



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Ukiah Field Office  
2550 North State Street  
Ukiah, California 95482



In Reply Refer To:  
8340 (P)  
(CA-340)

Dear Interested Public:

Your past involvement with Ukiah Field Office (UFO) natural resource issues indicates you or your organization may be interested in having a copy of the **DRAFT** UFO 2002 Off-highway Vehicle (OHV) Operation and Maintenance (O&M) Grant. State of California, Department of Parks and Recreation, Off-highway Motor Vehicle Recreation Division provides operation and maintenance funding for local, state and federal agencies through the "Green Sticker" Grant Program. UFO actively seeks funding from this program each year to supplement agency OHV operation and maintenance funds. If you are interested, please provide comments of support, non-support, or comments in general to the above address by September 10, 2001.

Please find enclosed a copy of the **DRAFT**, UFO 2002 OHV O&M Grant. If you have any questions or would like further information please contact Jeff Wilbanks, of my staff, at the above address or 707/468-4000.

Sincerely,

Rich Burns  
Ukiah Field Office Manager

**DRAFT**

**Ukiah Field Office  
Fiscal Year 2002  
Operation and Maintenance Grant**

August 27, 2002

***DRAFT* California State Parks**  
**Off-Highway Motor Vehicle Recreation Division**  
**2001/2002 OHV Grant and Cooperative Agreement Application**

Agency	<u>BLM</u>	Contact person	<u>Jeff Wilbanks</u>
Applicant	<u>Ukiah Field Office</u>	Phone number	<u>707/468-4059</u>
Address	<u>2550 North State Street</u>	FAX number	<u>707/468-4027</u>
City	<u>Ukiah</u>	E-mail	<u>Jeff_Wilbanks@ca.blm.gov</u>
State	<u>California</u>	Zip Code	<u>95482</u>

<u>Type of Grant</u>		<u>Sub-Category</u>	<u>Expenditures</u>
Winter		Conservation	<u>75,750.00</u>
O & M	<u>x</u>	Enforcement	<u>171,350.00</u>
Resource Management		Facility Maintenance	<u>63,450.00</u>
Equipment		Administration	
Acquisition		Other	
Development			
Planning			
Safety		Total Request	<b><u>310,550.00</u></b>

California Legislative Districts:                      Senate   2                        Assembly   1  

Name of Project:   Ukiah Field Office FY2002 Operation and Maintenance Grant  

Project Summary/Scope: Provide operation and maintenance funding for the following tasks: conservation--Soil, vegetation and wildlife monitoring, erosion prevention, resource protection, and rehabilitation; enforcement--OHV area patrol, county enforcement contracts, signs, and barricades; facility maintenance--replacement campground furnishings, housekeeping, facility repair, roads and trails, vehicles, and signs.

Name of approving official	Title	Date
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## **Item B: Description of OHV Opportunity**

South Cow Mountain and Knoxville Recreation Areas total approximately 41,000 acres of public lands managed by the Bureau of Land Management (BLM), Ukiah Field Office (UFO). Recreation management efforts at South Cow and Knoxville focus primarily on off-highway vehicle (OHV) activities, however general recreation opportunities are also available. Visits directly related to OHV activities total approximately 50,000 for fiscal year (FY) 2001. South Cow Mountain Recreation Area, established in 1976, is one of the oldest federally managed OHV riding areas in the nation. South Cow includes approximately 23,000 acres, and is the nearest OHV area to cities surrounding the San Francisco Bay Area. The primary OHV staging area for South Cow is only about two hours north of the Golden Gate Bridge. The majority of visitors are day users coming from the North Bay Area.

South Cow Mountain contains approximately two hundred miles of OHV trails, two developed day use staging areas, two developed campgrounds, and numerous locations for dispersed camping and day use. The primary access road into and through South Cow, Mendo Lake Road, is a California Back Country Discovery Trail. Mendo Lake Road offers a unique sport utility vehicle (SUV) day trip from Ukiah to Lakeport with beautiful panoramic views of Clear Lake and the surrounding mountains. An array of jeep, motorcycle and ATV trails, ranging from most difficult to easy, allow visitors to experience the backcountry including views of snow peaked mountains, vistas of local communities, and diverse wildlife and wildflowers. Hunting, target shooting, hiking, mountain biking, and horseback riding all occur within South Cow Mountain Recreation Area.

Knoxville Recreation Area is much more isolated than South Cow Mountain. Knoxville is located in the far northeast corner of Napa County and the southeast corner of Lake County. The primary entrance, Devil Head Road, is approximately twenty miles southeast from the cities of Lower Lake and Clearlake, and approximately two hours driving time from Santa Rosa and Sonoma. Visitors driving from Sacramento and the East and North Bay Areas can expect a two to three hour drive. Public land acreage available to OHV use in the Knoxville area totals about 18,000, however funding acquired through this grant will be applied in the OHV designated use area, totaling approximately 9,000 acres. This is one of the largest blocks of public land available for year-round OHV and general recreation near the larger population centers of the Bay Area. During the winter months, Knoxville may be the only public lands open for OHV activity in the general area.

Knoxville contains over sixty miles roads and trails open to OHV use, one developed day use staging area, one developed campground and numerous locations for dispersed camping and day use. There are two primary access roads, Devil Head in the southern portion of the area and Dunnigan in the north. Dunnigan is open to all OHVs while Devil Head, closed to OHV use, provides an adventurous SUV day trip into the backcountry of Knoxville. There are several jeep trails appropriate for SUVs, however the majority of trails at Knoxville are for vehicles set-up for rough trails and the more experienced operators. Knoxville is rugged and isolated country providing primitive recreation experiences. Hunting, target shooting, hiking, mountain biking, and horseback riding all occur within the recreation area.

