



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
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2-21-88-F-127

May 15, 1990

MEMORANDUM

TO: District Manager, Arizona Strip District, Bureau of Land Management,
St. George, Utah

FROM: Field Supervisor

SUBJECT: Biological Opinion for the Arizona Strip Resource Management Plan

This Biological Opinion responds to your request for formal consultation with the Fish and Wildlife Service (FWS), pursuant to Section 7 of the Endangered Species Act of 1973, as amended (Act), on the Arizona Strip District Resource Management Plan (November 1989). Your request was dated January 30, 1990, and received by us on February 6, 1990. The species of concern are: Brady pincushion cactus (Pediocactus bradyi), Siler pincushion cactus (Pediocactus sileri), Welsh's milkweed (Asclepias welshii), woundfin (Plagopterus argentissimus), Virgin River chub (Gila robusta seminuda), desert tortoise (Gopherus agassizii), peregrine falcon (Falco peregrinus anatum), and bald eagle (Haliaeetus leucocephalus). This action will affect Bureau of Land Management (BLM) administered lands in Coconino and Mohave Counties, Arizona.

The following biological opinion is based on information provided in the November 1989, draft Arizona Strip District (District) Resource Management Plan (RMP) and Environmental Impact Statement (EIS), data in our files, and other sources of information.

BIOLOGICAL OPINION

It is my biological opinion that implementation of the Arizona Strip RMP is not likely to jeopardize the peregrine falcon, bald eagle, desert tortoise, Brady pincushion cactus, Siler pincushion cactus, Welsh's milkweed, woundfin, or Virgin River chub or adversely modify or destroy critical habitat of Welsh's milkweed.

BACKGROUND INFORMATION

Project Description

The Arizona Strip RMP will provide guidance for management of public lands, associated resources, and diverse multiple uses on the District over the next fifteen years. The planning area encompasses approximately 2.8 million acres of public lands in the northwest corner of Arizona in the northern portions of Mohave and Coconino Counties. There are few communities within the

district and the human population is low. The only permanent residents live in small communities near the Utah and Nevada borders and along Highway 89A in House Rock Valley. Three highways cross the northern tier of the district. No paved roads extend into the interior, but over 5,262 miles of unpaved roads and trails traverse the area. Most of the development in the interior of the District is related to ranching and includes waters, fences, and other types of rangeland improvements.

The BLM proposes thirteen special management areas totaling 445,000 acres. They include ten Areas of Critical Environmental Concern (ACECs), comprising 59,210 acres; two Resource Conservation Areas (RCAs), comprising 159,000 acres; and one Special Recreation Management Area (SRMA) of 227,000 acres.

About 17,170 acres would be available for various public purposes around communities. Proposed acquisition and exchange programs are focused on 147,600 acres of State land and 9,700 acres of private land. The City of Page, Arizona anticipates the need for expanded airport facilities within the next decade. Land would also be made available for an expansion of the Colorado City airport.

All of the District would receive some form of off-highway vehicle (OHV) designation. In general, OHV use would become more regulated. OHV use off of existing roads and trails would be prohibited except in designated open areas. No new permanent roads would be allowed in areas where special or remote values are to be protected. Roads not needed for resource management or which contribute to resource damage would be closed. OHV use would be limited to existing roads on approximately 71 percent (1,811,900 acres) of the District, limited to designated roads on 27 percent (690,400 acres), prohibited on 1 percent (45,100 acres), and unrestricted on 1 percent (1,400 acres).

Species Description

Brady Pincushion Cactus. The Brady pincushion cactus was listed as an endangered species on October 26, 1979, without critical habitat. This small, semi-globose cactus has one (occasionally more) stem up to 6 centimeters (cm) tall and 5 cm in diameter. It grows on benches and terraces at 3850-4500 feet elevation in the Navajoan Desert on the rims of the plateaus along the Colorado River in House Rock Valley. The substrate is composed of Kaibab limestone chips overlying soil derived from Moenkopi shale

and sandstone outcrops. Dominant plant species in the community are shadscale (Atriplex confertifolia), snakeweed (Gutierrezia sarothrae), Mormon tea (Ephedra viridis), and desert trumpet (Eriogonum inflatum). BLM administers about 11,000 acres of known habitat for this species. Several plots have been established wherein several hundred cacti were tagged to determine demographic information and impacts on the population. The limited distribution and small number of populations make this species vulnerable to

extinction. OHV traffic is the most serious threat to this species. Illegal collection and pesticide application are also current threats. Uranium mining and exploration could potentially cause the loss of habitat. A recovery plan and habitat management plan have been developed for this species.

