

**Supplement to the Environmental Assessment**

**For**

**Proposed Interim Closure of Surprise Canyon Route P-71  
Panamint Range, Inyo County, California  
to Motorized Vehicle Use**

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**National Park Service  
Death Valley National Park  
Death Valley, CA 92328**

**September 29, 2003**

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Panamint Range, Inyo County, California  
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**Environmental Assessment Number EA-CA065-2001**

**Supplement to Chapter 1**

**Introduction**

This supplement to the subject environmental assessment has been prepared to analyze the additional proposed action of allowing owners of private property in the Panamint City area to drive through Surprise Canyon to access their property. The primary goal of this analysis is to identify the environmental effects of proposed landowner access and to make a determination whether or not it would result in appreciable disturbance or damage to public lands and resources. Under the regulations at 43 CFR 2800, certain activities performed on federal lands, termed casual use, are those that would not ordinarily cause any appreciable disturbance or damage to the public lands or resources, and do not require a permit or right of way. Based on the outcome of this analysis and a determination regarding casual use, the landowners would be allowed to access their property as casual users of the federal lands, or would be required to apply for a permit or right of way if the effects of their proposal would result in appreciable disturbance or damage to the public lands and resources.

This supplement also includes additional information regarding the current administrative and environmental conditions for Surprise Canyon both on public land and within Death Valley National Park. This new information covers the time period beginning on May 29, 2001 (the day the interim closure became effective) and continuing to the present. The proposed action stems from recent requests from numerous (16 as of 9/11/2003) co-owners of a one-acre, patented mill site in Sourdough Canyon in the Panamint City area for a key and authorization to access their property by driving motorized vehicles through Surprise Canyon.

The type of motorized vehicle use that would occur within Surprise Canyon under this proposed action is essentially the same as previously evaluated in the Environmental Assessment for the Proposed Interim Closure of Surprise Canyon Route P71, Panamint Range, Inyo County, California, to Motorized Vehicle Use, dated May 23, 2001. This determination is the result of recent correspondence received from several landowners in which they generally describe access by four-wheel drive vehicles through Surprise Canyon as being similar or identical to what they engaged in prior to the interim closure and prior to their acquisition of property in the Panamint City area. The individuals requesting access to their property are largely members of a four-wheel drive organization (Bakersfield Trailblazers) who purchased a one-acre patented mill site in the Panamint City area in 2003 and who routinely sponsored and engaged in four-wheel drive trips to and from Panamint City prior to the interim closure. The previous environmental

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assessment evaluated the environmental effects to Surprise Canyon on public land that occurred when the canyon route was open to off-road or motorized vehicle travel without restriction. The only probable difference between the effects resulting from the open route status and the motorized vehicle travel that would occur under the proposed action is the numbers of vehicles that would traverse the canyon, i.e., fewer vehicles would likely be operated in the canyon under the proposed action because the number would be attributed to landowner access only rather than the general public.

**Supplement to Chapter 2**

**Purpose and Need for Agency Action**

The Bureau of Land Management (Bureau) and National Park Service (Service) have a legal responsibility to provide access to private property surrounded by federal land (see Federal Land Policy and Management Act, California Desert Protection Act). The standard for access across public land managed by the Bureau is that which is reasonable and does not result in unnecessary and undue degradation of the public lands. The standard for access across lands within National Park Units is that which is adequate to allow for the reasonable use and enjoyment of the private property. These standards were established in the two statutes identified above. Furthermore, the Superintendent has a responsibility to administer Death Valley National Park in a manner that leaves the Park and its resources in an unimpaired condition for current and future generations.

The written requests by numerous co-owners of the patented Independence Mill site to access their property by the use of motorized vehicle and the required response by the Bureau and Service constitute an addition to the proposed action in the subject environmental assessment. Before reaching a decision on the access request, the Bureau and Service must consider the environmental impacts of the proposed action and the possible alternatives. The National Environmental Policy Act of 1969 mandates the consideration of environmental impacts in making decisions regarding the use of the federal lands.

**Supplement to Chapter 3**

**Proposed Action**

The proposed action entails issuing a key to a locked gate across Surprise Canyon to owners of private property in the Panamint City area and allowing them to access their property with a motorized vehicle or vehicles. Such access would allow landowners to drive highly modified, four-wheel drive vehicles through Surprise Canyon, aided by the use of winches to climb over a series of several waterfalls in the narrow section of Surprise Canyon. As of September 19, 2003, 16 landowners have submitted similar or identical access requests. There are a total of 28 co-owners of the Independence Mill site. There are three additional owners of patented lands within the Panamint City area, although they have not requested access to their property by use of motorized vehicles. This additional proposed action includes the potential for all private property owners to request such access.

The proposed action includes hand tool work necessary to allow for the passage of four-wheel

drive vehicles through Surprise Canyon. Such hand tool work would entail clearing vegetation, moving rocks and boulders, and stacking rocks in certain locations to allow vehicles to climb over rugged terrain. This aspect of the proposed action was obtained from information contained in the individual letters from landowners requesting access to their property, and from BLM and NPS evaluation of the current condition of the floodplain in Surprise Canyon.

Based on the nature of the access requests, the proposed action would also allow landowners to drive through Surprise Canyon throughout the year either on their own or as a group, at their discretion. Prior to the interim closure, groups sponsoring organized trips were required to obtain a permit from the Bureau for trips up the canyon.

**No Action Alternative**

The no action alternative would deny landowners access by motorized vehicles, but would allow access to their property by foot travel, by pack animal, or by helicopter. The landowners would be subject to the interim vehicle closure currently in effect under the provisions of 43 CFR 8341.2 (Special Rules) which govern the use of off-road vehicles on public lands.

**Supplement to Chapter 4**

**Affected Environment**

Since the time the interim vehicle closure became effective on May 29, 2001, new administrative and environmental conditions have occurred.

1. **Flash flood of September 3, 2001.** On this date, from approximately 5 PM until midnight, 1.81 inches of rain fell at Panamint City (Remote Area Weather Station data, NOAA). The lower half of the canyon may have received greater amounts of rainfall or similar rainfall of higher intensity. The discharge of water through Surprise Canyon appears to have been similar in magnitude to the flood event of August 1984. The flooding eliminated all traces of the Jeep or four-wheel drive trail that was in the canyon from Chris Wicht Camp to the upper level of the waterfalls in the narrows of the canyon. From the narrows to approximately Limekiln Spring, floodwater eliminated numerous portions of the jeep trail. The floodwater altered the former canyon bottom or floodplain, depositing new sediment in some areas and removing sediment in others. Substantial amounts of riparian vegetation were removed in the lower portion of the canyon generally from the waterfalls to below Chris Wicht Camp. The steel pipe vehicle barrier installed in May of 2001 as a means of blocking access during the interim vehicle closure was severely damaged in the flood event, but this barrier was subsequently repaired.

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2. **Riparian Vegetation and stream dynamics.** Vegetation is the most important factor influencing soil and stream channel stability (DeBano and Schmidt 1989). Vegetative cover stabilizes stream banks and holds soil in place, providing protection from erosive forces of flowing water and dissipating stream energy during periods of normal high flow (Prichard et al. 1998, Prichard et al. 1995). Riparian wetland areas that have adequate vegetation, landform, and large woody debris are able to dissipate stream energy associated with higher water flows, thereby reducing erosion as well as filtering sediment, capturing bedload, and aiding in

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floodplain development. The establishment of willows, cottonwood, and herbaceous bank-stabilizing species of plants contribute to a healthy riparian system that tends toward equilibrium or balance, largely due to the resistance provided by riparian vegetation to the erosive forces of stream flow. A naturally flowing stream tends to seek equilibrium between periods of deposition and erosion. Short-term flooding causes an oscillation in the balance between these two processes (DeBano and Schmidt 1989).

Occasionally, high-intensity monsoon rains fall in the Panamint Mountains, causing flooding in the canyons. Even though the September 2001 flood destroyed much of the existing riparian vegetation in one section of the canyon, the flood deposited fresh substrate that provided sites for riparian vegetation to establish. Willows and cottonwood are colonizing these sites. The flood also established new gravel-silt bars where previously there had been only bedrock (Cunningham 2001). In areas affected by flooding, vegetation re-colonizes, and the new stream channel re-adjusts its sinuosity and gradient in response to stream flow. The stream will continue to seek equilibrium between erosion and deposition (Prichard et al. 1998).

Since May 29, 2001, riparian vegetation in the wetlands of Surprise Canyon has vigorously grown in areas where it was periodically removed in the past to allow vehicles to pass through the canyon on the former dirt road, and later the jeep trail. The areas where riparian vegetation has largely overgrown the path of the former road or trail include Brewery Spring, willow thicket upstream from Limekiln Spring, Limekiln Spring, Limekiln Spring to the upper waterfall, and portions of the canyon below the water falls where numerous cottonwood and willow seedlings have established in the new wetland soil deposited after the flood in September 2001.

On April 28, 2003, Bureau staff established the location of the jeep trail in the bottom of Surprise Canyon that existed prior to the flood of September 2001. The former jeep trail location would be used for analyzing access under the proposed action, and thus establishes the basis for the affected environment and the analysis of effects. On September 13, 2003 Bureau staff hiked in Surprise Canyon and measured the distance that the route travels through water and through riparian vegetation. The former jeep trail location traverses the canyon bottom through riparian vegetation and wetland for about 11,980 feet (about 2.3 miles).

3. **Surprise Canyon stream.** The permanent stream in Surprise Canyon was mapped and measured in the spring season of 2003. It flows for a distance of approximately 18,620 feet (about 3.5 miles) and supports varying amounts of riparian vegetation. The former jeep trail is located in the perennial stream for a length of about 8060 feet, or approximately 1.5 miles. Thus, the former jeep trail that would be used for landowner access occurs in approximately 43 percent of the stream.

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4. **Motorized Vehicle Closure Order by Superintendent of Death Valley National Park.** The Superintendent of Death Valley National Park closed the portion of Surprise Canyon within the park to the use of motorized vehicles in April 2002 for the purpose of providing interim protection to natural and cultural resources under the regulatory authority of 36 Code of Federal Regulations Section 1.5 to prevent impairment of natural and cultural resources and their values within the park.

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## 5. Wild and Scenic River Eligibility Determination.

The Bureau determined that Surprise Canyon creek on public land within Surprise Canyon was eligible for designation under the provisions of the Wild and Scenic Rivers Act. This determination was contained in the record of decision for amendments to the CDCA Plan for the Northern and Eastern Mojave planning area, dated December 20, 2002. The eligibility determination included a tentative classification of recreational from Chris Wicht Camp downstream for one mile, and a classification of scenic from Chris Wicht Camp to the boundary of Death Valley National Park. The Bureau has legal and policy requirements to provide interim protection to any segments of rivers, streams or creeks that are determined eligible for designation under the Wild and Scenic Rivers Act until such a time that Congress makes a designation decision. This interim guidance focuses on the BLM's resource management discretion (pursuant to the Federal Land Policy and Management Act (FLPMA)), in protecting eligible river segments from discretionary actions prior to final implementation of prescriptions and directions contained in a completed Resource Management Plan (RMP), associated Environmental Impact Statement (EIS), and subsequent record of decision (ROD). Affording adequate protection for identified river values (pre-ROD) requires sound resource management decisions based on National Environmental Policy Act (NEPA) analysis. Section 102 (8) of FLPMA mandates that the BLM manage public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use". However, if the Bureau determines through the land use planning process that Surprise Canyon creek is not suitable for such designation by Congress, then the interim protection requirements of the Wild and Scenic Rivers Act and the Federal Land Policy and Management Act terminate. The land use planning process for Surprise Canyon is underway at this time.