Conservation measures for both, South Cow Mountain and Knoxville, focus on stabilizing trail stream crossings with culverts, causeways and bridges, reopening trail drainage devices, photo monitoring and recording wildlife habitat, stream crossing and trail bed surfaces, and closing and rehabilitating unsustainable trails. Vehicle barriers are placed through both areas to preserve seasonal meadows and seeps. An eighty acres grassland seeding and 1.75 miles

of stream bank restoration is underway in Eight-mile Valley on South Cow Mountain. UFO is also concentrating on getting OHVs on culverts or bridges eliminating stream fords. This fiscal year UFO constructed one forty-four foot wood plank bridge and installed a twenty-five foot arched culvert and three routine pipe style culverts. Species to benefit include the Foothill yellow-legged frog, Rainbow trout and native plant communities. UFO also placed well over five hundred tons of four by four foot boulders in Eight-mile Valley and Four-mile Glade to prevent illegal OHV use.

Erosion prevention measures on South Cow include approximately seventy-five miles of trail bed maintenance annually, and installation of pipe and cable or boulders as vehicle barriers to allow trail restoration. UFO also contains some thirteen sediment basins to prevent sediment from reaching Clear Lake or the Russian River drainage. Fiscal year 2002, UFO is applying for approximately seventy thousand dollars for South Cow Mountain watershed improvement through the BLM Jobs-in-the-Woods Program.

Prescribed fire has been used since the early 1980's on South Cow Mountain as a land management tool to reintroduce fire back into the chaparral ecosystem. The objectives for burning include fuel hazard reduction, wildlife habitat improvement and increased local water yield. The program is ongoing with approximately five hundred acres burned annually. In cooperation with the California Department of Forestry and Fire Protection and the University of California, Berkeley, UFO has initiated a research study on South Cow Mountain to evaluate the post fire effects of prescribed burning by season. In addition, the study will contrast the efficacy of prescribed burning with mechanical methods (mastication and chipping) in reducing the fire hazard in chaparral and associated vegetation. This is a three year study that is being funded through the Joint Fire Science Program.

Knoxville conservation efforts included reclaiming an over-flow camping area from a four-wheel drive "mudding" area to a two camp site extension of Hunting Creek Campground. UFO Operation Crew constructed a drainage system for the area to route seasonal run-off around the camping area to Hunting Creek, placed rip/rap along the creek side to prevent OHV access, closed two camp sites along Hunting Creek and a hill climb, and graveled the primary access road through the area. Reducing vegetation damage from illegal target shooting (such as shooting eighteen inch gray pine in half as well as the complete destruction of brush used as backstops for targets) is a primary concern for UFO. Fiscal year 2002, UFO is applying for approximately forty thousand dollars for Knoxville watershed improvement through the BLM Jobs-in-the-Woods Program.

This fiscal year six illegal shooting areas were signed closed and patrolled. One of these sites was barricaded with large boulders. The Operations Crew maintained approximately twenty miles of roads and trails, and installed three culverts on Pocock and Cedar Creeks. Cedar Creek jeep trail, approximately 1.5 miles, was closed to allow recovery of three meadow areas damaged by OHVs and prevent trespass onto adjacent private land. UFO also closed a jeep trail that lead directly to Homestake Mining Company property and a seasonal seep. UFO completed an aerial photography contract providing coverage of the Knoxville area for comparison monitoring purposes.

### **Item C: Detailed Description of Grant or Cooperative Agreement Request**

Fiscal Year (FY) 2002 Operation and Maintenance Grant for UFO provides funding for both South Cow Mountain and Knoxville Recreation Areas. UFO employs the Green Sticker grant to supplement BLM appropriated funds, fee collected dollars and other grant monies

for the operation and maintenance, visitor supervision, contact and assistance, law enforcement, and resource protection, monitoring and rehabilitation of the OHV areas. Facility maintenance funding will be used on South Cow Mountain to maintain two developed staging/day use areas, two developed campgrounds, numerous dispersed camp sites, approximately one hundred miles of OHV trail, and about three hundred visitor information, regulatory and directional signs. Several organizations receive the benefits from Green Sticker operation and maintenance funding for their contributions to the work effort. These groups include: California Conservation Corps (CCC), California Department of Corrections, California Department of Forestry (CDF), OHV clubs, and private contractors.

Maintenance goals within the Knoxville Recreation Area are to maintain one developed campground, one developed staging area, numerous dispersed camp sites, approximately twenty miles of road and twenty-five miles of trail, and about seventy-five visitor information, regulatory and directional signs.

Green Sticker funding plays an important role allowing UFO to provide adequate visitor services, enforcement of vehicle and resource protection laws, and implementing resource monitoring, conservation and rehabilitation projects. UFO employs two law enforcement (LE) Rangers for approximately 300,000 acres of public land to provide law enforcement, visitor service, contact and assistance, and resource monitoring and protection. UFO LE Rangers will spend approximately half of their work time patrolling OHV recreation areas and resolving OHV related issues. Fiscal Year 2001, UFO hired a LE intern (college student) to assist LE Rangers with appropriate duties at Knoxville and South Cow Mountain. UFO Field Manager is hiring an additional LE ranger in FY02 to supervise the current staff and assist with patrol of Green Sticker funded recreation areas.

UFO is requesting funding to implement Special Enforcement Team details for BLM LE rangers twice a year to serve both South Cow Mountain and Knoxville. Special Enforcement Team efforts emphasize actions to increase enforcement and visitor awareness through visitor contact, signing, updated information flyers, and developing partnerships with interested parties to increase responsible presence and community policing. LE rangers will also assist with distributing a new South Cow Mountain map and brochure to be printed fiscal year 2002. Law enforcement vehicle barrier projects include placing four by four boulders and pipe and cable barriers in developed campgrounds and staging areas, along Eight-mile Valley Road and at riparian areas and seasonal meadows.

Developing law enforcement agreements with Sheriff's Departments for Mendocino and Lake County is a high priority for South Cow Mountain. UFO is looking to these Departments for additional patrols on weekends and holidays to reduce vandalism to facilities and natural resources.

