo Pass PAC, and 4 MSO (2 breeding pairs) associated with inadequately surveyed habitat in the project area. With the implementation of the reasonable and prudent measures and their terms and conditions, the Service believes that no more than two MSO (one pair) associated with the Buffalo Pass PAC will be incidentally taken. Exceeding this level would require reinitiation of formal consultation. No incidental take is anticipated for the peregrine falcon with the implementation of the reasonable and prudent measures.

Reasonable and prudent measures: The biological opinion presents three measures for assisting in the reduction of incidental take: 1) The BIA shall minimize adverse effects to peregrine falcon habitat within 1/2 mile of the project area; 2) The BIA shall minimize adverse effects to both the Buffalo Pass MSO PAC and the inadequately surveyed MSO habitat in the project area; and 3) The BIA shall minimize the indirect effects to the MSO of reconstruction actions. Implementation of these measures through the terms and conditions is mandatory.

Terms and conditions: Five mandatory terms and conditions are included to implement the reasonable and prudent measures. They include a variety of measures either restricting project activity during the breeding season for the peregrine falcon and the MSO or surveying the project area for these species prior to project activity. In addition, measures are included to minimize to the extent possible, the indirect effects to the MSO PAC of recreational use.

Conservation recommendations: Three conservation recommendations are provided. Implementation of these conservation recommendations are discretionary.