The outstandingly remarkable values of Surprise Canyon creek include the high scenic quality, as well as Unusual Plant Assemblages (UPA) and the presence of special status plants and animals (See Attachments A and B, which list special status plants and wildlife). The riparian vegetation in the canyon is one of its outstandingly remarkable values. This vegetation is rare throughout the Western states and even rarer in the CDCA (USDI BLM 1982). Only 2% to 5% of the original riparian habitat is left in the California desert (Katibah 1984). The vegetative communities in riparian areas and at seeps and springs are designated in the 1980 CDCA Plan as highly sensitive, Unusual Plant Assemblages (UPA). The calciphyte vegetation community in the canyon is another Unusual Plant Assemblage. Southern arroyo willow is also a rare association worthy of consideration (California Department of Fish and Game 2002). Besides the overall riparian community, several species of plants are part of the outstandingly remarkable values of Surprise Canyon creek. Among the plants are three Bureau of Land Management Sensitive species: the Panamint dudleya, *Dudleya saxosa*, the Panamint daisy, *Enceliopsis covillei*, and Hoffmann's Buckwheat, *Eriogonum hoffmannii*; and four additional National Park Service Sensitive species: Gilman's Milk-vetch, *Astragalus gilmanii*, Panamint Mariposa Lily, *Calochortus panamintensis*, Panamint Mountains Lupine, *Lupinus magnificus*, and Mojave Spike-moss, *Selaginella leucobryoides*. Based on the California Native Plant Society designations, five of these sensitive species (Gilman's Milk-vetch, Panamint daisy, Panamint

dudleya, Panamint Mountains Lupine, and Hoffmann's buckwheat) are classified as rare and endangered throughout their range. In addition, there is a high probability that twenty-three additional National Park Service Sensitive species occur in Surprise Canyon (See Attachment A). Several animal species are part of the outstandingly remarkable values of Surprise Canyon creek. These include an endemic spring snail, relict Panamint alligator lizard, the Least Bell's Vireo, a Federally Endangered as well as State Endangered species, the Willow Flycatcher, a State Endangered species, sensitive birds such as the yellow warbler and prairie falcon; numerous species of sensitive bats; and the bighorn sheep, another sensitive species. The riparian vegetation along Surprise Canyon Creek is also potential habitat for the Southwestern Willow Flycatcher, a Federally Endangered, as well as State Endangered species.

A spring snail species known to occur in Surprise Canyon is a subspecies of *Pyrgulopsis micrococcus*, which occurs only in the Panamint and Argus Ranges and in the Saline Valley (Hershler 2003) and is rated as extremely endangered by the California Natural Diversity Database (California Department of Fish and Game 2003).

The Panamint alligator lizard, *Elgaria panamintina*, a California BLM sensitive species and a California Department of Fish and Game species of special concern, requires special management attention to assure its conservation and to preclude the need for future listing as threatened or endangered. The Panamint alligator lizard is one of only two reptile species that are endemic to the California desert (the other is the Coachella Valley fringe-toed lizard). This lizard occurs in rocky portions of the canyon adjacent to permanent water and riparian vegetation, especially wild grape, and is somewhat arboreal, climbing on branches, stalks and vines (Cunningham & Emmerich 2001).

Other herpetofauna that occur in Surprise Canyon include the western red-tailed skink, the Pacific treefrog, and the red-spotted frog. The Western red-tailed skink (*Eumeces gilberti rubricaudatus*), like the Panamint alligator lizard, is a "desert isolate" living in the vicinity of springs. They are both relict species that were formerly more widespread during cooler and more humid periods (Stebbins 1995). The Pacific treefrog, *Hyla regilla*, has a wide geographical distribution. In contrast, *Bufo punctatus*, is found only in deserts (Mayhew 1968; Ruibal 1976). *Bufo punctatus* avoids high temperatures by staying inactive underground in rodent burrows or in crevices beneath rocks and emerging only at night when temperatures are cooler (Ruibal 1976). *Bufo punctatus* tadpoles were observed in pools in open, rocky areas along Surprise Canyon (observation by a Bureau biologist and a contractor, Ellis and McEwan, June 2003). Both the Pacific treefrog and the red-spotted toad are isolated in Surprise Canyon by xeric conditions.

Other reptile species present in Surprise Canyon which are endemic to the Sonoran and Mojave Deserts are *Sauromalus obesus*, the chuckwalla, a Bureau sensitive species, and *Crotalis mitchellii stephensi*, the speckled rattlesnake (Stebbins 1995).

Drs. Patricia Brown and Robert Berry conducted bat surveys in the Panamint Range between 1988 and 2002 and verified the presence of bat species of special concern. Townsend's big-eared bat, *Conrynorhinus townsendii*, and the pallid bat, *Antrozous pallidus*, both Bureau sensitive species, are known to occur in Surprise Canyon. There is also a high probability that the Spotted Bat, *Euderma maculatum*, the Western Mastiff Bat, *Eumops perotis*, and Myotis species, *Myotis*

*volans*, *Myotis evotis*, *Myotis ciliolabrum*, and *Myotis thysanoides*, occur, based on the habitat preference of these species and their known ranges. These bats forage in riparian areas where insect life is abundant. Many insects preyed on by bats have aquatic egg or larval stages or are dependent on riparian vegetation. (Aquatic larvae present in Surprise Canyon creek will be identified in the macroinvertebrate study scheduled for this fall. See the discussion above.) Different species of bats forage on insects at different levels in the vegetation (Bell 1980).

Townsend's big-eared bats are colonial mine and cave dwellers whose numbers are declining, principally attributable to human disturbance of roosts. Recent surveys of Townsend's big-eared bat, *Conrynorhinus townsendii*, conducted by Pierson and Rainey (1996) for CDFG show marked population declines for both subspecies (*C.t.townsendii* and *C.t.pallescens*). Over the past 40 years, there has been a 52% loss in the number of maternity colonies, a 45% decline in the number of available roosts, a 54% decline in the total number of animals, and a 33% decrease in the average size of remaining colonies for the species across the state (Pierson and Rainey 1996). The Townsend's big-eared bat is dependent on riparian habitat within five miles of the roosts. Townsend's big-eared bats typically live in caves and abandoned mines. They hibernate during the winter months, occasionally waking up to move locations. About 85% of their diet consists of moths, and the rest is beetles and a variety of fly species. During the summer months, females and young can be found in maternity colonies, which are often in abandoned mines.

Although rare in the California desert, riparian habitats are heavily used by birds (England & Laudenslayer 1995). The greatest raptor diversity is in riparian habitats. Of the 45 western raptor species, 82% use riparian habitat. The riparian zone provides foraging and prime nesting habitat for Cooper's Hawks (Parrish 1989). Breeding species richness and breeding bird densities are higher in desert riparian habitats than in desert scrub (England et al. 1981).

The migratory and resident riparian birds in Surprise Canyon are part of the Outstandingly Remarkable Values, and include 50 to 100 species. Bird populations in desert riparian habitats are dynamic. In three areas (Chris Wicht Camp, Lime Kiln, and Brewery Spring), the peak of fall migration was between mid-August and late October. The peak of spring migration was from mid-April to early May (England et al. 1981). Special status bird species in Surprise Canyon include the least Bell's vireo, a Federal and State Endangered species; the Willow Flycatcher, a State Endangered species; the yellow warbler, a Bureau Sensitive species and CDFG species of special concern; and the yellow-breasted chat, CDFG species of special concern. The canyon contains suitable habitat for the Southwestern Willow Flycatcher, another Federally Endangered, as well as State Endangered species. In May 2003 a willow flycatcher was identified 1.8 miles south of the mouth of Surprise Canyon. (Ellsworth, Internal Memorandum, California Department of Fish & Game, August 12, 2003). Willow flycatchers have also been observed in Happy and Pleasant Canyons to the south (LaBerteaux 2001). A pair of least Bell's vireos, a Federally Endangered, as well as State Endangered species, was observed in suitable nesting riparian habitat in dense Arroyo willows (*Salix lasiolepis*) below Limekiln Spring in 2001 (Cunningham 2001). Nesting habitat measurements were made for the least Bell's vireos, and scores were assigned describing adequacy for nesting based on the U.S. Fish and Wildlife draft recovery plan for the least Bell's vireo (U.S. Fish and Wildlife Service. 1998). Of 2,857 meters of stream and riparian habitat measured, 27.5% was excellent as nesting habitat for the least Bell's vireo. The excellent nesting habitat was along the stream above the narrow gorge and



waterfalls up the canyon to Limekiln Spring. Riparian habitat that appeared good, but was fragmented or less structurally complex, made up 13.4% of the total reach measured. Although this area had tall willows, it lacked dense vegetation within 1 to 2 meters of the ground, which the least Bell's vireo requires for nesting. Fair habitat made up 29.4% and poor habitat made up 29.7%. The fair and poor habitats were in the lower reaches of the canyon from Chris Wicht Camp up the canyon to the gorge and waterfalls. "The absence of habitat is apparently due to off-road vehicle use, causing severe erosion, bank-cutting, vegetation crushing, and tunneling through riparian woodland" (Cunningham 2001). The area has the potential to support denser and longer stretches of vegetation, "yet the continuous annual erosion, as opposed to 10 to 20 year cyclic flood event erosion, of vehicle wheels on the stream bed and margins will not allow re-colonization of bare substrate." (Cunningham 2001). Cunningham revisited the canyon after the September 2001 flood and determined that about 90% of the "excellent" and 70% of the "good" least Bell's vireo habitat remained in spite of the fact that approximately a large amount of the existing riparian vegetation was removed by the flood event. The good vireo habitat was dense enough to dissipate the energy of the flow and withstand the flood. Most of the vegetation removed by the flood was between Chris Wicht Camp and the top of the falls (Cunningham 2001).

The least Bell's vireo prefers willow-dominated woodland or scrub that typically exists along streams. Dense cover from one to two meters in height is essential for nesting and foraging. Vireos are insectivorous, eating a wide variety of species. This species requires a stratified canopy for both foraging habitat and song perches for territorial displays. Nests are usually built on branches or stems one meter above the ground (Wells and Kus 2001). The scouring of riparian vegetation that occurs periodically from the natural flood cycle in Surprise Canyon can benefit least Bell's vireos since they rely on early successional stages rather than climax stages of vegetation growth. Riparian vegetation re-colonized following the floods in 2001 and in 1984. Willows and other riparian species are expected to form dense thickets in approximately 5 to 10 years and become suitable least Bell's vireo habitat. If disturbance and continuous annual erosion is kept in check, Surprise Canyon appears to be suitable for least Bell's vireos (Cunningham 2001). Although Cunningham did not detect breeding by least Bell's vireos in the 2001 survey, a pair of vireos was sighted and suitable nesting habitat was observed. The draft recovery plan for the least Bell's vireo states that approximately 20% of first-time breeders disperse to new drainages, rather than returning to their natal nest sites. The vireos have shown the ability to disperse long distances, moving as far as 130 miles from the natal site. The Fish and Wildlife Service recognizes the importance of metapopulations in species recovery and anticipates vireos could reestablish in their historical breeding range, which includes Inyo County (U.S. Fish and Wildlife Service. 1998). Surprise Canyon could facilitate dispersal and colonization of vireos northward into central and eastern California (Cunningham 2001).

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In May 2003 a willow flycatcher was identified by sight and song 1.8 miles south of the mouth of Surprise Canyon. (Ellsworth, Internal Memorandum, California Department of Fish & Game, August 12, 2003). Ellsworth of the California Department of Fish & Game has recommended that U.S. Fish and Wildlife Service protocol surveys for the Southwestern willow flycatcher be conducted next year. Surprise Canyon is located within the "Basin and Mojave Unit" of the Southwestern Willow Flycatcher Recovery Plan area. This unit includes 69 known flycatcher territories (7% of the range-wide total; 27% of the population in California), with the largest

populations occurring in the Kern and Owens River drainages. Surprise Canyon is between the Kern and Owens River populations to the west and the population in Ash Meadows National Wildlife Refuge to the east. Thus, Surprise Canyon could become a breeding and nesting area for the Southwestern willow flycatcher since suitable habitat exists.