UFO is expanding conservation and restoration activities through further implementation of the Green Sticker comprehensive monitoring program. UFO is gathering, recording and will submit a monitoring data summary for trail maintenance, creek crossings, soils, and wildlife habitats. During FY02, UFO will continue the monitoring program along with resource conservation and restoration projects including trail maintenance, relocation and closures, and actions to prevent and repair mechanical soil erosion. Trail bed maintenance to prevent excessive erosion by opening, reshaping or constructing erosion devices will be provided by California Conservation Corps and inmate crews along with private contractors. Funding for hand crews will be via this operation and maintenance grant and from a BLM, California

State Office rescopeed Green Sticker grant. UFO will focus hand crew maintenance on single track trails. Sweco tractor and other mechanized trail maintenance will not be funded via the Green Sticker monies. Trail maintenance goals for Knoxville and South Cow Mountain are to complete twenty-five and seventy-five miles of trail, respectively.

Grant application actions are in conformance with the Clear Lake Management Framework Plan, 1976 (updated 1984), Cow Mountain Recreation Area ORV Management Plan (1982), and the Knoxville Recreation Area Management Plan (1994). Planning update for the Cow Mountain Recreation Area ORV Management Plan is planned for the near future.

#### **Item D: Law Enforcement Plan**

##### **South Cow Mountain**

Recently South Cow Mountain Recreation Area has experienced an increase in the number of vandalism incidents. These incidents seem to be generated by younger individuals from the greater Ukiah and Lakeport areas. For the most part the visitors do not seem to be OHV enthusiasts. Apparently, these visitors are looking for places to party and generally exhibit destructive behavior. UFO personnel is observing a rise in the number of trees being vandalized and/or cut down. The trees are not being cut down to use for firewood, they are being cut down for the fun of it. Eighty-five percent of the trees cut were not used for firewood. Campgrounds are losing the screening between camp sites at a noticeable rate.

Another vandalism problem has been large beer parties with pallet fires. In our more remote areas we have had barriers removed with four-wheel drive vehicles and winches multiple times to provide access into closed areas or directly into the camp sites. UFO is also experiencing numerous incidents of destruction to restrooms, bulletin boards, signs, trees, gates, and spring developments. More than half of the vandalism is occurring late at night or early in the morning. Due to the high officer safety factor of solo night time patrol and no backup, South Cow is not being patrolled at night by BLM LE Rangers. UFO is also reporting an increase in the number of abandoned vehicles. The LE staff has been successful in recovering approximately eighty percent of the restitution associated with the removal of these vehicles.

South Cow Mountain is located in both Lake and Mendocino counties. There are approximately 5,400 acres in Mendocino County and 18,500 acres in Lake county. UFO personnel have met with the Sheriffs from both Mendocino and Lake counties requesting law enforcement assistance. Lake county is now in a position to assist UFO with overtime officers. Mendocino county is willing to provide assistance, but is currently experiencing a shortage of personnel. Mendocino is paying overtime to their officers just to cover the county. Mendocino Sheriff did say that they thought that the pendulum would be swinging back toward increased funding for qualified applicants. At that time, the Departments would be able to reach full staffing, and enter into a law enforcement agreement with UFO for patrols on South Cow Mountain.

Also, neither Lake nor Mendocino County Sheriff's Departments have staff available to produce a Green Sticker Grant application that would take advantage of the recently available county operation and maintenance grant opportunity. UFO Lead LE Ranger would write grants for each County Sheriff's Department. These grants coupled with the UFO operation and maintenance grant, would provide an adequate funding source to support a law enforcement agreement for a part-time deputy from each county to assist the UFO with South Cow Mountain patrols.

The agreement with the counties would provide law enforcement coverage for major holidays and night patrol. UFO Lead Ranger would monitor the agreement requirements to ensure full contractual implementation including: review of daily county employee activity reports, charge code accuracy, and meeting monthly with Sheriff's Department representatives to plan patrol hours and coordinate efforts. Currently both Mendocino and Lake County Sheriffs are supportive of this concept. An estimated cost of \$15,000.00 for each county should be sufficient to implement an effective agreement.

Lake County Sheriff's Department is currently up to full staffing and capable of providing assistance and entering into an agreement this fiscal year. They will provide one post certified, delegated deputy. They will be able to provide a deputy for Fridays, Saturdays and Sundays two weekends a month. Friday and Saturday patrols would be from 1600 to 2400, Sunday patrols would be 1000 to 1800. They will also work Memorial Day Weekend and the Fourth of July. They may be able to provide an additional deputy as needed, but the county has only two four wheel drive vehicles and they can not guarantee transportation for two deputies, especially for major holiday weekends. It should be noted that these patrol schedules will fluctuate with regard to daylight savings time and visitor use patterns.

Mendocino County Sheriff's Department is expecting to be back up to full staff by fiscal year 2002, and ready to enter into a law enforcement contract. Mendocino County will provide one post certified, delegated deputy to patrol South Cow Mountain. They will be able to provide a deputy for Fridays, Saturdays and Sundays two weekends a month. Friday and Saturday patrols would be from 1600 to 2400, Sunday patrols would be 1000 to 1800. They would also be able to work Memorial Day Weekend. Both Lake and Mendocino County Sheriff's Departments said that they would be flexible in making changes in their schedules to accommodate the BLM for the best possible law enforcement coverage.

One delegated UFO LE Ranger is assigned to patrol South Cow Mountain via motorcycle and four wheel drive vehicle. Approximately twenty-six weeks including weekends will be spent by the ranger patrolling and working on OHV South Cow Mountain related issues. UFO also has an Intern LE Ranger to assist the delegated ranger when appropriate. The intern will work approximately ten hours per week on South Cow Mountain. UFO, Field Manager is hiring an additional LE Ranger during the first quarter of fiscal year 2002 to supervise the current staff and assist with patrol of Green Sticker funded recreation areas. The Supervisory LE Ranger will spend approximately six months per year resolving OHV related issues and assisting with patrol duties in the South Cow Mountain and Knoxville Recreation Areas.

