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WILDLIFE HABITAT MANAGEMENT PLAN

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Prepared by:

U.S. DEPT. OF INTERIOR
BUREAU OF LAND MANAGEMENT
CALIFORNIA DESERT DISTRICT
BARSTOW RESOURCE AREA

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPT. OF FISH AND GAME

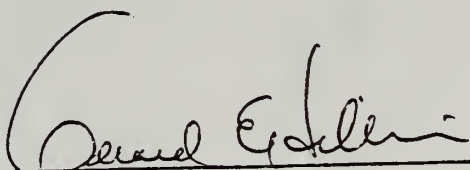
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SHOSHONE CAVE (WHIP-SCORPION HABITAT) WILDLIFE HABITAT MANAGEMENT PLAN

The Habitat Management Plan was developed and will be implemented under the Sikes Act (P.L. 93-452).

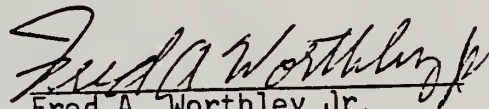
U.S. Department of the Interior
Bureau of Land Management
California Desert District

State of California
The Resources Agency
Dept. of Fish and Game



Gerald E. Hillier
District Manager

12/20/82
Date



Fred A. Worthley Jr.
Regional Manager
Region 5

12/28
Date

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I. Introduction

This report defines the Wildlife Habitat Management Plan (HMP) for the area designated as the Shoshone Cave (Whip-scorpion Habitat) Wildlife Habitat Management Area (WHMA) in the California Desert Conservation Area Plan (1980). The management plan formulates a set of guidelines by which the area will be managed for the preservation of several endemic invertebrates, including a cavernicolous whip-scorpion. The HMP has been jointly prepared by the Barstow Resource Area, California Desert District, Bureau of Land Management (BLM), and the California Department of Fish and Game (CDFG) under the authority of the Sikes Act (P.L. 93-452).

The Shoshone Cave (Whip-scorpion Habitat) WHMA is located in extreme southeastern Inyo County. It encompasses all of section 12 of Township 22 North, Range 6 East. This entire section is comprised of public lands administered by the Bureau of Land Management. Access is provided via State Highway 127, running north from the communities of Baker and Shoshone. An existing dirt road leads east of this paved highway into the WHMA near the whip-scorpion cave. Terrain consists of a series of low hills and ridges which overlook the Amargosa River drainage. Caves in this area are fissures in a dark gray Cambrian limestone formation which are heated by thermal groundwater. Surface vegetation is dominated by creosote bush, burrobrush, and saltbush. Elevation ranges from approximately 1650 feet to 2000 feet. Average monthly temperatures fluctuate from about 47 degrees Fahrenheit in January, to about 93 degrees Fahrenheit in July. Annual precipitation averages less than four inches.

Surface and subsurface disturbing activities within this area have principally been confined to mining, most probably for hematite ore. In addition, State Highway 127 runs through the southwestern portion of this section.

The historic Tonopah and Tidewater Railroad line, now abandoned, also crosses the WMA. No active mining claims currently exist within the WMA. An oil and gas lease on adjacent sections 1 and 2 of this Township has not been developed. The Desert Plan (1980) also indicates that this general area is prospectively valuable for sodium and for geothermal resources.

A newly discovered species of whip-scorpion was described from a single small cave located within this section (Briggs and Hom 1972). The species, described as Trithyreus shoshonensis is more commonly referred to as the "Shoshone Cave whip-scorpion". The nearest other species of whip-scorpion are about 200 Km south and 200 Km west of this location. The species is apparently totally dependent upon warm, moist caves, which protect it from the freezing winters prevailing in this area. Whip-scorpions have only been recorded from Upper Shoshone Cave; additional surveys of other prospective caves by the principal investigators (Briggs and Hom 1972) have failed to discover additional populations. In addition to an endemic whip-scorpion, Upper Shoshone Cave also contains a recently described endemic millipede (Shear 1974) and possibly a beetle and a harvestman.