*Regenerating potential habitats*, as well as *unoccupied suitable habitat*, for the southwestern willow flycatcher exist in Surprise Canyon. *Regenerating potential habitats* are suitable hydrologically and ecologically, but are degraded or in early successional stages. These are areas with the potential to develop dense riparian vegetation (U.S. Fish and Wildlife Service 1998). *Unoccupied suitable habitat* is vital since it provides nesting areas for flycatchers as occupied areas become unsuitable through maturation or disturbance. In a riparian setting, habitat distribution is dynamic, and sites may cycle back into suitability after disturbance. The flycatchers' riparian habitat is dependent on periodic inundation, scouring floods, sediment deposition and groundwater recharge (U.S. Fish and Wildlife Service 2002).

Bighorn sheep, *Ovis canadensis nelsoni*, another Bureau Sensitive Species, inhabit Surprise Canyon and most of the Panamint Range (Oehler et al. 2002; Weaver 1972; Welles 1961). The populations of bighorns in the southern Panamint Range, as well as across the West, have been decreasing (Krausman 1986; Torres 1996; Weaver 1972; U.S.D.I. Bureau of Land Management 1995). Bighorn sheep are also an Outstandingly Remarkable Value of Surprise Canyon. Many people are attracted to areas with bighorn sheep, and knowing that there is a possibility of seeing bighorns may heighten their enjoyment on an area (Purdy 1981). Surveys of visitors at another recreation area showed that more than three fourths (76.8%) supported closing all or part of the wilderness if bighorn sheep could not access water due to the presence of people (Harris 1992). Bighorn sheep occur year-round within the canyon since surface water and adequate food sources are available there. Approximately eight to twenty sheep may occur within the canyon at any given time. Females are much more likely to be present than males in the lower reaches of the canyon from Limekiln Spring to the mouth below Chris Wicht Camp. Furthermore, female bighorns that use Surprise Canyon appear to be associated with only a portion of the range and do not freely move throughout suitable habitat (Oehler et al. 2002). This limited range includes primarily four canyons that contain water and suitable escape terrain, namely Happy, Surprise, Hall, and Jail. These findings are based on a 1995-1997 telemetry study of 21 bighorn sheep that were initially associated with the western slope of the range where they were captured and fitted with electronic transmitting collars. Their locations over the period of the study were obtained from a radio receiver mounted in an aircraft, which flew over the study area and recorded the locations every week during the summer months and every other week during the rest of the year (Oehler et al. 2002). In 1972, Dr. Charles Hansen, Research Biologist for the National Park Service rated the area between Surprise Canyon and Happy Canyon at 4800 feet elevation as "important to bighorn." Surprise Canyon above Chris Wicht camp was rated as a "periodic use zone" for bighorn sheep (Weaver 1972). See Attachment C, which characterizes bighorn habitat in the western Panamint Mountains based on evaluations of Hansen and Oehler et al. Bighorn sheep in Surprise Canyon frequent the bottom of the canyon to forage on succulent riparian plants and drink water from the flowing stream.

Supplement to Chapter 5

Environmental Consequences

This section describes the environmental impacts of the proposed action and the no action alternatives that were not previously identified in the environmental assessment dated May 23, 2001. The scope of this environmental assessment is limited to the direct effects of the proposed action and alternatives on the Surprise Canyon stream, associated wetlands and riparian vegetation, and the Outstandingly Remarkable Values associated with the segments of the Surprise Canyon stream that are eligible for designation under the Wild and Scenic Rivers Act.

**Proposed Action**

The proposed action would result in the resumption of off-road vehicle use through Surprise Canyon by the owners of private property in the Panamint City area rather than by the general public. The amount of such use could vary depending on the number of individuals requesting access, the number of people in their party, the number of trips they would make, and the number of vehicles involved. It would result in the following environmental impacts in Surprise Canyon:

**1. Wetlands and Riparian Habitats.** Vehicle use by landowners authorized by the Bureau within the portion of Surprise Canyon that is currently closed to public use of motorized vehicles would result in destruction of riparian vegetation near and adjacent to the stream channel due to the crushing effect of vehicle tires and the need to remove riparian vegetation from the route of travel through the use of cutting tools. The loss of riparian vegetation would occur over a distance of approximately 2.3 miles (11,980 feet) in Surprise Canyon. Assuming that the width of disturbance is 10 feet, about 2.7 acres of riparian vegetation would be directly affected by OHV travel. We also assume incidental impact of two feet on either side of the vehicle to account for people trampling along side the vehicles, moving rocks, vehicles not staying exactly behind each other, and the staging of vehicles. This adds another 1.1 acres of disturbance, making the total disturbed area equal to about 3.8 acres. Based on evaluation of aerial photographs taken in the year 2000, the area of riparian vegetation and wetlands within the canyon is about 18.5 acres. Thus, the former jeep trail that would be used for landowner access would disturb about 20% of the riparian and wetland vegetation within the canyon. Of this, the 1994 jeep route now coincides with 8060 feet of the stream and with 3920 feet of riparian vegetation growing outside of the stream. The length along which riparian vegetation would have to be removed by hand tool cutting is approximately 3550 linear feet. The volume of overhanging vegetation that needs to be removed to allow passage of vehicles is considerable in some areas due to the abundant, layered growth since the interim closure on May 29, 2001, and since the flood event of September 2001. In some places lush growth has nearly covered the former jeep trail (e.g., Brewery Spring, willow thicket above Limekiln Spring, from Limekiln Spring to the top of the waterfalls), whereas in others it does not completely cover the location of the former jeep trail. In the lower canyon below the waterfalls, the riparian vegetation that would be removed is relatively new growth adjacent to the stream. This vegetation would be crushed by vehicle tires and damaged by the passage of vehicles over cottonwoods and willow trees. Vegetation clearing that would be necessary to allow for the passage of 4x4 vehicles is approximately 10 feet in width.

The repeated passage of vehicles in wetlands (saturated soil, with the water table at or near the surface, or in some case, with standing or flowing water) in which there is flowing water generally results in soil compaction, channelization or capture of water flow in compacted tire ruts or depressions, and accelerated soil loss through water transport. Such channelization and subsequent soil transport can result in down-cutting by the stream through wetland soil and eventually cause the drying of the wetland due to a lowered water table. This impact becomes most pronounced where stream capture and down-cutting through soil is linear or parallel to the alignment of a canyon bottom (i.e., conforming to the gradient of the canyon). Road tracks that capture the stream concentrate high flows of water, increase water velocity, and accelerate erosion. This results in reduced water retention in the alluvial aquifer, lowers the water table, and may shorten the duration of the water flow (Prichard et al. 1998). These hydrologic effects restrict the establishment of riparian vegetation because of reduced soil moisture in the substrate. This situation was evident in Surprise Canyon before the current interim vehicle closure went into effect, and was also evident in Tuber Canyon (located north of Surprise Canyon in the same mountain range) during the 1990s based on field reports from Bureau and other agency personnel (Bureau of Land Management 2002, 1990; CA Department of Fish and Game 1992). The reduction of riparian vegetation decreases habitat for resident and migratory birds. Channelization also destroys important habitat features such as meanders, pools, and overhangs, causing a potential decline in amphibian and reptile abundance. (Dickerson 2001).

**2. Surprise Canyon Stream.** The proposed action would allow 4x4 vehicles to drive directly in the stream or on the stream banks in Surprise Canyon for a distance of 8060 feet (about 1.5 miles). This activity would increase the release and deposition of silt and clay in the water and stream bottom, and increase the turbidity of the water. Turbidity refers to water clarity or transparency. In the subject situation, turbidity, or reduction in clarity of the water, would result from fine soil particles (silt, and especially clay) in suspension in the water. Thus, sediment discharge into water increases its turbidity and diminishes its clarity. Where the effects of vehicle crossings of stream channels were observed and measured in the Anza Borrego Desert, silt was transported more than 100 meters downstream after each observed crossing and increased turbidity persisted for approximately five minutes before becoming un-observable (Warburton, et al. 2001). In California, sedimentation in waters of the State caused by human activities requires a waste discharge permit. This activity could result in a violation of the water quality standards for the Lahontan Basin of the State of California. Activities that cause alteration of streambeds in California are regulated by the Fish and Game Code, Section 1600, and require a Streambed Alteration Agreement from the California Department of Fish and Game.

**3. Wild and Scenic River/Outstandingly Remarkable Values of Surprise Canyon.** The Outstandingly Remarkable Values associated with the Surprise Canyon stream include the riparian plant assemblage, the calciphyte plant assemblage, sensitive plants and animals, and high scenic quality occurring on public land over a five-mile stretch of the canyon from the boundary of Death Valley National Park downstream to the mouth of Surprise Canyon or the western limit of the ACEC boundary. The canyon contains extensive Cottonwood/Willow Streamside Woodland, an Unusual Plant Assemblage within the California Desert Conservation Area (Bureau of Land Management 1980). This plant community would be directly affected by the vehicle use associated with the proposed action.

### Riparian Plant Assemblage and Special Status Plants Species

If vehicles travel up Surprise Canyon, significant impacts to both the riparian plant assemblage and to the special status species could occur. Vehicle traffic would affect the vegetation in the following ways:

- 1) Direct mortality of seedlings and smaller plants and a consequent decrease in the riparian plant assemblage: OHV traffic would be driving over willow and cottonwood seedlings, killing them and creating bare ground. The tires would churn up the substrate and prevent the establishment of riparian vegetation.
- 2) Alteration of the water regime and channelization of the water flow: The road alters the stream morphology both by removing vegetation and by straightening the channel. The road tracks concentrate high flows, increasing water velocity and erosive force. The increased velocity drains the water rapidly and prevents it from infiltrating into the ground where it can be stored and used by plants. Less water is retained in the soil, the water table drops, and surface water flows for a shorter period of time (Prichard et al 1998). The end result is that the areas adjacent to the stream experience a drought. The change in the water regime causes a change in the plant community, favoring more drought resistant species and eliminating riparian species. The use of the road may be impeding the development of a more extensive riparian zone in the canyon bottom and thereby limiting potential habitat for species that depend on riparian habitat.
- 3) Soil compaction and inhibition of growth of riparian vegetation: Vehicle tires compact the soil and reduce soil porosity. Lower porosity means that both the water-holding capacity and the soil aeration are decreased. This condition is less suitable for establishment and growth of riparian species. Drought-resistant pioneer species are more tolerant of poor soil conditions, and these weedy species may increase. Where conditions have become droughty, certain native upland species can also replace riparian species.
- 4) Vegetation removal and consequent decrease in vegetation density: In order for the vehicles to travel up the canyon, people will need to remove vegetation (trees and shrubs) that are in the way. This will remove the layers of vegetation from the ground up to the height of the vehicle.
- 5) Disturbance of the substrate and vegetation: As the vehicles pass up the canyon, the substrates with existing plant life will be churned up and displaced. When people move rocks and boulders out of the vehicle pathway, soils and plants will also be disturbed. Such disturbance will prevent the establishment of vegetation, resulting in areas void of riparian vegetation.
- 6) Introduction of weed species: Vehicles tend to introduce and spread weed seeds. Weeds such as tamarisk (*Tamarix ramosissima*), white sweetclover (*Melilotus alba*), bermuda grass (*Cynodon dactylon*), horehound (*Marrubium vulgare*), pampus grass (*Cortaderia selloana*), water speedwell (*Veronica anagallis-aquatica*), and English ivy (*Hedera helix*) pose a threat to the health of the plant communities in Surprise and Water canyons. Exotic plants have altered the riparian plant assemblage in Surprise Canyon. Exotic plants thrive on disturbance, both natural and anthropogenic. Invasion of exotic plant species is promoted by the disturbance created by vehicles. The disturbed route of travel forms a corridor along which these invasive exotics move farther into the landscape.

7) Decrease of certain populations of special status plant species: Certain populations of special status species could be harmed by vehicle traffic. Table 1 shows the special status plant species occurring or potentially occurring in the Surprise Canyon study area, while Table 2 shows only the special status species that would be likely to suffer negative impacts from vehicle traffic.