UFO will augment routine LE patrols with two five day Special Enforcement Team details to assist in law enforcement coverage during the busy times at South Cow Mountain and Knoxville. Details, which bring up to an additional four BLM LE Rangers to UFO will be scheduled during the spring and fall seasons. The details, as with routine LE patrol, will increase the number of visitor contacts, agency presence, resource protection, and the capability to control inappropriate behavior. UFO accomplished two successful Special Enforcement Team details in fiscal year 2001. LE Rangers will be field checking on patrol for spark arresters and current registration, noise monitoring, trespass, alcohol-related incidents, and illegal shooting, fireworks, and fire wood cutting. Rangers will assist with installation of regulatory signing including vehicular trespass, speed limit, trail identification, illegal shooting, fire wood cutting and fireworks. Also LE Rangers will provide OHV area maps, and regulatory and visitor information at the various information stations throughout

the area. See Detailed Cost Summary for costs associated with signing and visitor information.

Search and rescue responsibilities throughout both Lake and Mendocino Counties lie with the Sheriff's Departments. UFO LE Rangers provide search and rescue assistance to the Sheriff on an as needed basis. UFO is open to the public Monday through Friday, 0745 to 1630. The telephone number for reaching a LE Ranger is the primary office number, 707/468-4000. During non-business hours the public should contact the local Sheriff's Office for LE matters. The Sheriff's Office will then contact the BLM LE Ranger if necessary.

### **Knoxville Law Enforcement Plan**

Knoxville Recreation Area is isolated and remote, located in the far reaches of Lake and Napa Counties. Knoxville has a reputation for vandalism, trespass, unauthorized discharge of firearms, and generally unsupervised recreation activity. The primary law enforcement focus for fiscal year 2002 will be to show an increased presence, capability, authority, and willingness to establish a measure of consistent enforcement and visitor compliance in the area. This past year UFO worked closely with the National Rifle Association (NRA) to close six illegal shooting sites. UFO will continue to work with the NRA to stem illegal shooting and develop safe shooting opportunities. UFO also closed two jeep trails for trespass and resource damage problems, install rip/rap along portions of Hunting Creek for vehicle barriers, and conducted two Special Enforcement Team details to increase the presence of LE officers and activities.

The current LE Ranger assigned to Knoxville will spend approximately six months this year within the Knoxville Recreation Area. The patrol schedule includes twenty hours per week mainly on weekends. UFO will be supplementing this schedule with two five day Special Enforcement Team projects. The concept includes detailing four additional BLM LE Rangers to assist UFO Rangers at Knoxville and South Cow Mountain. Rangers will concentrate on identified problem areas working primarily on holidays, weekends and night shifts. UFO also has an Intern LE Ranger to assist the delegated ranger when appropriate. The intern will work approximately thirty hours per week in the Knoxville area. UFO, Field Manager is hiring an additional LE Ranger during the first quarter of fiscal year 2002 to supervise the current staff and assist with patrol of Green Sticker funded recreation areas. The Supervisory LE Ranger will spend approximately six months per year resolving OHV related issues and assisting with patrol duties in the Knoxville and South Cow Mountain Recreation Areas.

An important law enforcement objective for this coming year is to increase the number of visitor contacts at Knoxville, stressing resource education, law enforcement presence and the capability to control inappropriate behavior. LE Rangers will be checking for spark arresters and current registration, noise monitoring, trespass, alcohol-related incidents, and illegal shooting, fireworks, and fire wood cutting. Regulatory signing will focus on vehicular trespass, speed limit, street legal vehicles only on county roads, Green Sticker vehicles ok on BLM roads, and illegal shooting, fire wood cutting and fireworks. UFO will provide OHV area maps, and regulatory and visitor information at the kiosk stations in the Knoxville area. See Detailed Cost Summary for costs associated with signing and visitor information.

Problem areas occur chiefly on public land where OHV use is legal. However, trespass onto private land from public land is a problem. UFO will be constructing connector and reroute trails to avoid private land in Lake County during fiscal year 2002 (National Recreational

Trails Grant). These trails supported by effective vehicle barriers, signing, visitor information, and enforcement will assist in reducing the occurrence of trespass. Illegal shooting takes place on both private and public lands. The increased law enforcement presence of the Special Enforcement Team details will help curtail illegal shooting on private and public land. Impacts resulting from OHV use in meadows, riparian and serpentine barrens will also be addressed through trail closures, barriers, visitor resource protection information, and increased legal riding opportunities. Specific sites selected for vehicle barriers in fiscal year 2002 include the northern entrance area and illegal access to seeps along Dunnigan Road. UFO is using a monitoring schedule to better determine habitat problem locations and conditions.

UFO LE Ranger and the Intern LE Ranger will provide visitor service, contact and information, and facility maintenance in the Knoxville area. The Intern works three days a week at Knoxville including the weekend. Increased BLM presence and visitor contact is needed in both Knoxville and South Cow Mountain to assist in reducing vandalism and providing visitors with live on-site information. All visitor service oriented employees can be in radio contact with the LE Rangers, Deputy Sheriffs, Sheriff's Office, and Howard National Forest radio dispatch. Additional LE officers and emergency medical service can be contacted via mobile and portable radios.

Search and rescue responsibilities throughout both Lake and Napa Counties lie with the Sheriff's Departments. UFO LE Rangers provide search and rescue assistance to the Sheriffs on an as needed basis. UFO is open to the public Monday through Friday, 0745 to 1630. The telephone number for reaching a LE Ranger is the primary office number, 707/468-4000. During non-business hours the public should contact the local Sheriff's Office for LE matters. The Sheriff's Office will then contact the BLM LE Ranger if necessary.