The highly restricted distribution of this species, heavy reliance upon a warm moist environment provided by a thermal spring at the bottom of the cave, and apparently low population number makes its continued existence without some form of protective management extremely precarious. Changes in water supply or thermal structure by geothermal or oil and gas developments, mining activities both within or adjacent to this site, or by heavy use by uninformed visitors or knowledgeable collectors could result in severe population declines or eventual extinction.

The Shoshone Cave (Whip-scorpion Habitat) WMA has not been covered by a

Management Framework Plan or Unit Resource Analysis under the BLM planning system. The area is within the California Desert Conservation Area and is covered in a broad manner by the California Desert Conservation Area Plan (1980). Public lands here have been classified for moderate use. In addition to constraints imposed by this document, other relevant constraints include the Endangered Species Act of 1973, as amended, the Federal Land Policy and Management Act of 1976 (43 USC 1701): DM 6840; DM 6620; DM 6521; the Geothermal Steam Act of 1970 (84 Stat. 1566; 43 CFR 3200); Mineral Leasing Act of 1920, as amended (30 USC 181 et seq.); and Surface Management of Public Lands Under the U.S. Mining Laws (Federal Register 45:230).

II. Management

A. Management Objectives

1. Maintain the existing quality of wildlife habitat known to support a population of the Shoshone Cave whip-scorpion and other invertebrate cave endemics.
2. Determine the extent of species distribution within this area for purposes of increased effective management.

B. Planned Actions

1. Conduct a systematic inventory of adjacent caves for the presence of additional, as yet unknown, whip-scorpion populations and other cavernicolous organisms.
2. Limit vehicle access via an existing route which leads into the WHMA to patrol, maintenance, and emergency vehicles.
3. If vehicle use in this area becomes a problem, install a locked gate near the junction with State Highway 127 along this route to further discourage access.

4. Make site-specific recommendations for mitigation of oil and gas exploration and development on an adjacent lease when specific Plans of Operations, Development, Utilization, and Abandonment are received.
5. If applicable, recommend No Surface Occupancy within a $\frac{1}{2}$ mile radius of Upper Shoshone Cave and any other populations and the use of slant drilling techniques and/or ancillary facilities in conjunction with oil and gas or geothermal development.
6. Carefully consider the implications of locatable mineral exploration and development on this species and its habitat when reviewing any mining measures commensurate with CFR 3809 Regulations to eliminate or mitigate any potential or real detrimental actions.
7. Increase BLM presence by rangers and other personnel.
8. Carefully evaluate the implications of other multiple use-oriented management projects on a case-by-case basis to prevent disturbance and ensure protection of this and other endemic cave species and their habitat.

III. Evaluation

Biological inventories and studies are necessary to implement, evaluate, and monitor the achievement of management objectives outlined in this plan.

1. Inventories for the presence of additional populations of the Shoshone Cave whip-scorpion and other cave endemics will be conducted throughout the WHMA in an effort to provide maximum resource protection. These inventories will be conducted by qualified personnel with a previously demonstrated expertise in this field through contract study award.
2. Upper Shoshone Cave will be closely monitored to assess any changes in condition relative to present. Measurements of extent of surface water, relative humidity, and air temperature will also be undertaken on an

annual basis. Should geothermal or oil and gas exploration and development take place within the general area, these surveys will be increased. If specific adverse effects are found to result from adjacent mining or from mineral developments, the respective operator(s) will be immediately informed. Modifications of operations will be made, where feasible, to restore habitat to baseline condition.

IV. Coordination With Other Agencies

The management objectives and actions as outlined in this HMP were formulated jointly between the California Department of Fish and Game and the Bureau of Land Management. The responsibilities of each agency in the implementation of the IMP are outlined in Section V.