**Table 1**

**Special Status Plant Species that are Susceptible to Negative Impacts from OHV Traffic in Surprise Canyon**

Species	Status <sup>1</sup>	Habitat	Occurrence Probability <sup>2</sup>
<b>Inyo Onion</b> <i>Allium atrorubens</i> Wats. var. <i>crisatum</i> (Wats.) D. McNeal	CNPS 4, 1-1-2 NPS Sensitive	Joshua tree "woodland", pinyon and juniper woodland / sandy or rocky; elevation 1200- 2440 m.	High - Found in other locations in the park
<b>Geyer's Milk-vetch</b> <i>Astragalus geyeri</i> Gray var. <i>geyeri</i>	CNPS 2, 3-2-1 NPS Sensitive	Chenopod scrub, Great Basin scrub / sandy; elevation 1160-1550 m.	High
<b>Gilman's Milk-vetch</b> <i>Astragalus gilmanii</i> Tides.	CNPS 1B, 2-2- 2 NPS Sensitive	Great Basin scrub, pinyon and juniper woodland / gravelly or rocky; elevation 2000- 3050 m.	Occurs in Sourdough Canyon, adjacent to the road.
<b>Egg Milk-vetch</b> <i>Astragalus oophorus</i> Wats. var. <i>oophorus</i>	CNPS 4, 1-1-1 NPS Sensitive	Great Basin scrub, pinyon and juniper woodland, subalpine coniferous forest / gravelly or sandy; elevation 1500-3170 m.	High
<b>Panamint Mariposa Lily</b> <i>Calochortus</i> <i>panamintensis</i> Ownbey (Rev.)	CNPS 4, 1-2-3 NPS Sensitive	Pinyon and juniper woodland ; elevation 2500-3200 m.	Occurs south of Panamint City near the WY Mine on an old road.
<b>Hairy Evening-primrose</b> <i>Camissonia boothii</i> (Dougl.) Raven ssp. <i>intermedia</i> (Munz) Raven	CNPS 2, 2-1-1 NPS Sensitive	Great Basin scrub (sandy), pinyon and juniper woodland / sandy; elevation 1500- 2150 m.	High-possibly occurs near Panamint City
<b>Desert Bird's-beak</b> <i>Cordylanthus eremicus</i> (Cov. & Mort.) Munz ssp. <i>eremicus</i>	CNPS 4, 1-1-3 NPS Sensitive	Joshua tree "woodland", Mojavean desert scrub, pinyon and juniper woodland / sandy and decomposed granite; elevation 1000-2800 m.	Occurs throughout Panamint City

<b>Panamint Dudleya</b> <i>Dudleya saxosa</i> (Jones) Britt. & Rose ssp. <i>saxosa</i>	CNPS 1B, 2-1-3 NPS Sensitive BLM Special Status	Mojavean desert scrub, pinyon and juniper woodland / granitic or carbonate, rocky; elevation 1100-2200 m.	Occurs -Chris Wicht to Panamint City. Potential to repopulate the Narrows.
<b>Panamint Daisy</b> <i>Enceliopsis covillei</i> (Nels.) Blake	CNPS 1B, 3-2-3 NPS Sensitive BLM Special Status	Mojavean desert scrub (subalkaline); elevation 400-1830 m.	Occurs only in Inyo Co.
<b>Hoffmann's Buckwheat</b> <i>Eriogonum hoffmannii</i> S. Stokes var. <i>hoffmannii</i>	CNPS 1B, 2-1-3 NPS Sensitive BLM Special Status	Mojavean desert scrub, pinyon and juniper woodland / rocky; elevation 1000-1700 m.	Occurs along road below Chris Wicht
<b>Panamint Mountains Bedstraw</b> <i>Galium hilendiae</i> Dempster & Ehrend ssp. <i>carneum</i> (Hilend. & Howell) Dempster & Ehrend.	CNPS 1B, 2-1-3 NPS Sensitive	Mojavean desert scrub, pinyon and juniper woodland / sandy, gravelly or rocky; elevation 1650-3400 m.	High – found in Water Canyon at 2440 m
<b>Panamint Mountains Lupine</b> <i>Lupinus magnificus</i> Jones var. <i>magnificus</i>	CNPS 1B, 3-1-3 NPS Sensitive	Great Basin scrub, Mojavean desert scrub, upper montane coniferous forest; elevation 1000- 2285 m.	Occurs – small populations, Panamint City and above. Recolonizing disturbed habitat.
<b>Death Valley Beardtongue</b> <i>Penstemon fruticiformis</i> Cov. var. <i>amargosae</i> (Keck) N. Holmgren	CNPS 1B, 3-1-2 NPS Sensitive	Mojavean desert scrub / gravelly or rocky; elevation 850-1400 m.	High – Found in other locations in the park
<b>Death Valley Round- leaved Phacelia</b> <i>Phacelia mustelina</i> Cov.	CNPS 1B, 2-1-2 NPS Sensitive	Mojavean desert scrub, pinyon and juniper woodland / carbonate or volcanic, gravelly or rocky; elevation 730- 2620 m.	High - Found in other locations in the park
<b>Mojave Fish-hook Cactus</b> <i>Sclerocactus</i> <i>polyancistrus</i> (Engelm. & Bigel.) Britt. & Rose	CNPS 4, 1-2-2 NPS Sensitive	Great Basin scrub, Joshua tree “woodland”, Mojavean desert scrub / gravelly or rocky; usually carbonate; elevation 640- 2320 m.	High - Found in other locations in the park
<b>Rusby's Desert-mallow</b> <i>Sphaeralcea rusbyi</i> Gray var. <i>eremicola</i> (Jeps.) Kearn.	CNPS 1B, 3-2- 3 NPS Sensitive	Joshua tree “woodland”, Mojavean desert scrub / gravelly slopes; elevation 975-1500 m.	High

<sup>1</sup>STATUS DEFINITIONS

BLM designations:

(BLM Manual §6840)

Special Status Species – plants whose population viability is of concern due to 1) their limited distribution, 2) low number of individuals and/or populations, and 3) population threats to habitat

National Park Service (NPS) designations:  
Sensitive – any species or infraspecies not otherwise designated whose population characteristics warrant special management or more intensive monitoring (NPS 1991).

California Native Plant Society (CNPS) designations:

List 1A – Plants presumed extinct in California.

List 1B - Plants rare and endangered in California and throughout their range.

List 2 - Plants rare, threatened or endangered in California but more common elsewhere.

List 3 - Plants for which more information is needed.

List 4 - Plants of limited distribution; a "watch list."

<sup>2</sup> OCCURRENCE PROBABILITY DEFINITIONS

*Occurs* - Observed on the site by qualified botanists,

*High* - Observed in similar habitat in region by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.

CNPS R-E-D Code:

Rarity

1 - Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.

2 - Occurrence confined to several populations or one extended population.

3 - Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

Endangerment

1 - Not endangered.

2 - Endangered in a portion of its range.

3 - Endangered throughout its range.

Distribution

1 - More or less widespread outside California.

2 - Rare outside California.

3 - Endemic to California (i.e., does not occur outside CA).

**Gilman's milk-vetch (*Astragalus gilmanii*)**

Approximately 10 plants were discovered on 11 June 2003 during the surveys. These plants were in Sourdough Canyon, just below the springs and adjacent to the unmaintained road. The plants were in flower and fruit. Due to time constraints, a complete census away from the road was not completed, so it is possible that the population is larger. Any vehicle activity on the Sourdough Canyon road while the plants are present will negatively impact this population. This would be considered a significant impact because of the rarity of Gilman's milk-vetch. Activity during the dormant season would not likely affect this population. It is possible that Gilman's milk-vetch would reestablish populations on a permanently closed road.

**Desert Bird's-beak (*Cordylanthus eremicus* ssp. *eremicus*)**



Desert bird's-beak plants not yet in bloom were observed throughout the Panamint City area (Figure 3). In years with adequate precipitation, populations with thousands of plants are not unusual. It prefers well drained soils, such as those derived from decomposed granite. Vehicle activities when the flowers are present would negatively impact populations.

**Panamint dudleya (*Dudleya saxosa* ssp. *saxosa*)**

Vehicle activity will not directly impact Panamint dudleya plants, but constant disturbance in the narrow portions of the lower canyon are probably keeping dudleya plants from establishing on the lower portions.

**Panamint daisy (*Enceliopsis covillei*)**

Because of its rarity, any impact to the Panamint daisy would be considered significant. Vehicle traffic and roadwork in the canyon below the plants could adversely affect them.

**Hoffmann's Buckwheat (*Eriogonum hoffmannii* var. *hoffmannii*)**

Hoffmann's buckwheat is extremely rare, and before the 2003 botanical surveys it was believed to be a Death Valley National Park endemic. Several plants were found in the former jeep trail in Surprise Canyon on September 2003. Any vehicle travel up the former jeep trail could cause a significant adverse impact. Hoffmann's buckwheat is less likely to be affected by human activities during the late winter and early spring when it is in seed.

**Panamint Mountains Lupine (*Lupinus magnificus* var. *magnificus*)**

Many Panamint Mountains lupine populations were found during the 2003 botanical surveys in Surprise Canyon. A population was found in Surprise Canyon west of Sourdough Canyon. Although all the roads in the vicinity of Panamint City and above have populations of Panamint Mountains lupine, none of the populations are very large. They are re-colonizing historic habitat that has been disturbed for over 100 hundred years. Vehicles traveling up Surprise Canyon to Sourdough Canyon would have negative impacts on Panamint Mountains lupine and its habitat.

**Special Status Plants Unlikely to be affected by OHV Traffic:**

Because the following special status species occur on rocky slopes, there is a only a slight chance that OHV activity in Surprise Canyon could impact the plants or whole populations of each species:

Pinyon Rock Cress (*Arabis dispar*)

White Bear Poppy (*Arctomecon merriamii*)

Curved-pod Milk-vetch (*Astragalus mohavensis* var. *hemigyus*)

King's Eyelash Grass (*Blepharidachne kingii*)

Panamint Rock-goldenrod (*Chrysothamnus gramineus*)

Greene's Rabbitbrush (*Chrysothamnus greenet*)

Gilman's Cymopterus (*Cymopterus gilmanii*)

Naked-stemmed Daisy (*Enceliopsis nudicaulis* var. *nudicaulis*)

Jointed Buckwheat (*Eriogonum intrafractum*)

Ripley's Gilia (*Gilia ripleyi*)

California mock-pennyroyal (*Hedeoma nanum* var. *californicum*) Death Valley Monkeyflower (*Mimulus rupicola*)

- Limestone Beardtongue (*Penstemon calcareus*)
- Hanaupah Rock Daisy (*Perityle villosa*)
- Holly-leaved Tetracoccus (*Tetracoccus ilicifolius*)

The following special status plants would also probably not be impacted by OHV's:

- Wooton's Lace Fern (*Cheilanthes wootonii*) - the appropriate habitat is present, but it has never been substantiated from the Panamint Mountains.
- Mojave Spike-moss (*Selaginella leucobryoides*) - found in crevices on rock walls

The impact on the calicyphyte plant assemblage would probably be small because, in general, it does not occur along the old jeep trail. It occurs higher on the slope.

**Animal Species**

**Invertebrates**

The magnitude of the potential impacts on aquatic invertebrates of allowing vehicle traffic directly in the stream is unknown at this time. A study of the benthic macroinvertebrates in Surprise Canyon stream is scheduled for September and October 2003 (General Services Administration 2003). The purpose of this study is to facilitate the protection of water quality by establishing baseline conditions and determining the threshold of use that would allow for the persistence of invertebrate species assemblages. The contractor will also assess the vulnerability of the aquatic community to vehicle and pedestrian use, and accidental discharge of fluids used by motorized vehicles. Allowing vehicle traffic in the stream before this study is completed will jeopardize accomplishing these objectives.