### **Item E: Wildlife Habitat Protection Program South Cow Mountain Recreation Area**

#### **Special Status Species:**

**Federally Listed Species:** None

**State Listed Species:** None

**BLM Sensitive Species:** BLM must ensure that no actions are authorized which might lead to the eventual listing of BLM Sensitive Species as threatened or endangered.

Plants: Sonoma manzanita, *Arctostaphylos canescens* ssp. *sonomensis*

Serpentine cryptantha, *Cryptantha Cleveland* var *dissita*

Rincon Ridge ceanothus, *Ceanothus confusus*

Animals:

St. Helena mountain kingsnake, *Lampropeltis zonata* ssp. *zonata*

Foothill yellow-legged frog, *Rana boylei*

#### **Sensitive Habitats**

The following habitats contain BLM Sensitive Species or other noteworthy non-listed species in the South Cow Mountain OHV Recreation Area.

**Sonoma Manzanita:** Manzanita is among the most common and characteristic constituents of the chaparral association. Sonora manzanita is found in Humboldt, Mendocino, Lake, Sonoma, and Tehama Counties. Sonoma manzanita, a BLM Sensitive Species, is considered

to be a serpentine chaparral species. This manzanita has been identified within the South Cow Mountain OHV Recreation Area, in a one mile radius area, north of Red Mountain Campground. Manzanita provides limited wildlife habitat, however the fruit is utilized by rodents, birds, deer, and bear. Sonoma manzanita habitat structure and strength (shrub) limits OHV use to developed trails.

Current information indicates five OHV trails and the Mendo Lake Road (primary access road) pass within the one mile radius of the Sonoma manzanita habitat north of Red Mountain Campground. Development of the road and trails and subsequent brushing (removing or cutting back limbs grown over the road/trail) reflect the only known impacts to the identified habitat.

Serpentine Cryptantha: Serpentine cryptantha, a BLM Sensitive Species, is an annual herb endemic to Lake and Napa Counties. This species is found on serpentine outcrops in serpentine chaparral habitat. Serpentine cryptantha occurs in the South Cow Mountain OHV Recreation Area on the east side of the South Fork of Scotts Creek. The habitat has a radius of 2/5 of a mile, and is located approximately 1/4 mile south of the confluence with the main fork of Scotts Creek. The property where this habitat is found is owned by the Corps of Engineers and currently managed by the BLM through a memo of understanding. No OHV trails or use occurs in this species habitat.

Riparian Areas (stream crossing and wet meadow): Existing OHV trails cross streams in several locations including Willow, Panther and Benmore Creeks. Seasonally-wet meadow habitat is found in Lost Valley (public), Fourmile Glade (public), Rickabaugh Glade (private), and Eight-mile Glade (private). These four meadows are closed and barriered to prevent OHV access. However, Four-mile Glade, Rickabaugh Glade and Eight-mile Glade still receive varying degrees of OHV impacts due to vandals removing the barriers. Wet meadow habitats are particularly important as deer fawning areas during the spring months. These areas provide open foraging areas of higher quality feed with adjacent brush habitat for escape cover. BLM Sensitive Species Rincon Ridge ceanothus, mountain kingsnake and the Foothill yellow-legged frog can be found in meadow habitat or along streams.

Serpentine Bunchgrass: The serpentine bunchgrass habitat found on South Cow Mountain in Lost Valley, identified above, does not contain any listed or BLM Sensitive Species. The soil is serpentine-derived, limiting the type and number of bunchgrass species found. However, these local grasses have adapted and in some areas are thriving.

### **Habitat and Soil Monitoring Programs**

Monitoring within the project area focuses on identifying areas of accelerated soil loss, stream crossings and OHV impacts to wildlife habitat.

The majority of the trail system developed on South Cow Mountain is found within the chaparral habitat type. This habitat is dominated by several species of brush, but primarily chamise, *adenostoma fasciculatum*. OHV impacts to wildlife habitat are limited within the chaparral habitat, but in other sensitive habitats such as stream crossings and wet meadows, these impacts can have a greater effect on biological resources.

Sonoma Manzanita Monitoring Strategy: Sonoma manzanita habitat will be monitored in areas accessible to OHVs by the recreation and wildlife staffs during the summer. Recreation and wildlife staffs will establish photopoints along Mendo Lake Road and the bisecting trails at OHV habitat intrusion points or potential intrusion points (opening if any

in the habitat). Photos will be taken during the annual trail maintenance or monitoring activities. Recreation and wildlife staff will also complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need for corrective actions. The checklist will serve as the first step in determining impacts to wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Serpentine Cryptantha Monitoring Strategy: Serpentine cryptantha habitat will be monitored in areas accessible to OHVs by the recreation and wildlife staffs during the spring. Recreation and wildlife staffs will establish photopoints for an over-view of the know habitat area. There are no OHV trails bisecting known cryptantha habitat. Photos will be taken during the annual trail maintenance or monitoring activities. Recreation and wildlife staff will also complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need for corrective actions. The checklist will serve as the first step in determining impacts to wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Riparian Areas (stream crossing and wet meadow) Monitoring Strategies:

Stream Crossing: Stream crossing impacts can occur to: (1) soils, by damage on each approach to the crossing (2) water, by siltation following runoff, and (3) aquatic species, including invertebrates, fish, amphibians, and reptiles. Known creeks with OHV crossings include Willow, Panther and Benmore Creeks.