V. Costs and Funding Needs *

A. <u>First Year</u>	<u>Action</u>	<u>Cost</u>	<u>Agency</u>
	1. Designate access route as "limited" to discourage use.	¼ WM	BLM
	2. Increase ranger patrols and checks of Upper Shoshone Cave.	¼ WM	BLM
	3. Monitor extent of surface water, temperature, and other physical parameters in cave annually.	¼ WM	BLM, CDFG
B. <u>Second Year</u>			
	1. Continue ranger checks of Upper Shoshone Cave/ any nearby mineral or energy developments.	¼ WM	BLM
	2. Continue monitoring physical parameters in cave.	¼ WM	BLM, CDFG
	3. Contract study for systematic inventory of adjacent caves for endemic invertebrates.	1 WM + \$1500	BLM, CDFG
	4. If deemed desirable, install a locked gate on access route to further discourage access.	¼ WM + \$ 500	BLM

<u>C. Third Year</u>	<u>Action</u>	<u>Cost</u>	<u>Agency</u>
1.	Continue ranger checks of Upper Shoshone Cave/ any nearby mineral or energy developments.	½ WM	BLM
2.	Continue monitoring physical parameters in cave.	½ WM	BLM, CDFG
3.	Monitor any additional populations located as a result of study contracted in second year of implementation.	½ WM	BLM, CDFG

* Planned actions also include development of site-specific management measures to prevent or mitigate any adverse effects of adjacent oil and gas, geothermal, or other mineral exploration and development activities in this area.

VI. Provision for Review and Modification

This Habitat Management Plan will be reviewed annually to determine if revision and modification is needed. Once a year, the BLM Area Manager and representative of the CDFG will review progress on implementation of the plan and will submit a report to the BLM District Manager. report will be submitted in time to allow for adjustments in the following year's Annual Work Plan.

The report will indicate the following:

1. Progress made on implementing the Habitat Management Plan.
2. Priorities for future implementation.
3. Recommended modification in the plan or schedule.

The BLM District Manager will determine if any recommended modifications are of such a nature that a new Environmental Assessment (EA) or a supplemental EA is required. Minor changes, such as revised cost estimates, schedule modifications, etc., would not require a supplemental EA, although some individual projects may require supplemental EA's of

the Minimal Acceptable Documentation type.

With the concurrence of the BLM District Manager, the recommended modifications will be forwarded to the CDFG for their information and approval.

VIII. APPENDICES

A. ENVIRONMENTAL ASSESSMENT FOR THE
SHOSHONE CAVE (WHIP-SCORPION HABITAT)
WILDLIFE HABITAT MANAGEMENT PLAN

A. Proposed Action

The Shoshone Cave (Whip-scorpion Habitat) Wildlife Habitat Management Area encompasses all of section 12 of Township 22 North, Range 6 East, SBBM.

In summary, the Bureau of Land Management and California Department of Fish and Game jointly propose the following actions within the WHMA:

1. To conduct a systematic inventory of adjacent caves for the presence of additional whip-scorpion populations or other invertebrates of highly restricted distribution also known to occur here.
2. To limit access via an existing route which leads into the WHMA to patrol, maintenance, and emergency vehicles.
3. If appropriate, to install a locked gate near the junction with State Highway 127 along this access route to further restrict vehicle use.
4. To make site-specific recommendations for the mitigation of oil and gas exploration and development on an adjacent lease when specific Plans of Operations, Development, Utilization, and Abandonment are received.
5. If applicable, to recommend "No Surface Occupancy" within a $\frac{1}{4}$ mile radius of Upper Shoshone Cave and other populations of endemic invertebrates, and the use of slant drilling techniques or moving of drilling sites and/or ancillary facilities in conjunction with oil and gas or geothermal development.
6. To carefully consider the implications of locatable mineral exploration and development on these species and their habitat when reviewing any mining measures commensurate with CFR 3809 Regulations to eliminate or mitigate any potential or real detrimental actions.
7. To increase BLM presence by rangers and other personnel.