The Panamint spring snail, a subspecies of *Pyrgulopsis micrococcus*, occurs only in the Panamint and Argus Ranges and in the Saline Valley (Hershler 2003) and is rated as extremely endangered by the California Natural Diversity Database (California Department of Fish and Game 2003). This snail occurs in Surprise Canyon in and near springs. Vehicle traffic could cause direct mortality of these organisms by crushing them and disturbing their habitat. If any vehicles leaked gasoline, oil, or other chemicals into the water, the resulting pollution could cause mortality.

**Reptiles and Amphibians**

The Panamint alligator lizard, *Elgaria panamintina*, is a California BLM sensitive species and a California Department of Fish and Game species of special concern. The Panamint alligator lizard may be affected by the proposed action in areas where dense riparian vegetation and water are adjacent to the route of travel (Mahrtdt & Beaman 2001). This lizard occurs in rocky portions of the canyon adjacent to permanent water and riparian vegetation, especially wild grape, and is somewhat arboreal, climbing on branches, stalks and vines (Cunningham & Emmerich 2001). Because this lizard is closely restricted to the vicinity of water (Stebbins 1958), it is likely to be adversely affected by vehicles driving in the riparian area. Hibernation sites for *E. panamintina* are not known, but one example of a possible disturbance could be that juveniles hibernating under talus in the vehicle path could die from the impact of the vehicle. This could also apply to

possible aestivation and secretive behavior during the summer, as well as to nesting (nest sites are as yet unknown for this species). Vegetation removal required for the passage of 4x4 vehicles in the area between the waterfalls and Brewery Spring may impact this species, although the magnitude of the potential effect is not known at this time. However, in general, amphibian and reptile abundance increases in streamside zones associated with a closed canopy and leaf litter (Dickson 1989; Rudolph and Dickson 1990). Horizontal and vertical habitat availability is the most important factor affecting amphibian and reptile distribution (Dickerson 2001). The removal of vegetation to allow vehicles to travel up the stream corridor will reduce the amount of shade and consequently increase the temperature of the immediate area. This may, in turn, negatively affect the Panamint alligator lizard since the reduction of microhabitats necessary for thermoregulation can detrimentally affect herpetofauna because internal temperature regulation determines the intensity of activity (Dickerson 2001).

In California, riparian ecosystems provide habitat for 83 percent of the amphibians and 40 percent of the reptiles known from that state (Brode & Bury 1984). Other herpetofauna present in Surprise Canyon that may be affected by vegetation removal or changes in temperature and water quality include the western red-tailed skink (*Eumeces gilberti rubricaudatus*), Pacific treefrog (*Hyla regilla*), and the red-spotted toad (*Bufo punctatus*). The magnitude of the potential effects on these species is not known at this time. However, since the Pacific treefrog and the red-spotted toad are isolated in Surprise Canyon by xeric conditions, degradation of habitat may adversely impact these localized amphibian populations (Mayhew 1995, Warburton & Fisher 2001). Since riparian vegetation is essential to the ecology of the Pacific treefrog (*Hyla regilla*), destruction of riparian habitat would have a negative impact on this frog. *Hyla regilla* will crawl up bushes or sticks at the water's edge and eat insects, and it will also sit in watercress and come out to feed on insects that land on the leaves. *Hyla regilla* larvae eat green algae in the stream (Brattstrom et al. 1955). The red-spotted toad (*B. punctatus*) prefers rocky terrain and would be less affected by removal of vegetation. This species benefits from periodic scouring by high water flows, and its presence increases with increases in bedrock substrate. Periodic scouring removes vegetation within the stream channel, providing an open surface for toad movements on land and open water for tadpoles. Rocky habitat often traps water for breeding and provides crevices for sheltering adults (Bradford et al. 2003). Although *B. punctatus* may be less affected than *Hyla regilla* by vegetation removal, it may be more affected by vehicles driving through the stream. In an amphibian survey in Anza-Borrego Desert State Park, treefrog tadpoles were observed in abundance and apparently had no problems persisting in the face of disturbance by cars, (only one mortality was observed during ~20 road crossings). However, *B. punctatus* tadpoles were not observed in the road crossings, even though adults and eggs were there. Warburton and Fisher speculated that absence of toad tadpoles might be due to the difference in morphology between toad and treefrog tadpoles: "The treefrog tadpoles are very large and have well developed tails, enabling them to swim rapidly, while toad tadpoles possess rather small tails and do not attain as great a size, and hence do not swim as vigorously (pers. observation). This difference may allow treefrog tadpoles to simply swim out of the way when cars pass through the pool. If indeed toad tadpoles are unable to persist in these pools due to disturbance by cars, then the pools are creating an attractive nuisance, because the adults seemed drawn to these areas and reproductive efforts by both species were observed" (Warburton & Fisher 2001). The presence of amphibians is a bio-indicator of environmental health because of their unprotected, permeable skin and a lack of long-range dispersal capability. They are

particularly sensitive because of their highly permeable skin that rapidly absorbs toxic substances. The egg stage is extremely susceptible to chemical pollutants, and exposure to high concentrations can result in developmental abnormalities (Dickerson 2001). Hence, these species may be adversely affected by spills from motorized vehicles in the creek. The Pacific treefrog breeds from November through July (Stebbins 2003). Therefore, eggs could be negatively impacted by vehicle pollution during most of the year.

Other reptile species present in Surprise Canyon are *Sauromalus obesus*, the chuckwalla, a Bureau sensitive species, and *Crotalis mitchllii stephensi*, the speckled rattlesnake (Stebbins 1995). These species are less likely to be affected since they are not tied to riparian areas.

**Bats**

Townsend's big-eared bat, *Conrynorhinus townsendii*, and the pallid bat, *Antrozous pallidus*, both Bureau sensitive species, are known to occur in Surprise Canyon. There is also a high probability that several other BLM sensitive bat species occur, based on the habitat preference of these species and their known ranges (See Attachment B). These bats forage in riparian areas where insect life is abundant. Many insects that bats prey on have aquatic egg or larval stages or are dependent on riparian vegetation. Different species of bats forage on insects at different levels in the vegetation (Bell 1980). Therefore, pruning of vegetation, reduction of riparian habitat, and degradation of water quality caused by vehicles traveling through riparian vegetation or in the stream would adversely affect bats since foraging habitat and prey items would be reduced.

The disturbance of Townsend's big-eared bat hibernation colonies is also a potential threat to this declining species. At this time, the locations of such sites in Surprise Canyon are not confirmed.

**Birds**

Removing vegetation and driving vehicles in the stream and adjacent riparian habitat may negatively affect numerous bird species. As with bat populations, bird abundance has been linked to insect abundance, which has been linked with hydrologic condition and riparian vegetation changes (Green et al. 2003). Vegetation volume has been closely correlated with breeding bird densities in a variety of southwestern habitats, including cottonwood riparian habitats, which had the highest bird densities (Mills et al. 1991). Cottonwood/willow habitats support two to five times more breeding bird species than other desert riparian systems. Riparian habitats with the greatest over-story vegetation and shrub canopy have a greater availability of perches, nest sites, and foraging substrates. Higher densities and diversity of breeding species occur in these habitats than in ones with less over-story. Even relatively small sites with over-story cover are important (England et al. 1981; Anderson & Ohmart 1977) Alteration of the vegetation vertical and horizontal structure of the vegetation would reduce habitat for riparian birds that are restricted to certain levels in the riparian habitat.

Vehicle travel in the canyon is a threat to re-colonization of Surprise Canyon by the least Bell's vireo. Cutting branches, clearing vegetation in the vehicles' path, and crushing plants under tires

directly alter the complex structure and layering of the riparian habitat. Riparian habitat is also adversely affected by the hydrologic changes caused by vehicles traveling in streambeds.

Birds tend to avoid areas of high off-road vehicle use by moving as far away from the disturbance as the suitable habitat allows (Weinstein 1978). This behavior was documented in Afton Canyon, another riparian habitat in the northeastern Mojave Desert. In Surprise Canyon the suitable habitat (riparian vegetation) occurs in narrow stretches along the canyon bottom. In this situation, vehicles are likely to disturb birds because of the large amount of edge effect (i.e., large amount of exposure to an external influence in relationship to the area of the entire habitat). Vehicle disturbance includes possible disruption of breeding patterns, decreased clutch size, decreased fertility, decreased ability to feed young, and increased mortality (Weinstein 1978). Bird vocalizations are used to establish territories, attract mates, give warnings, keep flocks together, etc. High noise levels in heavily used areas can interfere with communications between birds. Prairie falcon nesting sites have been observed within 0.5 mile of the bottom of Surprise Canyon (USDI, Bureau of Land Management 1982). The nesting period for prairie falcons in the Mojave Desert is between late February (or early March) and the first or third week of June. Nest failure can result from human disturbance. Productivity decreases with the number of roads near the nest, the climbable nature of the cliff by humans, and shooting. In one study of prairie falcon response to human disturbance, most of the nests failed that were within a 12 minute walk of a road (Boyce 1982).

### **Bighorn Sheep**

Bighorn sheep in Surprise Canyon frequent the bottom of the canyon to forage on succulent riparian plants and drink water from the flowing stream. Their occurrence in the canyon bottom following the interim closure (2001 to 2003) appears to have increased, based on the abundance of fecal pellet groups observed or counted by Bureau and other agency biologists. The most frequented portion of the canyon is from the top of the upper waterfall to the bottom of the lower waterfall, with the greatest concentration of use occurring in a relatively level portion of the canyon between the two waterfall segments. This finding is consistent with the telemetry study data, which showed that bighorn increasingly occupied habitat in the vicinity of surface water during the summer and fall seasons. In July 2001, five bighorn sheep (one ram, two ewes and two lambs) were observed feeding in the riparian zone  $\frac{1}{4}$  to  $\frac{1}{2}$  mile above Chris Wicht camp (Cunningham 2001). On September 13, 2003, five bighorns (one ram, four ewes) were seen on the rocky slope of the south side of the canyon at the top of the waterfall (McEwan 2003).

The proposed action would allow motorized vehicles in areas of the canyon where bighorn sheep seek water and succulent riparian plant species. Destruction of vegetation by vehicles would be detrimental to the bighorns. The amount and type of vegetation found near or at a water supply can be the determining factor in the survival of many animals every year (Welles & Welles 1961). Female sheep have higher water and succulent forage needs during lambing and lactation in late winter and spring, and also during the summer and fall seasons when environmental stress is high due to high temperatures and dry forage conditions (U.S. Fish and Wildlife Service 2000; Monson et al. 1980; Welles & Welles 1961). The lambing season is approximately February through April (U.S. Fish and Wildlife Service 2000; Wehausen 2001). During this time, the females have a greater dependency on water if they have given birth and are nursing young

(Monson et al. 1980). Lambs will drink water at 2 or 3 days of age (Monson et al. 1980). Hence travel corridors between watering areas and lambing areas are important (Ough et al. 1984). During August and September, males have greater water needs due to increased physical activity associated with the annual rut (Welles & Welles 1961). This is when males seek groups of females for breeding. Vehicle use and human activity in the canyon during these periods of time will increase stress on bighorn as they typically react to such activities by alarm and avoidance behavior (Papouchis et al. 2001). Moreover, bighorn will seldom lamb in an area disturbed by people (Welles & Welles. 1961). Studies have also shown that bighorn tend to avoid areas where human activity occurs on a repeated basis (U.S.D.I. Bureau of Land Management 2001; USDI, Bureau of Land Management 2001; Leslie & Douglas 1980). Loose dogs accompanying people are particularly disturbing (Goodson 1999). Ewes with young lambs respond by fleeing. In harassment trials, where bighorn were approached on foot or by vehicles until they became aware of the researcher, ewes with one-to two-week-old lambs fled several miles (King et al. 1986). After noticing her, the five bighorns that Cunningham observed in 2001 ran up slope and out of the canyon (Cunningham 2001). In a study in Anza Borrego Desert State Park, bighorn activity decreased approximately 50% on days when vehicles crossed a creek utilized by bighorn as a water source. In that study, visitors merely spent an average of 23 minutes at the creek, but bighorn watering activity was still affected (Jorgensen 1974). In another study of bighorn reactions, 86% of bighorns had slight to strong reactions to disturbances by one person; 97% had slight to strong reactions to disturbances by two people; and 81% of bighorn had slight to strong reactions to parked jeeps or trucks, whereas only 29% of bighorn had slight to strong reactions to airplanes (Miller et al. 1985). These alarm and avoidance behaviors result in additional stress and increase the chances for mortality and abandonment of essential habitat (Campbell et al. 1981; Macarthur et al. 1982; Monson et al. 1980; U.S.D.I. Bureau of Land Management 1995). The radiotelemetry data collected by Oehler et al. show bighorns crossing Surprise Canyon frequently, traveling between ridges and canyons to the north and south. Vehicle activity in the canyon could fragment the habitat. Fragmentation of habitat has been suggested as a critical factor in the demise of small populations of bighorn sheep (Bleich et al. 1990). The sheep would probably not abandon the canyon, but vehicle travel could result in periodic stress.