Siler Pincushion Cactus. The Siler pincushion cactus was listed as an endangered species on November 26, 1979, without critical habitat. This cactus is a small, solitary, or occasionally clustered, globose cactus about 5 inches tall (exceptional specimens reach 18 inches) and 3-4 inches in diameter. The Siler pincushion cactus grows on gypsiferous clay and sandy soils of the Moenkopi Formation. The rounded hills often support a sparser vegetation than adjacent areas of different substrate. Habitat is characterized by desert scrub vegetation in transitional areas between the Navajoan Desert, Sagebrush Desert, and the Mohavean Desert. This cactus is found at elevations between 2,800 and 5,400 feet on all aspects of the hills and on slopes varying from 0-80 degrees. All known localities of this species occur in Kane and Washington counties, Utah, and in northern Mohave and northwestern Coconino counties, Arizona. The eastern edge of the species' potential habitat boundary occurs in the vicinity of Fredonia in Coconino County, Arizona. Its western limit is just southwest of St. George, Washington County, Utah. Studies are on-going to determine population trend, level of threats, and impacts on the biology of the plants. This cactus is vulnerable to human-caused impacts because of its specific habitat requirements. Threats include illegal collection, herbivory by unknown animals, uranium mining and exploration, off-road vehicle disturbance, and pesticide application. A recovery plan and habitat management plan have been developed for this species.

Welsh's Milkweed. Welsh's milkweed was listed as a threatened species on October 28, 1987, with critical habitat. Critical habitat designated for this species includes about 4,000 acres of sand dunes in the Coral Pink Sand Dunes and the Sand Hills in Kane County, Utah. Welsh's milkweed is a rhizomatous, herbaceous perennial, 10-40 inches tall, with large, oval leaves. It occurs in open, sparsely vegetated, semi-stabilized sand dunes and on the lee slopes of actively drifting sand dunes. Several thousand individuals are known from a few concentrated areas on the Coral Pink Sand Dunes and the Sand Hills of Kane County, Utah. Within the District, small populations are known from the Paria-Vermillion Cliffs Wilderness Area near the Utah/Arizona border in Kane County, Utah and Coconino County, Arizona. Limited habitat and a small number of populations have made Welsh's milkweed vulnerable to human-caused threats. OHV activity is destroying individual Welsh's milkweed plants and adversely modifying the species' habitat.

Woundfin. The woundfin was listed as an endangered species on October 13, 1970, without critical habitat. It is a small, silver minnow which inhabits shallow runs and riffles. The woundfin was originally distributed throughout

the Virgin, lower Colorado, and lower Gila rivers. It is now found only in the Virgin River in Utah, Arizona, and Nevada. Woundfin range from LaVerkin Springs on the mainstream of the Virgin River and the lower portion of LaVerkin Creek in Utah downstream to Lake Mead. Twelve miles of river habitat occur within the portion of the Virgin River managed by the District. Distribution of woundfin shows a strong preference for swift, shallow, turbid stream runs with sandy bottoms.

Virgin River Chub. The Virgin River chub was listed as an endangered species on August 24, 1989. Critical habitat was proposed on June 24, 1986, but has not yet been finalized. Proposed critical habitat is located in the Utah portion of the Virgin River and in Arizona from the Nevada border upstream to the mouth of the Virgin River "Narrows" (T41N, R14W, west boundary Section 31). The Virgin River chub is a silvery, medium-sized minnow that averages about eight inches in total length. It is most common in deep areas where waters are swift, but not turbulent, and is generally associated with boulders or other cover. The Virgin River chub is endemic to 134 miles of the Virgin River in southwest Utah, northwest Arizona, and southeast Nevada. Its range is restricted to 50 miles of the Virgin River between LaVerkin, Utah and Mesquite, Nevada. Major river modifications, primarily water diversions and impoundments, are responsible for the decrease in range and numbers of this species. Potential threats to the species' survival include water withdrawals, impoundments, sedimentation, pollution, channel alteration, disease, and competition and/or predation by introduced species.