8. To carefully evaluate the implications of other multiple use-oriented actions on a case-by-case basis to prevent disturbance and to ensure protection of all sensitive species and habitats present here.
9. To closely monitor physical parameters of Upper Shoshone Cave to assess any changes in condition relative to present.

B. No Action Alternative

If the management actions authorized above are not implemented, sensitive wildlife values may be seriously impacted by energy development, mineral development, or recreational activities. The Shoshone Cave whip-scorpion and other endemic cave invertebrates present here are extremely vulnerable to a variety of land uses because of their dependence on a humid, thermal cave and their highly restricted distribution. Lack of implementation of a focused protective management plan greatly increases the chances of population declines or eventual extinction.

C. Affected Environment

Geology

Terrain consists of a series of low hills and ridges which overlook the Amargosa River drainage. Caves in this area are fissures in a dark gray Cambrian limestone formation which are heated by thermal groundwater. Currently, minerals within the WHMA consist of a speculative potential for geothermal, potassium, and oil and gas. Adjacent sections 1 and 2 of this Township are located on an oil and gas lease. No active or inactive mining claims are presently known to exist within the WHMA. Surface and subsurface disturbing activities within this area have principally been confined to past mining ventures. Several old tunnels and shafts are present in this area. Potential also exists for future discovery of locatable mineral deposits within the WHMA.

Recreation

Visitor use within the WHMA is currently very low and widely dispersed. Use consists primarily of occasional vehicle touring, camping, and hiking.

Cultural Resources

There are no known prehistoric cultural sites present within the WHMA. This strongly reflects a lack of site inventory and does not necessarily preclude future cultural site discovery in this area. The historic Tonopah and Tidewater Railroad line, constructed around 1907, crosses the WHMA parallel to Amargosa River drainage. The railroad line has been long abandoned, and the rails have been removed. Planned management actions will not affect this railroad line.

Land Uses

A single transmission line crosses the WHMA roughly parallel to the Tonopah and Tidewater Railroad line. A 25 foot right of way (R-01247) was granted for this line on June 9, 1965. A 50 foot right of way (LA-092906) was also granted for a telephone line which runs through this section on November 7, 1972. The entire section is under multiple use classification R-1250 (May 8, 1968). The classification identifies the area as unappropriated public lands segregated from appropriation under the agricultural land laws.

Vegetation

Vegetation throughout this area is heavily dominated by creosote bush (Larrea tridentata), burrobrush (Ambrosia dumosa) and several species of saltbush (Atriplex spp.). No sensitive plant species have been recorded within the WHMA. However, four species which have been listed by the California Native Plant Society have been recorded from alkaline sink areas

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of the Amargosa River drainage and may also occur within this area. These plant species are: Cordylanthus tecopensis, Centarium namophilum var. namophilum, Calochortus striatus, and Nitrophila mojavisis.

Wildlife

Wildlife resources of special management concern consist of a variety of endemic invertebrates present only in Upper Shoshone Cave within the WHMA. The Shoshone Cave whip-scorpion has been targeted for special management action in this HMP. In addition to cave fauna, the WHMA is also located in close proximity to a portion of the Resting Spring Range. This mountain range is utilized on a transient basis by desert bighorn sheep (Ovis canadensis nelsoni). An historical Golden Eagle (Aquila chrysaetos) eyrie is located approximately three miles northeast of the WHMA. The Amargosa River drainage, principally south of the WHMA, also contains two native fishes of concern, the Nevada speckled dace (Rhinichthys osculus nevadensis) and the Amargosa River pupfish (Cyprinodon nevadensis amargosae). Lack of permanent water within the WHMA precludes the presence of these species.

D. Environmental Consequences

Positive consequences are anticipated to both vegetation and wildlife resources present within the WHMA. Both vegetation and wildlife, including the Shoshone Cave whip-scorpion, will be enhanced by the increased management and protection measures proposed in the HMP.