### **No Action**

The no action alternative would allow landowners to access Surprise Canyon and their property in the Panamint City area by hiking, through the use of pack animals, or by helicopter.

Potential impacts to vegetation that are caused by hiking or packing up Surprise Canyon would be:

- 1) Some direct mortality of seedlings and smaller plants could occur when plants are trampled under the feet of humans and pack animals, but the consequent decrease in the area of riparian vegetation would be very small.
- 2) Foot and pack animal traffic would create a path, compacting the soil along a narrow trail. Disturbance of both the substrate and the plant life by a pack trail would be confined to a width of about two or three feet.
- 3) Damage or cutting of vegetation might occur on a small scale (possibly two or three feet wide in places) to allow the passage of pack animals through dense vegetation. The decrease in the density of riparian vegetation would be a small percent of the total.

- 4) Hikers and pack animals could introduce and spread weed species. This is not expected to be a problem since weed-free hay is required when packing into BLM lands.
- 5) People and pack animals could potentially affect special status plants by trampling on them. This decrease is expected to be small if people and animals stay on the main trail.

Potential impacts of foot and pack animal traffic on wildlife and their habitats include:

- 1) As hikers or animals walk through the stream, the turbidity could increase for a very short period of time.
- 2) Hikers or packers could pollute the stream with human or animal wastes. This type of pollution breaks down and dissipates relatively quickly and does not have a long-term effect the environment.
- 3) Hikers could potentially disturb hibernating or roosting bats in old mines if they intentionally go into the mines.
- 4) Human activity in the canyon could disturb bighorn sheep, causing them to temporarily avoid a localized area when people are present.
- 5) A small number of aquatic invertebrates and spring snails could be crushed under the feet of hikers or pack animals as they walk through the creek.

**Summary**

In summary, the perennial stream, riparian habitat and the biodiversity in Surprise Canyon are among the outstandingly remarkable values under the provisions of the Wild and Scenic Rivers Act. Within the Mojave Desert, the presence of a perennial stream in itself is remarkable. The water it provides supports riparian vegetation, an Unusual Plant Assemblage, and numerous special status species of plants and animals. The proposed action would adversely affect these special status species to varying degrees, but the effects would all be considerably adverse. Allowing motorized vehicle access by the private landowners at this time would essentially have the same impacts as lifting the interim closure to the public, which would result in the same impacts that were occurring in the canyon prior to the interim closure which took effect on May 29, 2003.

This analysis does not include an assessment of the effects of the proposed action and alternatives on cultural resources of the canyon. Such an assessment is currently underway through the preparation of an environmental impact statement covering both public and Death Valley National Park lands.

The no action alternative would not change the effects of public access in Surprise Canyon. The effects of hiking access would be minimal because the canyon is currently open to pedestrian travel. The helicopter access component of the no action alternative would not impact Surprise Canyon.

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Supplement to Chapter 6

Mitigation Measures and Residual Impacts

We were not able to identify effective mitigation measures that would appreciably reduce adverse impacts of the proposed action on the Outstandingly Remarkable Values of Surprise Canyon, as well as impacts to the natural resources of the canyon within Death Valley National Park . The only effective means of mitigating or eliminating the effects of motorized vehicle access on the Outstandingly Remarkable Values of Surprise Canyon, and the Area of Critical Environmental Concern is the no action alternative.

Supplement to Chapter 7

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**Attachment A**  
**Special Status Plant Species Occurring or Potentially Occurring in the Surprise Canyon**

Species	Status <sup>1</sup>	Habitat	Occurrence Probability <sup>2</sup>
<b>Inyo Onion</b> <i>Allium atrorubens</i> Wats. var. <i>crisatum</i> (Wats.) D. McNeal	CNPS 4, 1-1-2 NPS Sensitive	Joshua tree "woodland", pinyon and juniper woodland / sandy or rocky; elevation 1200-2440 m.	High
<b>Pinyon Rock Cress</b> <i>Arabis dispar</i> Jones	CNPS 2, 2-1-1 NPS Sensitive	Joshua tree "woodland", Mojavean desert scrub, pinyon and juniper woodland / granitic, gravelly; elevation 1200-2400 m.	High
<b>White Bear Poppy</b> <i>Arctomecon merriamii</i> Cov.	CNPS 2, 2-2-1 NPS Sensitive	Chenopod scrub, Mojavean desert scrub / rocky; elevation 490-1585 m.	High
<b>Geyer's Milk-vetch</b> <i>Astragalus geyeri</i> Gray var. <i>geyeri</i>	CNPS 2, 3-2-1 NPS Sensitive	Chenopod scrub, Great Basin scrub / sandy; elevation 1160-1550 m.	High
<b>Gilman's Milk-vetch</b> <i>Astragalus gilmanii</i> Tides.	CNPS 1B, 2-2-2 NPS Sensitive	Great Basin scrub, pinyon and juniper woodland / gravelly or rocky; elevation 2000-3050 m.	Occurs
<b>Curved-pod Milk-vetch</b> <i>Astragalus mohavensis</i> Wats. var. <i>hemigyus</i> (Clokey) Barneby	CNPS 1A, NPS Sensitive	Joshua tree "woodland", Mojavean desert scrub / carbonate; elevation 1250-1600 m.	Moderate
<b>Egg Milk-vetch</b> <i>Astragalus oophorus</i> Wats. var. <i>oophorus</i>	CNPS 4, 1-1-1 NPS Sensitive	Great Basin scrub, pinyon and juniper woodland, subalpine coniferous forest / gravelly or sandy; elevation 1500-3170 m.	High
<b>King's Eyelash Grass</b> <i>Blepharidachne kingii</i> (Wats.) Hack.	CNPS 2, 2-1-1 NPS Sensitive	Great Basin scrub (usually carbonate); elevation 1065-2135 m.	High
<b>Panamint Mariposa Lily</b> <i>Calochortus panamintensis</i> Ownbey (Rev.)	CNPS 4, 1-2-3 NPS Sensitive	Pinyon and juniper woodland; elevation 2500-3200 m.	Occurs
<b>Hairy Evening-primrose</b> <i>Camissonia boothii</i> (Dougl.) Raven ssp. <i>intermedia</i> (Munz) Raven	CNPS 2, 2-1-1 NPS Sensitive	Great Basin scrub (sandy), pinyon and juniper woodland; elevation 1500-2150 m.	High
<b>Wooton's Lace Fern</b> <i>Cheilanthes wootonii</i> Maxon	CNPS 2, 2-1-1 NPS Sensitive	Joshua tree "woodland", pinyon and juniper woodland / rocky; elevation 1600-1900 m.	Moderate
<b>Panamint Rock-goldenrod</b> <i>Chrysothamnus gramineus</i> Hall	CNPS 2, 2-1-1 NPS Sensitive	Pinyon and juniper woodland, subalpine coniferous forest / carbonate, rocky; elevation 2200-2900 m.	High
<b>Greene's Rabbitbrush</b> <i>Chrysothamnus greenii</i> (Gray) Greene	CNPS 2, 2-1-1 NPS Sensitive	Chenopod scrub (sandy or rocky); elevation 1340-1830 m.	High
<b>Desert Bird's-beak</b> <i>Cordylanthus eremicus</i> (Cov. & Mort.) Munz ssp. <i>eremicus</i>	CNPS 4, 1-1-3 NPS Sensitive	Joshua tree "woodland", Mojavean desert scrub, pinyon and juniper woodland; elevation 1000-2800 m.	Occurs

<b>Winged Cryptantha</b> <i>Cryptantha holoptera</i> (Gray) Macbr.	CNPS 4, 1-1-2 NPS Sensitive	Mojavean desert scrub, Sonoran desert scrub; elevation 100-1200 m.	Occurs
<b>Gilman's Cymopterus</b> <i>Cymopterus gilmanii</i> Mort.	CNPS 2, 2-1-1 NPS Sensitive	Mojavean desert scrub (often carbonate); elevation 1000-2000 m.	High
<b>Panamint Dudleya</b> <i>Dudleya saxosa</i> (Jones) Britt. & Rose ssp. <i>saxosa</i>	CNPS 1B, 2-1-3 NPS Sensitive BLM Special Status	Mojavean desert scrub, pinyon and juniper woodland / granitic or carbonate, rocky; elevation 1100- 2200 m.	Occurs
<b>Panamint Daisy</b> <i>Enceliopsis covillei</i> (Nels.) Blake	CNPS 1B, 3-2-3 NPS Sensitive BLM Special Status	Mojavean desert scrub (subalkaline); elevation 400-1830 m.	Occurs
<b>Naked-stemmed Daisy</b> <i>Enceliopsis nudicaulis</i> (Gray) A. Nels. var. <i>nudicaulis</i>	CNPS 4, 1-1-1 NPS Sensitive	Great Basin scrub, Mojavean desert scrub / rocky slopes / volcanic or carbonate; elevation 950 – 2000 m.	High
<b>Hoffmann's Buckwheat</b> <i>Eriogonum hoffmannii</i> S. Stokes var. <i>hoffmannii</i>	CNPS 1B, 2-1-3 NPS Sensitive BLM Special Status	Mojavean desert scrub, pinyon and juniper woodland / rocky; elevation 1000-1700 m.	Occurs
<b>Jointed Buckwheat</b> <i>Eriogonum intrafractum</i> Cov. & Mort.	CNPS 1B, 3-1-3 NPS Sensitive	Mojavean desert scrub (carbonate)/ rocky slopes; elevation 610-1830 m.	High
<b>Panamint Mountains Bedstraw</b> <i>Galium hilendiae</i> Dempster & Ehrend ssp. <i>carneum</i> (Hilend. & Howell) Dempster & Ehrend.	CNPS 1B, 2-1-3 NPS Sensitive	Mojavean desert scrub, pinyon and juniper woodland / sandy, gravelly or rocky; elevation 1650-3400 m.	High
<b>Ripley's Gilia</b> <i>Gilia ripleyi</i> Barneby	CNPS 2, 3-1-1 NPS Sensitive	Mojavean desert scrub (carbonate)/ rocky slopes; elevation 305-1770 m.	High
<b>California mock-pennyroyal</b> <i>Hedeoma nanum</i> (Torr.) Briq var. <i>californicum</i> W.S. Stewart	CNPS 4, 1-1-1 NPS Sensitive	Joshua tree "woodland", pinyon and juniper woodland / rocky, often carbonate; elevation 855-2100 m.	High
<b>Panamint Mountains Lupine</b> <i>Lupinus magnificus</i> Jones var. <i>magnificus</i>	CNPS 1B, 3-1-3 NPS Sensitive	Great Basin scrub, Mojavean desert scrub, upper montane coniferous forest; elevation 1000-2285 m.	Occurs
<b>Death Valley Monkeyflower</b> <i>Mimulus rupicola</i> Cov. & Grant	CNPS 4, 1-1-3 NPS Sensitive	Mojavean desert scrub (carbonate, rocky); elevation 300-1800 m.	High
<b>Limestone Beardtongue</b> <i>Penstemon calcareus</i> Bdg.	CNPS 2, 2-1-1 NPS Sensitive	Joshua tree "woodland", Mojavean desert scrub, pinyon and juniper woodland / carbonate, rocky; elevation 1065-2040 m.	High
<b>Death Valley Beardtongue</b> <i>Penstemon fruticiformis</i> Cov. var. <i>amargosae</i> (Keck) N. Holmgren	CNPS 1B, 3-1-2 NPS Sensitive	Mojavean desert scrub / gravelly or rocky slopes ; elevation 850-1400 m.	High
<b>Hanaupah Rock Daisy</b> <i>Perityle villosa</i> (Blake) Shinnars	CNPS 1B, 3-1-3 NPS Sensitive	Pinyon and juniper woodland (rocky); elevation 1700-2600 m.	High
<b>Death Valley Sandpaper-plant</b> <i>Petalonyx thurberi</i> Gray ssp. <i>gilmanii</i> (Munz)-Davis & Thompson	CNPS 1B, 2-1-3 NPS Sensitive	Desert dunes, Mojavean desert scrub; elevation 260-1445 m.	Moderate
<b>Death Valley Round-leaved Phacelia</b> <i>Phacelia mustelina</i> Cov.	CNPS 1B, 2-1-2 NPS Sensitive	Mojavean desert scrub, pinyon and juniper woodland / carbonate or volcanic, gravelly or rocky; elevation 730-2620 m.	High