Desert Tortoise. The Mojave population of the desert tortoise was listed as a threatened species on April 2, 1990, without critical habitat. The desert tortoise is a relatively large reptile, with adults measuring up to 15 inches in shell length. This species inhabits the Mohave, Colorado, Sonoran, and Sinaloan deserts in the southwestern United States and adjacent Mexico. Recent studies based on shell shape and variations in genetic composition indicate that the species has two distinct populations, with the Colorado River serving as an isolating barrier. The Mojave population of the desert tortoise includes all of that species inhabiting areas north and west of the Colorado River in California, southern Nevada, southwestern Utah, and northwestern Arizona. In the Mohave desert west of the Beaver Dam and Virgin Mountains and in the Paboon Basin, historic and potential tortoise habitat occupies some 350 square miles of the District. Tortoises occur in creosote bush (Larrea tridentata), cactus, shadscale scrub habitats, and Joshua tree (Yucca brevifolia) woodlands. Vandalism, collecting, raven predation, and disease have resulted in population declines. Habitat conditions have deteriorated and/or habitat has been lost in certain localities due to urban, energy, and mineral development; conversion of native habitats to agriculture; vehicle-oriented recreation; grazing; military activities; and other uses.

Peregrine Falcon. The peregrine falcon was listed as an endangered species on October 13, 1970. It is a medium-sized, blue-gray falcon which inhabits rocky, steep cliffs, preferably near water. The peregrine falcon is found in the District and may inhabit the area during the entire year. Recorded data on population numbers, trend, ecology, and habitat use patterns are lacking. Several eyries have been identified and many others are suspected. The birds themselves have been observed and reported on numerous occasions in the District over the past twenty years. Peregrine falcons have been documented as occurring in Paria Canyon, Vermillion Cliffs, Kanab Canyon, Hack Canyon, near Fredonia, Marble Canyon, House Rock Valley, Lee's Ferry, Hurricane Cliffs, the Virgin Mountains, Parashant Canyon, Andrus Canyon, and the Upper Grand Wash Cliffs. A five-year peregrine falcon survey initiated in 1988, indicates that peregrine nesting and use of the District has increased. Eight nest sites were identified in 1989, compared to four in 1988.

Bald Eagle. The bald eagle was listed as an endangered species on March 11, 1967, without critical habitat. It is a large eagle with a white head and tail in the adult; immature eagles are dark or mottled. For nesting, bald eagles require large trees or cliffs near water with abundant fish. They spend the winters along major rivers, reservoirs, or in areas where fish and/or carrion is available. Fish are the primary food source for nesting eagles. Waterfowl, rabbits, and carrion are important food items for transient and wintering eagles. Bald eagles were historically found throughout the United States, Canada, and northern Mexico. In Arizona, wintering eagles are now found along rivers and major reservoirs. Migrating bald eagles occur infrequently in the District during winter. Major causes of decline in this species include degradation and loss of riparian habitat, pesticide-induced reproductive failure, shooting, and human disturbance.

EFFECTS OF THE ACTION

Brady Pincushion Cactus. The entire known Brady pincushion cactus population in the District would be included in the 10,700 acres of habitat designated as the Marble Canyon ACEC. The potential habitat in the Marble Canyon area is estimated to be 17,000 acres but within this area plants have been located on only 10-20 percent of the potential habitat that was searched. Management prescriptions would restrict OHV activity to designated roads which would reduce the incidence of vehicles crushing or otherwise damaging cacti. Mineral exploration and development activities would not be prohibited but would require an approved plan of operation. This requirement would extend the review period from 15 to 30 days. If substantial public interest is expressed, the review may be extended up to 90 days. Special status species found within the area of proposed operations will be protected from adverse impacts. Increased law enforcement patrols would reduce illegal collecting. No restrictions have been placed on pesticide application in the ACEC.