Negative impacts to flora and fauna consist of the possibility of alerting users to sensitive resources, which could result in illegal collection and vandalism. Also, some users may express their displeasure with limitations on routes of travel by travelling into sensitive areas. However, if compliance is achieved, the proposed action is expected to have only minimal negative impacts.

The proposed action will result in some decrease in motorized and nonmotorized recreational opportunities because of restrictions imposed on vehicles from route limitations and from possible placement of a locked gate to further discourage vehicle use.

Activities relating to mineral and energy development may be modified due to imposition of site-specific mitigation measures designed to protect sensitive wildlife habitats. This may include, for example, a "No Surface Occupancy" designation around Upper Shoshone Cave in the event that the WHMA falls into an oil and gas leasing area. Slant drilling may also be requested as a protective measure. The 43 CFR 3809 Surface Mining Regulations governing use of public lands under the U.S. Mining Laws provide for the protection of lands from unnecessary and undue degradation. Specific measures designed to prevent or to mitigate any adverse effects of locatable mineral mining will be developed as mining Plans of Operations are submitted for review.

Slight disturbance to surface soils and vegetation may be expected from construction and placement of a locked gate along an existing route which leads into the WHMA from State Highway 127. However, construction will not be undertaken unless this action is deemed essential to the continued protection of wildlife habitats.

E. Mitigation Measures

1. Increased Bureau patrol will be used to encourage compliance with route designations.
2. Informational sheets will be made available to interested members of the public to also encourage compliance with management actions.
3. Mitigation measures and stipulations designed to protect sensitive wildlife habitat will be closely monitored to ensure full compliance in the event that mineral or energy development occurs within the WHMA area.



To Shoshone (2 miles)

/// Wildlife Habitat Mgmt. Area

Location Map for the Shoshone Cave (Whip-scorpion Habitat) Wildlife Habitat Management Area.

C. References Cited

- Briggs, T.S. and K. Hom. 1972. A cavernicolous whip-scorpion from the northern Mojave Desert, California. Occasional Papers of the California Academy of Sciences : 98.
- Shear, W. 1974. An unusual new species (Dorypetalidae) from southern California, and new records of *Speodesmus triganbius* (Trichopolydesmidae) from New Mexico. Occasional Papers of the California Academy of Sciences: 112.
- U.S.D.I., B.L.M. 1980. The California Desert Conservation Area Plan. California Desert District Office, 1695 Spruce Street, Riverside, California.

D. Individuals and Groups Contacted

The following persons and groups were sent a draft copy of the Shoshone Cave (Whip-Scorpion Habitat) Wildlife Habitat Management Plan and Environmental Assessment for review:

Tom Briggs

Peter Burk, Sierra Club

Gene Cardiff, National Audubon Society

County of Inyo

Gail Kobetich, U.S. Fish and Wildlife Service

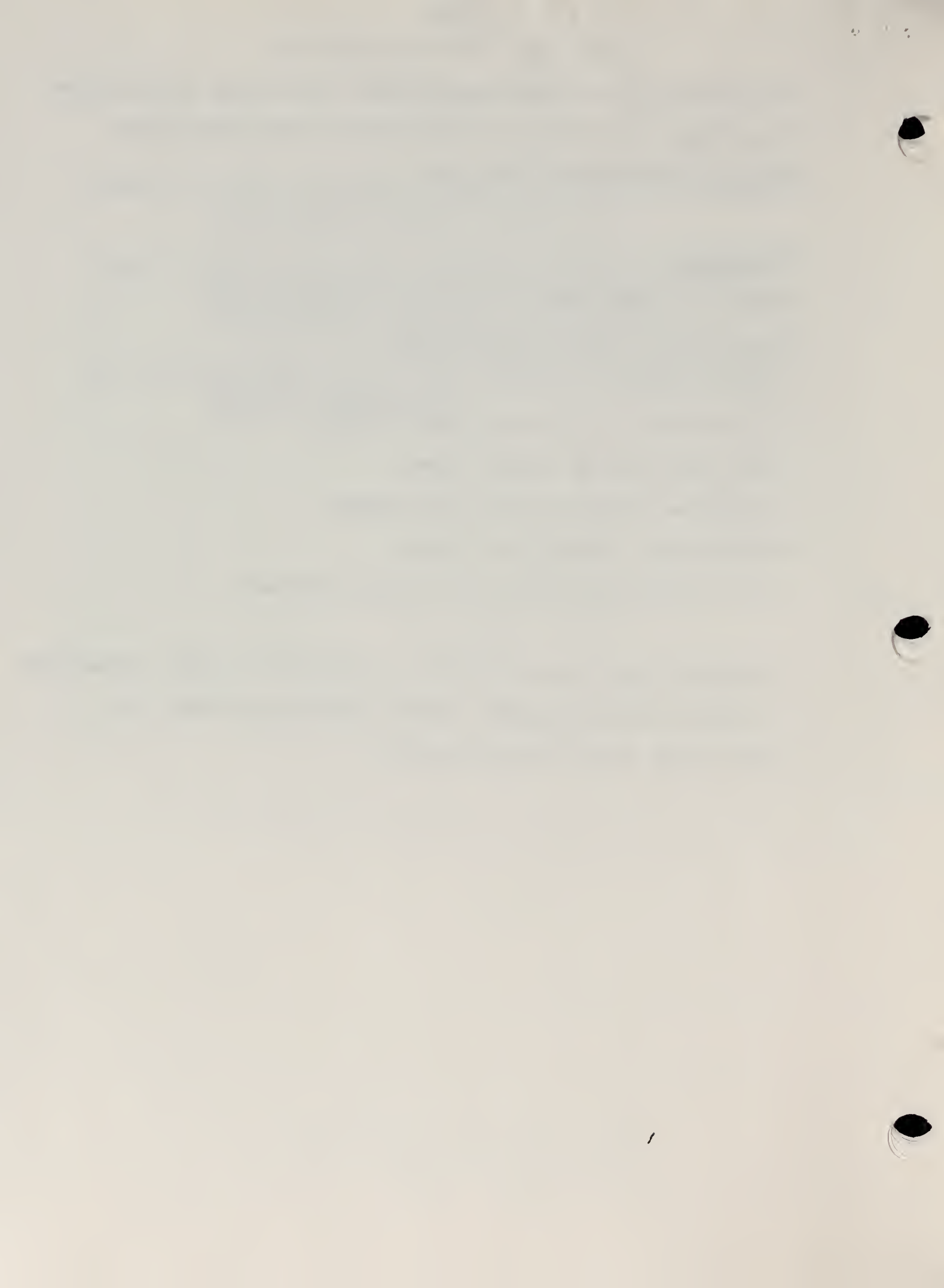
Glenn Olsen, National Audubon Society

Pete Sanchez, Death Valley National Monument

Richard Spotts, Defenders of Wildlife

U.S. Fish and Wildlife Service, Ecological Services

Additional copies of this draft HMP are available for public review from the Bureau of Land Management, Barstow Resource Area Office, 831 Barstow Road, Barstow, California 92311.



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4. Prior to sign placement or gate construction, the prospective site will be inventoried for cultural values, sensitive plant species, and sensitive wildlife species. Construction will not be approved if sensitive resources are present which may be compromised, and an alternate site selected.

The environmental impacts of the proposed action have been assessed. On the basis of the Environmental Assessment, it has been determined that, after mitigation, there will be no significant impacts resulting from the implementation of the proposed action. Therefore, preparation of an Environmental Impact Statement pursuant to section 102(2)(c) of the National Environmental Policy Act of 1969 is not required.

Recommended by:

Heather A. Paolo

Wildlife Biologist
BLM Barstow Resource Area

12/8/82
Date

Approved by:

Alden Sievers

Area Manager
BLM Barstow Resource Area

12/8/82
Date

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