Biological impacts at the stream crossings affect Rainbow trout, Foothill yellow-legged frog (BLM Sensitive Species), St. Helena kingsnake (BLM Sensitive Species), and Northwestern pond turtle. Trout can be considered an indicator species for water quality at the stream crossings. Trout are very susceptible to changes in turbidity, during the spring and early summer months during spawning and egg development. Increased turbidity can limit uptake of oxygen by the developing embryos. Vehicles can produce direct disturbance to trout by repeatedly passing through the stream when fish are present. Like the trout eggs, Foothill yellow-legged frog eggs are also susceptible to increases in stream turbidity. OHV impacts to the Northwestern pond turtle are significantly less, mostly being the stress of disturbance and in rare instances, direct contact with vehicles as they pass through the stream. St. Helena mountain kingsnakes can also be found near stream crossings under litter or rocks, however their habitat constrains are less than the previously discussed species.

Recreation and wildlife staff will establish photopoints at each unbridged perennial stream crossing to document changes in turbidity during organized events and/or high-use weekends. Initial creek crossing to monitor includes Willow, Panther and Benmore Creeks. Control photos will be taken during the spring under clear water conditions to document ideal conditions at the stream crossings. Due to the remote locations and safety issues in getting to most of these stream crossings, monitoring will not be possible during major storm events during the rainy season.

Photo monitoring will also be used to track stream bed and bank erosion over time at the crossings. Recreation and wildlife staff will establish photopoints and take photos at each

crossing including the stream bed and both approaches. Annual photo comparisons will be made to assist in determining erosion impacts caused by OHV activity. Ultimately all unbridged stream crossings will be improved by installing bridges, culverts or other structures to reduce impacts to water, soil and biological resources. Recreation and wildlife staff will monitor for the presence of the Northwestern pond turtle, Kingsnake, Foothill yellow-legged frog, Rainbow trout, and their eggs. Animals located at the crossings will be relocated down stream from the crossing a minimum of one hundred feet.

Recreation and wildlife staff will complete OHV Stream Channel and Crossing Monitoring Checklist forms to assess existing conditions and the need for corrective actions at each unbridged stream crossing. The checklist will serve as the first step in determining impacts to stream crossings concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

UFO is partnering with West Lake Resource Conservation District to monitor Willow, Panther, Scotts, and Benmore Creeks for water quality. Water samples will be tested for temperature, ph, dissolved oxygen, conductivity, and the presence of benthic macro invertebrates. The creeks will be monitored once a month while they are flowing at the upper and lower reaches of each creek.

Wet Meadow: Impacts occur at wet meadows by vehicles driving through these areas when the soils are saturated. This is occurring on public land at Four-mile Glade, where barriers installed to prevent vehicle access have been periodically vandalized. Larger four-wheel drive vehicles, rather than motorcycles and ATVs, produce most of the damage to this glade. The larger vehicles sink into the soils under saturated conditions crushing plants and developing deep ruts. This illegal activity exacerbates impacts to soils and water. Meadows such as Four-mile Glade are important fawning habitat for blacktail deer in the spring time. Not only are there direct impacts to the vegetative, soils and water resources, but also indirect impacts to the local deer by destruction of plants and disturbance from vehicle noise. Fiscal year 2001, UFO placed several hundred tons of four by four boulders on the perimeter of Four-mile Glade to prevent vehicle access. Fiscal year 2002 monitoring will determine if the boulder barriers are effective.

Recreation and wildlife staff will monitor Lost Valley (public), Four-mile Glade (public), Rickabaugh Glade (private), and Eight-mile Glade (private) throughout the year for vehicular intrusions. Rincon Ridge ceanothus, BLM Sensitive Species, is found on private land at Rickabaugh Glade. Meadow habitats are barriered and signed closed to OHV use. Year-round photo monitoring will document when the barriers have been compromised and the resulting impacts. Recreation and operations staff will provide corrective repairs to vehicle barriers and signing as soon as possible following vehicle intrusion to limit meadow habitat damage.

Recreation and wildlife staff will establish photopoints at historical OHV intrusion sites and at any new intrusions areas. Vehicle barriers will also be installed at any new intrusion site. Recreation and wildlife staff will take photos before and after the wet season to track OHV intrusions, impacts and impact recovery. Recreation and wildlife staff will also complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need for corrective actions. The checklist will serve as the first step in determining impacts to

wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

### **Resource Protection Program**

Monitoring and Resource Protection Program objectives include: 1) ensure sustained long-term OHV use of trails and facilities, 2) maintain trails in a condition that will allow feasible rehabilitation, 3) promptly repair and continuously maintain trails and facilities, 4) anticipate and prevent accelerated and unnatural erosion, and 5) restore lands damaged by erosion to the closest extent possible to natural conditions. Wildlife habitat, soils and sensitive species within the South Cow Mountain OHV Recreation Area will be protected by a variety of different management tools. Ukiah Field Office will implement the following resource protection actions:

**Law Enforcement:** Law enforcement activities will enforce resource protection regulations concentrating on preventing illegal OHV use, vandalism to facilities and resources, wildlife harassment, and providing visitor assistance, information and contact.

**Public Education:** Law enforcement and recreation staffs will provide visitor assistance, information and contacts to OHV enthusiasts concerning use of designated routes, trespass, the need for closed trails/areas, respecting wildlife, cultural resources and private land, preventing undue soil loss, and reporting vandalism/resource damage. Public education will be emphasized through on-site public contacts and by updating existing printed visitor information and maps.

**Signing and Barriers:** Signing and barriers (boulders/pipe and cable) will be used throughout the OHV area to maintain OHV use on designated routes and out of closed areas to prevent loss of wildlife habitat. Plastic flexible markers will be carried at all times by BLM employees while monitoring to replace damaged signs. Los Altos Dirt Bikers have a contract with the Ukiah Field Office to maintain, repair and replace trail marker signs on South Cow Mountain.

**Erosion Control Devices:** Rolling dips, water bars, drainage lead-outs, bridges, culverts, and turf block will be installed to reduce or eliminate soil loss at stream crossings, sensitive habitat and highly erodible soil areas.