<b>Mojave Fish-hook Cactus</b> <i>Sclerocactus polyancistrus</i> (Engelm. & Bigel.) Britt. & Rose	CNPS 4, 1-2-2 NPS Sensitive	Great Basin scrub, Joshua tree "woodland", Mojavean desert scrub / gravelly or rocky, usually carbonate; elevation 640-2320 m.	High
<b>Mojave Spike-moss</b> <i>Selaginella leucobryoides</i> Maxon	CNPS 4, 1-1-3 NPS Sensitive	Great Basin scrub, lower montane coniferous forest, Mojavean desert scrub, pinyon and juniper woodland / rocky, usually carbonate; elevation 600-3150 m.	Occurs
<b>Desert Winged Rock-cress</b> <i>Sibara deserti</i> (Jones) Roll.	CNPS 4, 1-1-2 NPS Sensitive	Mojavean desert scrub; elevation 345-1300 m.	Moderate
<b>Rusby's Desert-mallow</b> <i>Sphaeralcea rusbyi</i> Gray var. <i>eremicola</i> (Jeps.) Kearn.	CNPS 1B, 3-2-3 NPS Sensitive	Joshua tree "woodland", Mojavean desert scrub / gravelly slopes; elevation 975-1500 m.	High
<b>Holly-leaved Tetracoccus</b> <i>Tetracoccus ilicifolius</i> Cov. & Gilman	CNPS 1B, 3-1-3 NPS Sensitive	Mojavean desert scrub (carbonate, rocky); elevation 600-1830 m.	High

### STATUS DEFINITIONS

#### USFWS designations:

##### (Federal ESA, USFWS)

Endangered - Federally listed, Endangered.

Threatened - Federally listed, Threatened.

Species of Concern - Federal Special Concern species.

#### BLM designations:

(BLM Manual §6840)

Special Status Species - plants whose population viability is of concern due to 1) their limited distribution, 2) low number of individuals and/or populations, and 3) population threats to habitat.

#### State (C) designations:

(California ESA, CDFG)

Endangered - State listed, Endangered.

Threatened - State listed, Threatened.

Special concern - CA Special Concern species.

Protected - Cannot be taken without permit

#### CNPS R-E-D Code:

##### Rarity

- 1 - Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.
- 2 - Occurrence confined to several populations or one extended population.
- 3 - Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

##### Endangerment

- 1 - Not endangered.
- 2 - Endangered in a portion of its range.
- 3 - Endangered throughout its range.

##### Distribution

- 1 - More or less widespread outside California.
- 2 - Rare outside California.
- 3 - Endemic to California

#### California Native Plant Society (CNPS) designations:

**List 1B** - Plants rare and endangered in California and throughout their range.

**List 2** - Plants rare, threatened or endangered in California but more common elsewhere.

**List 3** - Plants for which more information is needed.

**List 4** - Plants of limited distribution; a "watch list."

2A

## <sup>2</sup>OCCURRENCE PROBABILITY DEFINITIONS

**Occurs** - Observed on the site by AMEC biologists, or recorded on-site by other qualified biologists.

**High** - Observed in similar habitat in region by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.

**Moderate** - Reported sightings in surrounding region, or site is within the known range of the species and habitat on the site is a type occasionally used by the species.

**Low** - Site is within the known range of the species, but habitat on the site is rarely used by the species.

**Absent** - A focused study failed to detect the species, or, no suitable habitat is present.

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**Attachment B**  
**Special Status Wildlife Species Occurring or Potentially Occurring in the Surprise Canyon**

Species (Common Name and Scientific Name)	Status <sup>1</sup>	Habitat	Occurrence Probability <sup>2</sup>
<b>Invertebrates</b>			
<b>Spring Snail</b> <i>Pyrgulopsis micrococcus</i>	NDDDB: GIS1	Rock substrate in richly oxygenated water	Occurs
<b>Reptiles</b>			
<b>Panamint Alligator Lizard</b> <i>Elgaria panamintinus</i>	USFWS: Species of Concern C: Special Concern, Protected BLM: Sensitive	Riparian vegetation in mountain canyons, scree on canyon slopes	Occurs
<b>Chuckwalla</b> <i>Sauromalus obesus</i>	USFWS: Species of Concern BLM: Sensitive	Desert scrub and woodlands on canyon slopes	Occurs
<b>Birds</b>			
<b>Cooper's Hawk</b> <i>Accipiter cooperii</i>	C: Special Concern	Woodlands and riparian corridors	Occurs
<b>Sharp-shinned Hawk</b> <i>Accipiter striatus</i>	C: Special Concern	Most habitats, prefers woodlands and riparian areas	Occurs
<b>Prairie Falcon</b> <i>Falco mexicanus</i>	C: Special Concern	Open arid grasslands and deserts	Occurs
<b>Lewis's Woodpecker</b> <i>Melanerpes lewis</i>	USFWS: Species of Concern	Mature riparian woodlands	Occurs
<b>Western Yellow-billed Cuckoo</b> <i>Coccyzus americanus</i>	C: Endangered	Cottonwood and willow riparian woodlands	Low
<b>Loggerhead Shrike</b> <i>Lanius ludovicianus</i>	USFWS: Species of Concern C: Special Concern	Most habitats, prefers open shrublands	Occurs
<b>Yellow Warbler</b> <i>Dendroica petechia brewsteri</i>	C: Special Concern	Mature riparian woodlands	Occurs
<b>Pacific Slope Flycatcher</b> <i>Empidonax difficilis</i>	USFWS: Species of Concern	Shaded forests, often along streams	Occurs
<b>Willow Flycatcher</b> <i>Empidonax traillii</i>	C: Endangered	Dense willow riparian	Occurs
<b>Least Bell's Vireo</b> <i>Vireo bellii pusillus</i>	USFWS: Endangered C: Endangered	Diverse willow riparian	Occurs
<b>Yellow-breasted Chat</b> <i>Icteria virens</i>	C: Special Concern	Dense riparian woodland	Occurs
<b>Mammals</b>			
<b>Bats: Myotis spp.</b> <i>Myotis volans</i> <i>Myotis evotis</i> <i>Myotis ciliolabrum</i> <i>Myotis thysanoides</i>	C: Special Concern BLM: Sensitive	Forage in most habitats, roost in caves and mines. Occur above 5000 ft elevation	High

Species (Common Name and Scientific Name)	Status <sup>1</sup>	Habitat	Occurrence Probability <sup>2</sup>
<b>Pallid Bat</b> <i>Antrozous pallidus</i>	C: Special Concern BLM: Sensitive	Forage in most habitats, roost in caves and mines	Occurs
<b>Townsend's Big-eared Bat</b> <i>Corynorhinus townsendii</i>	C: Special Concern BLM: Sensitive	Forage in most habitats, roost in caves and mines. Extensive use of the bottom of Surprise Canyon riparian and aquatic habitats has been observed on numerous occasions since 2001	Occurs
<b>Spotted Bat</b> <i>Euderma maculatum</i>	C: Special Concern BLM: Sensitive	Roosts on cliffs and rock crevices. Feeds mainly on moths.	High
<b>Western Mastiff Bat</b> <i>Eumops perotis</i>	C: Special Concern BLM: Sensitive	Forage in most habitats, roost in rock crevice in cliff faces.	High
<b>Nelson's Bighorn Sheep</b> <i>Ovis canadensis nelsoni</i>	BLM: Sensitive	Steep, rocky mountain slopes. Extensive use of the Surprise Canyon riparian and aquatic habitats has been observed on numerous occasions since 2001	Occurs

<sup>1</sup> STATUS DEFINITIONS

**USFWS designations:**

(Federal ESA, USFWS)

**Endangered** - Federally listed, Endangered.

**Threatened** - Federally listed, Threatened.

**Species of Concern** - Federal Special Concern species.

**BLM designations:**

(BLM Manual §6840)

**Sensitive** - declining, rare, or unique species.

**State (C) designations:**

(California ESA, CDFG)

**Endangered** - State listed, Endangered.

**Threatened** - State listed, Threatened.

**Special concern** - CA Special Concern species.

**Protected** - Cannot be taken without permit

Species (Common Name and <i>Scientific Name</i> )	Status <sup>1</sup>	Habitat	Occurrence Probability <sup>2</sup>
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<sup>2</sup> OCCURRENCE PROBABILITY DEFINITIONS

**Occurs** - Observed on the site by AMEC biologists, or recorded on-site by other qualified biologists.

**High** - Observed in similar habitat in region by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.

**Moderate** - Reported sightings in surrounding region, or site is within the known range of the species and habitat on the site is a type occasionally used by the species.

**Low** - Site is within the known range of the species, but habitat on the site is rarely used by the species.

**Absent** - A focused study failed to detect the species, or, no suitable habitat is present.

Attachment C. Panamint Range Habitat Character based on Hansen and Oehler

Western Panamint Mountain Canyons	Distance from Surprise Canyon	Hansen Habitat Evaluation (Weaver 1972)				Bighorn Present 1995-1997*	Bighorns Ranging to or from Surprise Canyon*	Water	Open Route	Mining Activity/ BLM Case File Number
		2800 to 3600 feet	4000 feet to 4500 feet	4600 to 4800 feet	6500 to 6600 feet					
Tuber	7 miles North	Zone of deficiency	Zone of deficiency		Periodic use zone		Yes	4 miles		
Jail	5 miles North	Zone of deficiency	Important to Bighorn	Important to Bighorn	Periodic use zone	Yes	Yes	6 miles		
Hall	3 miles North	Periodic use zone on South facing slope	Periodic use zone on North facing slope		Important to Bighorn on South facing slope	Yes	Yes	0		
Hall to Surprise		Periodic use zone	Periodic use zone		Periodic use zone	Yes	Yes			
Surprise	---	Periodic use zone		Periodic use zone	Periodic use zone	Yes	Yes	0	Novak CACA-42822	
Surprise to Happy				Important to Bighorn		Yes	Yes			
Happy	3 miles South	Zone of deficiency		Periodic use zone	Periodic use zone	Yes	Yes	0		
Pleasant	6 miles South	Zone of deficiency			Periodic use zone	Yes	Yes	10 miles	Compass CACA-35977; Porter Mine CACA-35003; Manele Bay CACA-45555	
Middle Park	6.5 miles South	Zone of deficiency			Periodic use zone	Yes	No	6.5 miles	Goldbug Mine CACA-32911	
South Park	8 miles South				Not important	Yes	Intermittent	8 miles	Suitcase Mine CACA-36955; CACA-32857	
Big Horn	9 miles South	Zone of deficiency	Important to Bighorn			Yes	No	No route		
Redlands	11.5 miles South		Important to Bighorn		Periodic use zone	Yes	Yes	2.5 miles	Briggs Mine CACA-33490; CACA-36957	
Coyote	16.5 miles South	Important to Bighorn	Periodic use zone				No	3.75 miles		

\* Oehler et al 2002 (radiotelemetry data show bighorns range from Surprise Canyon through all canyons between Redlands & Jail Canyons)

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* June 14–15, 2001.