Siler Pincushion Cactus. Fort Pierce, Lost Spring Mountain, Moonshine Ridge, and Johnson Spring include 4,200 acres of Siler pincushion cactus habitat, approximately 8 percent of the estimated potential habitat. Populations occurring in the Fort Pierce ACEC may still be adversely affected by vegetation manipulation. Although OHV traffic would be restricted to existing roads and trails, populations in all four ACECs would still be subject to some degree of illegal collecting due to a lack of road closures. Allowing OHV traffic to continue in the ACECs may result in continued illegal cross-country travel and possible crushing of cacti. All four ACECs would be open to mineral location, although a plan of operation would be required. Requiring a plan of operation would extend the public review process and require avoidance of adverse impacts to threatened or endangered species. Populations and individuals of Siler pincushion cactus that occur outside of ACEC boundaries would continue to experience adverse impacts from illegal collection, uranium mining and exploration, OHV disturbance, and pesticide application.

Welsh's Milkweed. Welsh's milkweed occurs in Arizona in the Paria-Vermillion Cliffs Wilderness area near the Utah/Arizona border in Kane County, Utah and Coconino County, Arizona. This wilderness designation should provide adequate protection for this species by excluding OHV activity. Welsh's milkweed should receive additional protection from the Canyons and Plateaus of the Paria ACEC surrounding the Paria Wilderness, which limits OHV activity to designated roads and trails.

Woundfin. The woundfin would benefit from regulation of other land use activities along the Virgin River. Management prescriptions for the Virgin River ACEC would include acquiring high value riparian private/state properties along the river, limiting OHVs to designated roads, and closing bottomlands to material sales. Plans of operation would be required for mineral exploration and development, which would extend the public review process and require avoidance of impacts to threatened and endangered species.

Virgin River Chub. The Virgin River chub would benefit from regulation of other land use activities along the Virgin River. Management prescriptions for the Virgin River ACEC would include acquiring high value riparian private/state properties along the river, limiting OHVs to designated roads, and closing bottomlands to material sales. Plans of operation would be required for mineral exploration and development, which would extend the public review process and require avoidance of impacts to threatened and endangered species.

Desert Tortoise. Under the preferred alternative, 210 acres of low density desert tortoise habitat are identified for potential transfer by lease or sale. If the 210 acres of tortoise habitat are sold, there would be a net loss of desert tortoise habitat in Federal ownership. If exchanged, the 210

acres plus an additional 2,927 acres would be traded for better quantity or quality tortoise habitat in the same area, resulting in a net gain in Federally managed tortoise habitat. The existing Navajo-McCullough right-of-way corridor would continue in desert tortoise habitat, creating a small degree of fragmentation. All future right-of-way authorizations would be routed, constructed, and maintained in a manner that would avoid adverse impacts to the desert tortoise to the maximum extent possible.

A total of 20,800 acres of tortoise habitat would be included in the Beaver Dam Slope ACEC, or approximately 9 percent of the estimated 224,000 acres of tortoise habitat that occurs on the Arizona Strip. Mineral location would still be allowed within the Beaver Dam ACEC, although a plan of operation approval would be required for all mining operations exceeding casual use. Requiring a plan of operation would extend the public review process and require avoidance of adverse impacts to threatened or endangered species. The Beaver Dam ACEC would be closed to OHV activity and mineral material disposals. Closure to OHV activity will reduce the incidence of illegal collection and potential crushing of individuals by vehicles. Tortoises existing in areas not defined as ACECs would continue to experience adverse impacts from OHV activities, grazing, vandalism, mineral exploration and development, and illegal collecting.

Peregrine Falcon. If riparian conditions improve, the quality of habitat for a number of bird species should increase and, consequently, improve the peregrine falcon prey base. Lease stipulations for leasable mineral exploration and development would be applied to protect peregrine falcons during breeding and nesting season. This restriction would allow exploration activity only during the period between August 1 and March 1. The restriction would apply to areas open to lease within one mile of superior, acceptable, or historic peregrine habitat in the following areas: Grand Wash Cliffs, Dansil Canyon, Andrus Canyon, Grama Canyon, Hack Canyon, Kanab Creek, Marble Canyon, and the Vermillion Cliffs.