**Trail Maintenance:** Routine annual trail maintenance will be used to provide soil conservation and habitat protection throughout the South Cow Mountain OHV Recreation Area. Trail maintenance includes general grading, cleaning drainage lead-outs and culverts, maintaining rolling dips and water bars, and trail bed maintenance. Trail maintenance will be performed by the Recreation and Operations staffs beginning in the late spring when soil conditions are optimal.

**Trail Rehabilitation, Reroutes and Closures:** Trails may be rerouted or closed and rehabilitated if monitoring indicates excessive soil loss and/or impacts to BLM Sensitive Species as a result of OHV use.

### **Management Review Process and Specific Habitat Protection Measures**

The management review process for wildlife habitat, stream crossing and soil monitoring data, and issue resolution for OHV impacts begins with open discussions of the monitor data sheets and photographs with the UFO Monitoring Standard Review Team. The team consists of a field data collector, wildlife biologist, soil specialist, outdoor recreation planner, LE ranger, and UFO manager. If necessary the team will travel to the monitoring site for evaluation. The review team will establish priorities for further action (routine maintenance, law enforcement, extensive repair, or closure) based on the effected resources and the severity of impact. The team can also recommend changes to the Wildlife Habitat Protection Plan noting the specific problem, solution and new monitoring method.

The following measures provide management actions to resolve issues leading to OHV impacts to sensitive species or wildlife habitat. Law enforcement activities will enforce resource protection regulations concentrating on preventing illegal OHV use, vandalism to facilities and resources, wildlife harassment, and providing visitor assistance, information and contact.

Sonoma Manzanita: No new trails will be established in Sonoma manzanita habitat. Existing trails revealed through photopoint monitoring and the Wildlife Habitat Monitoring Checklist to be producing excessive impacts to Sonoma manzanita will be closed and rehabilitated. Recreation and operations staff will install vehicle barriers and provide rehabilitation measures within one year of notification.

Serpentine Cryptantha: Currently there are no OHV trails through serpentine cryptantha habitat. No new trails will be established in serpentine cryptantha habitat. Trails subsequent to the initial monitoring revealed through photopoint monitoring and the Wildlife Habitat Monitoring Checklist will be closed and rehabilitated. Recreation and operations staff will install vehicle barriers and provide rehabilitation measures within one year of notification.

Stream Crossings: Stream crossings with excessive soil loss or impacts to BLM Sensitive Species as indicated through photopoint monitoring and OHV Stream Channel and Crossing Monitoring Checklists will either be closed or hardened. Installation of rolling dips, water bars, drainage lead-outs, bridges, culverts, or turf block will normally resolve excessive soil loss and habitat impacts at stream crossings. Recreation and operations staff will provide installation and maintenance of corrective erosion control devices at stream crossings within one year of notification. Future trail development with perineal stream crossings will contain the appropriate erosion control devices.

Wet Meadows: Recreation and operations staff will repair or replace vandalized vehicle barriers and visitor information signs as indicated by photopoint monitoring and Wildlife Habitat Monitoring Checklists. Installation of visitor information signs and vehicle barriers will normally resolve OHV intrusion to meadow habitat. Repair or replacement of vehicle barriers and signs will occur within one year of notification. Future trail development will provide an effective buffer zone around meadow habitat.

### **South Cow Mountain Monitoring Summary**

Monitoring accomplishments will continue through November or until the winter rains begin.

Sonoma Manzanita Monitoring Results: UFO Wildlife biologist monitored Sonoma manzanita stands in the Red Mountain area on South Cow Mountain during the summer. The biologist determined there were no notable impacts to the stands. The community is

doing well and covers a relatively large portion of the Red Mountain area. The existing trails that pass through the manzanita are well defined within thick stands and are not increasing in width or proliferating.

Riparian Areas (stream crossing and wet meadow) Monitoring Results:

Stream Crossing: UFO Outdoor Recreation Planner, Wildlife Biologist and Natural Resource Specialist monitored stream crossings at Willow, Panther and Benmore Creeks. The trail crossing at Willow Creek in Eight-mile Valley has not been opened to the public and will not open until a twenty-five foot arch culvert is in place. Construction of the arch culvert began in July, 2002 and will be completed in August. Also, before the trail is opened a bridge (44ft.) over Panther Creek on the access road to the trail must be completed. Bridge construction began in August, 2002 and will be finished by the end of the month. In addition, vehicle barriers must be in place along the access road to the trail before opening day. No OHV activity had occurred at the crossings, however there are temporary culvert and bridge construction impacts. These impacts will rehabilitate over the next two years. There were yellow-legged frog eggs at the Panther Creek crossing during the spring before construction began. No yellow-legged frogs or eggs were present during construction. No species listed in the monitoring plan were observed at the Willow Creek (Eight-mile Valley) crossing.

The second crossing of Willow Creek on Trail #24 is recommended for bridging. The approaches are stable, but the crossing is deep, often causing problems for OHVs during higher water flows. Also, the threat of water quality and aquatic species loss during OHV crossings will be eliminated by bridging.

There are three OHV crossings of Benmore Creek, #1, #2 and #3. Benmore #1 was bridged during the summer of 2000. The crossing shows no sign of OHV use in or along the creek. Construction impacts are recovering at an appropriate rate. Barriers to restrict access to the creek at the bridge are in place and effective. Benmore #2 and #3 are not bridged. The approaches and the crossing to Benmore #3 contain rock and are stable. However, the recommendation is to harden or bridge the crossing to negate any OHV impacts. The northern approach to Benmore #2 contains rock and is stable, but the southern approach is very steep with little rock. There are two separate crossings at the site that need to be consolidated and bridged or hardened. The southern approach may need a reroute. There were no sightings of any of the species described in the monitoring plan.