*Time:* 9:00 a.m. to 6:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* Radisson Barcelo, 2121 P Street, NW., Washington, DC 20037.

*Contact Person:* Victoria S. Levin, MSW, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 3172, MSC 7848, Bethesda, MD 20892, (301) 435-0912, [levinv@csr.nih.gov](mailto:levinv@csr.nih.gov).

*Name of Committee:* Center for Scientific Review Special Emphasis Panel.

*Date:* June 15, 2001.

*Time:* 1:00 p.m. to 5:00 p.m.

*Agenda:* To review and evaluate grant applications.

*Place:* Holiday Inn, 8120 Wisconsin Avenue, Bethesda, MD 20814.

*Contact Person:* Paul D. Wagner, PhD, Scientific Review Administrator, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5194, MSC 7840, Bethesda, MD 20892, (301) 435-6809, [wagnerp@csr.nih.gov](mailto:wagnerp@csr.nih.gov).

(Catalogue of Federal Domestic Assistance Program Nos. 93.306, Comparative Medicine, 93.306; 93.333, Clinical Research, 93.333, 93.337, 93.393–93.396, 93.837–93.844, 93.846–93.878, 93.892, 93.893, National Institutes of Health, HHS)

Dated: May 22, 2001.

**LaVerne Y. Stringfield,**

*Director, Office of Federal Advisory Committee Policy.*

[FR Doc. 01–13332 Filed 5–25–01; 8:45 am]

BILLING CODE 4140–01–M

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[CA–650–01–1220–JG–064B]

#### Closure Order for Motorized Vehicle Use, Surprise Canyon Area of Critical Environmental Concern BLM Route P71, Panamint Mountains, Inyo County, CA

**AGENCY:** Bureau of Land Management, United States Department of the Interior.

**ACTION:** Notice of vehicle closure on BLM Route P71 in the Surprise canyon area of critical environmental concern, Panamint Mountains in Inyo County, California.

**SUMMARY:** Notice is hereby given that BLM Route P71 is closed to motorized vehicle use within the Surprise Canyon Area of Critical Environmental Concern (ACEC).

**Order:** The public lands from a point located in the vicinity of Chris Wicht Camp approximately four miles east of the intersection of BLM Route P71 and

the Indian Ranch/Wingate Road to the boundary of Death Valley National Park within the Surprise Canyon ACEC is hereby closed to all motorized vehicle use. No person may use, drive, transport, park, let stand, or have charge or control over any motorized vehicle in the area located east of the closure signs and the BLM locked gate. Exemptions to this order may be granted to law enforcement and other emergency vehicles in the course of official duties. Exemptions to this order may be granted to the holders of private property in the vicinity of Panamint City in Death Valley National Park for reasonable access after receiving a written agreement and a key from the Ridgecrest Field Office Manager.

**EFFECTIVE DATE:** This closure is effective upon publication in the **Federal Register** and will remain in effect until rescinded by the authorizing official which will occur when a final decision on the disposition of the road will be made after the National Environmental Policy Act and California Desert Conservation Area Plan amendment processes are completed. BLM will implement the proposed action effective the date of publication in the **Federal Register**, without prior notice and opportunity for public comment, because of the imminent need for regulatory authority to prevent illegal/unauthorized vehicle intrusion into the Surprise Canyon Wilderness and potential risk to aquatic/riparian resources.

**FOR FURTHER INFORMATION CONTACT:** Field Office Manager, Bureau of Land Management, Ridgecrest Field Office, 300 South Richmond Road, Ridgecrest CA 93555, (760) 384–5405.

**SUPPLEMENTARY INFORMATION:** In March 16, 2000, the Center for Biological Diversity, et al. (Center) filed for injunctive relief in U.S. District Court, Northern District of California (Court) against the Bureau of Land Management (BLM) to immediately prohibit all grazing activities that may affect listed species. The Center alleges the BLM was in violation of section 7 of the Endangered Species Act (ESA) by failing to enter into formal consultation with the U.S. Fish and Wildlife Service (FWS) on the effects of adoption of the California Desert Conservation Area Plan (CDCA Plan), as amended, upon threatened and endangered species. On August 25, 2000, the BLM acknowledged through a court stipulation that activities authorized, permitted, or allowed under the CDCA Plan may adversely affect threatened and endangered species, and that the BLM is required to consult with the

FWS to insure that adoption and implementation of the CDCA Plan is not likely to jeopardize the continued existence of threatened and endangered species or to result in the destruction or adverse modification of critical habitat of listed species.

Although BLM has received biological opinions on selected activities, consultation on the overall CDCA Plan is necessary to address the cumulative effects of *all* the activities authorized by the CDCA Plan. Consultation on an overall plan is complex and the completion date uncertain. Absent consultation on the entire plan, the impacts of individual activities, when added together with the impacts of other activities in the desert, are not known. The BLM entered into negotiations with plaintiffs regarding interim actions to be taken to provide protection for endangered and threatened species pending completion of consultation on the plan. Agreement on these interim actions avoided litigation of plaintiffs' request for injunctive relief and the threat of an injunction prohibiting all activities authorized under the plan. These interim agreements allowed BLM to continue appropriate levels of activity throughout the planning area during the lengthy consultation process while providing protection to the desert tortoise and other listed species in the short term. By taking interim actions as allowed under 43 CFR 8364.1, BLM contributes to the conservation of the endangered and threatened species in accordance with 7 (a)(1) of the ESA. BLM also avoids making any irreversible or irretrievable commitment of resources which would foreclose any reasonable and prudent alternatives which might be required as a result of the consultation on the CDCA Plan in accordance with 7(d) for the ESA. In January 2001, the parties signed the Stipulation and Proposed Order concerning All Further Injunctive Relief.

This closure order is issued to provide interim protection of riparian habitat, water quality, sensitive wildlife resources, and wilderness values within the Surprise Canyon ACEC until such a time when the BLM completes a thorough review and analysis of various methods of access in Surprise Canyon and complies with the processes required by the National Environmental Policy Act and the California Desert Conservation Area Plan. This interim closure will allow BLM to properly evaluate and arrive at a final decision on environmentally acceptable methods of access in Surprise Canyon while protecting the canyon from further impact caused by the operation of off-

highway vehicles. Concerns over the effects of off-highway vehicle use in Surprise Canyon on environmental quality and natural resources have been raised in a lawsuit filed against the BLM, and these concerns need to be addressed through the processes required by the National Environmental Policy Act and the California Desert Conservation Area Plan.

The canyon riparian zone currently does not meet the BLM's minimum standards for a properly functioning riparian system due to soil erosion and streambed alterations caused by off-highway vehicle use. The Surprise Canyon ACEC supports several California BLM and California State sensitive plant and animal species that are dependant on a properly functioning riparian system.

The canyon will remain open for human use that does not entail the use of a motorized vehicle within the area closed by this order. Maps showing the affected area are available by contacting the Ridgecrest Field Office, California Desert Conservation Area, Ridgecrest, CA. A gate will be erected at the closure points and the affected area will be posted with public notices and standard motorized vehicle closure signs. The BLM will issue a final decision on allowable methods of public access in Surprise Canyon following completion of public scoping, and a National Environmental Policy Act (NEPA) compliance document. The NEPA compliance document will evaluate a full range of options for management of human access to Surprise Canyon within the area affected by the interim closure.

Authority for this closure is found in 43 CFR 8364.1. Violations of this order may be subject to the penalties provided according to 43 CFR 8360.0-7.

Dated: May 23, 2001.

Gail Acheson,

Acting Deputy State Director for Resources.

[FR Doc. 01-13538 Filed 5-25-01; 8:45 am]

BILLING CODE 4310-40-P

## DEPARTMENT OF THE INTERIOR

### National Park Service

Glen Echo Park, Montgomery County, MD

**ACTION:** Record of Decision.

#### I. Introduction

The Department of the Interior, National Park Service (NPS), has prepared this Record of Decision on the Final Management Plan/Environmental

Impact Statement (FMP/EIS) for Glen Echo Park, Montgomery County, Maryland pursuant to the National Environmental Policy Act (NEPA) and Council of Environmental Quality (CEQ) regulations. This Record of Decision is a statement of the decision made, the background of the project, other alternatives considered, the basis for the decision, the environmentally preferable alternative, measures to minimize environmental harm, and public involvement in the decision making process.

#### II. Background of the Project

For over a century, Glen Echo Park has served the region as a center for education, entertainment and cultural development. This special site, which has been a National Chautauqua site (1891), an amusement park site (1899-1968), and an arts and cultural park (1971-present), is 1.5 miles northwest of Washington, DC and has been a haven for generations of area residents and visitors. On April 1, 1970 GSA received title to the 9.3-acre site. The site was acquired through a land exchange for the Old Emergency Hospital at 1711 New York Ave., NW., Washington, DC and was held surplus by the General Services Administration (GSA). From 1971-1976, the National Park Service (NPS) operated the park in cooperation with GSA and the park officially became part of NPS in 1976. When the land was acquired it contained a number of structures that were in very poor condition. Several were removed and others received minimal repair. From the very beginning, the NPS recognized the need to establish a Public/Private Partnership to both rehabilitate the structures and establish a creative education program that would reflect the spirit of the Chautauqua Assembly. In 1984, an NPS approved Management Facilities Program outlined a five-year program incorporating short and long-term goals and a scope of work for projects to be funded by the Federal government and private sector. Unfortunately, funds from both groups were limited, improvements were minor, and park management began to consider historic leasing. Local citizen opposition to such a proposal led to the formation of the Glen Echo Park Foundation, which was established in May 1987 to raise \$3 million within five years for rehabilitation of the structures. The Foundation was unsuccessful in achieving its goal, and the park structures have continued to deteriorate.

By the mid-1990s, funding to rehabilitate decaying park structures was still not available and the park's resources were in danger of being lost.

The National Park Service began a process through which a Management Plan (MP) could be developed. As part of that process, the NPS examined options for future operation of the park, including scenarios that assumed existing park resources would eventually be lost. Since the planning process began, Montgomery County, the State of Maryland, and the Federal government have all committed funding to support the stabilization and rehabilitation of the structures at Glen Echo Park. This funding, however, does not support improvements to the interior of the buildings, and does not help cover the park's operating expenses. Furthermore, as the structures continue to age, the maintenance needs of the park will continue to grow. A management plan for Glen Echo Park is needed to provide a framework for the continued management and operation of the park.

#### III. Decision (Selected Action)

The National Park Service will implement the preferred alternative, the Modified Public Partnership, identified in the FMP/EIS issued on March 9, 2001. Figure I illustrates the chosen management structure. Figure II illustrates the selected management zones for the park. The selected alternative is also the environmentally preferred alternative identified in the FMP/EIS. It will improve the visitor experience, maintain the traditional uses of the park, improve the diversity in its programs, and enhance the preservation of cultural and historic resources through an improved revenue structure. It is expected to create only minor environmental impacts and inconveniences to adjoining communities. As a part of this decision, the NPS will also implement measures to minimize adverse impacts to the environment (*i.e.* mitigations) (see VIII below).

The NPS has used public partnership arrangements very successfully at several parks. Based on this experience, along with the analysis of the potential environmental impacts contained within the FMP/EIS, the NPS believes the Modified Public Partnership alternative is the best arrangement for the park, the surrounding communities, and the park's users. Under the selected alternative, the NPS will enter into negotiations with Montgomery County, MD, to prepare a long-term agreement whereby Montgomery County would take over the majority of management and operations at Glen Echo Park. If the NPS and Montgomery County were unable to finalize an agreement, the NPS would seek another similar partner with