Bald Eagle. The bald eagle, an infrequent visitor to the District during migration, should benefit from improved riparian habitat conditions for both perching and foraging.

Cumulative Effects

Cumulative effects are future State or private activities affecting endangered or threatened species or critical habitat that are reasonably certain to occur in the project area. Future Federal actions will be subject to consultation requirements of Section 7 of the Endangered Species Act and, therefore, are not considered cumulative to the proposed project.

Actions on private lands, such as urbanization, recreation, and grazing, will continue to contribute to habitat degradation and loss. The communities of Littlefield, Colorado City, and Fredonia are expected to continue to grow, causing increased human-induced impacts on nearby areas.

INCIDENTAL TAKE

Section 9 of the Endangered Species Act, as amended, prohibits any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species 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. Under the terms of Section 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered taking within the bounds of the Act, provided that such taking is in compliance with the following Incidental Take statement.

The FWS does not anticipate that the proposed action will result in any incidental take of peregrine falcon, bald eagle, Virgin River chub, or woundfin. Should any take of these species occur, the BLM must reinitiate formal consultation with the FWS and provide the circumstances surrounding the taking. Based on the analysis of impacts provided above and the Terms and Conditions stated below, the FWS anticipates that incidental take of desert tortoise, in the form of harm, may result from disposal of 210 acres of desert tortoise habitat.

The FWS is assuming that the stipulations contained in the Opinion, as Reasonable and Prudent Measures and Terms and Conditions to minimize take, will reduce the potential for take of tortoise habitat associated with the proposed action. This Opinion does not authorize take in the form as the collection of tortoises for pets. Any person found engaging in such an activity will be liable for prosecution.

Reasonable and Prudent Measures

The FWS believes that the following Reasonable and Prudent Measures are necessary and appropriate to minimize the incidental taking authorized by this Biological Opinion:

1. The BLM shall compensate for the long-term loss and fragmentation of tortoise habitat through acquisition of private lands which would be subsequently managed for the benefit of desert tortoises.
2. If take which occurs as a result of this action exceeds that specified in the Incidental Take Statement above, the BLM shall reinitiate formal consultation with the FWS to review those activities which resulted in excessive take.

Terms and Conditions

To implement the Reasonable and Prudent Measures contained in this opinion, the BLM shall acquire 1,050 acres of desert tortoise habitat to be managed, in perpetuity, for the benefit of desert tortoises. The FWS believes this is an appropriate measure to minimize take because of the increased tortoise management capabilities that BLM ownership should bring to previously private lands. Criteria used to evaluate land to be acquired should include the location of the land, its current status and condition, and its proximity to other tortoise habitat that is currently being managed for tortoise values. The BLM shall designate permanent withdrawals for mineral and energy exploration and development and grazing, and close the area to off-highway vehicles and all rights-of-way and easements. Road construction shall also be prohibited.

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 FWS suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information. The FWS recommends implementation of the following actions:

1. The FWS recommends that Marble Canyon, Beaver Dam, Fort Pierce, Lost Spring Mountain, Moonshine Ridge, and Johnson Spring ACECs be closed to mineral location to avoid adverse impacts to endangered plants and desert tortoise.
2. The FWS recommends that the Fort Pierce, Lost Spring Mountain, Moonshine Ridge, and Johnson Spring ACECs be closed to OHV traffic to reduce incidence of vehicle crushing of Siler pincushion cactus as a result of cross-country travel and to deter illegal collection of Siler pincushion cactus.
3. The FWS recommends that all Category I desert tortoise habitat be included in ACEC designations. ACEC designations will facilitate special management recommendations for this species.

This concludes formal consultation on the Arizona Strip RMP. Reinitiation of formal consultation is required if the amount or extent of incidental take is exceeded, if new information reveals effects of the action that may affect

listed species or critical habitat in a manner or to an extent not considered in this opinion, if the 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, and/or if a new species is listed or critical habitat designated that may be affected by the action. If we may be of further assistance, please contact Sherry Barrett or me (Telephone: 602/379-4720 or FTS 261-4720).



Sam F. Spiller

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