Wet Meadows: Outdoor Recreation Planner, Wildlife Biologist and the Natural Resource Specialist monitored Lost Valley, Four-mile Glade, Rickabaugh Glade, and Eight-mile Glade. Lost Valley is closed to OHV use. The gate is in-tack and functioning properly. No OHV use or impacts were reported. Four-mile Glade has shown no new signs of OHV activity since the summer of 2000. New four by four boulders on the perimeter of the meadow should keep vehicles out, allowing old impacts to recover. Rickabaugh Glade is a relatively large meadow of private land surrounded by public. UFO installed barriers and gates to stop OHV trespass from public land onto the private meadow. The gates are in-tack, however the southern entrance pipe and cable barrier is down allowing vehicular access to the meadow. OHV impacts are occurring within the private meadow area. UFO operation crew and recreation staff will replace the vandalized barrier at the southern entrance.

The monitoring point for Eight-mile Glade is located in the northwestern portion of Eight-mile Valley. The monitoring point covers approximately half of the main meadow and shows no sign of OHV use or impacts. However, there is illegal OHV use occurring off of

the primary access road in the valley. UFO is placing pipe and cable barriers and boulders along the road to protect the glade and other small meadows.

## **Knoxville Recreation Area Wildlife Habitat Protection Plan**

### **Special Status Species**

**Federally Listed Species:** None

**State Listed Species:** None

### **BLM Sensitive Species:**

Plants:

Kruckeberg's Jewel-flower, *Streptanthus morrisonii* ssp. *kruckebergii*

Adobe lily, *Fritillaria pluriflora*

Snow Mountain buckwheat, *Eriogonum nervulosum*

Drymaria-like western flax, *Hesperolinon drymarioides*

Animals:

Townsend's western big-eared bat, *Plecotus townsendii*

Foothill yellow-legged frog, *Rana boylei*

### **Sensitive Habitats**

The following habitats contain BLM Sensitive Species or other noteworthy non-listed species in the Knoxville Recreation Area:

Townsend's Western Big-eared Bat: Townsend's western big-eared bat is found in caves, mine tunnels and out buildings. The only known site for the big-eared bat in the Knoxville Recreation Area is in an abandoned mine adit. Vehicle access to this adit is through private property which in the past has been denied to BLM. Foot access to the adit via public land is extremely difficult.

Adobe Lily: Adobe lily is a perennial herb normally found in adobe clay soils. The lily blooms during February and April with a large pink bell-shaped flower. The only known site for the Adobe lily within the Knoxville Recreation Area is located in the southeastern corner of Paradise Valley.

Drymaria-like Western Flax: Drymaria-like western flax is an annual herb normally found in serpentine soils on dry slopes or ridges. The flax blooms May through August showing very small white or pink flowers. Drymaria-like western flax is found on two sites within the Knoxville Recreation Area.

Serpentine Barrens: This habitat includes areas of coarse fractured serpentine rock forming steep slopes characteristically having exceedingly low vegetation cover, usually less than one percent. Serpentine barrens support Kruckeberg's jewel-flower and Snow Mountain buckwheat, BLM Sensitive Species, which are not found in any other plant community. Locally serpentine barrens are found scattered throughout the Knoxville area. Two serpentine barren areas just east of Round Mountain contain OHV related erosion problems.

Serpentine barrens are typically devoid of vegetation except for the few species which can tolerate high amounts of magnesium. Specialized plants are often found in the barrens. Serpentine barrens located adjacent to a road or trail often show signs of intensive OHV use. Two barrens located off the Round Mountain Road with OHV trails exhibit excessive soil loss directly related to OHV use. These fragile soils erode quite easily, especially when located on steep slopes

Riparian Areas (stream crossing, seeps and wet meadows): OHV trails cross streams at several places in the project area including Hunting, Cedar, Bedrock, and Lockwood Grade Creeks. OHV use in varying degrees occur at several seeps and wet meadows including Round Mountain Road seep, northern pond, McLaughlin meadow, eastern trail seep, lower Hunting Creek meadow. Currently, these areas contain effective vehicle barriers including gates, pipe and cable and boulders. However, there are other stream crossings, seeps and meadows within the area that need to be inventoried and monitored for OHV impacts. Wet meadow and seep habitats are particularly important for deer and other wildlife because vegetation stays greener and remains palatable as forage much longer during the year. These areas also provide habitat for many smaller mammals, which in turn act as a prey base for several species of avian and mammal predators. The Foothill yellow-legged frog, BLM Sensitive Species, and the Northwestern pond turtle can be found in the above mentioned riparian areas.

#### **Habitat and Soil Monitoring Programs**

Monitoring within the project area focuses on identifying areas of accelerated soil loss, stream crossings and OHV impacts to wildlife habitat.

The majority of the trails at Knoxville are found within the serpentine chaparral habitat type, however there are trails that traverse through areas of northern interior cypress forest and scattered serpentine barrens. These habitats occur on serpentine-derived soils, which typically have a lower diversity of plant and animal species. In serpentine habitats, impacts from OHV use are more prevalent in the serpentine barrens. Two “play areas” were found in these barrens with deep ruts which impact sensitive plant habitat. OHV impacts also occur in riparian areas including stream crossings, meadows, seeps, and seasonal watercourses.

Townsend’s Western Big-eared Bat Monitoring Strategy: Recreation and Wildlife staffs will monitor for the presence of Townsend’s big-eared bat and vehicle/foot intrusion at the abandoned mine adit in T11N, R4W, Section 18. Recreation and wildlife staffs will establish photopoints and annually photo monitor the adit.

Recreation and wildlife staffs will complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need for corrective actions. The checklist will serve as the first step in determining impacts to wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Adobe Lily Monitoring Strategy: Recreation and wildlife staffs will monitor adobe lily habitat in areas accessible to OHVs during spring. Recreation and wildlife staffs will establish photopoints for an over-view of the known lily habitat. Photos will be taken during the annual trail maintenance or monitoring activities. Recreation and wildlife staff will also complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need

for corrective actions. The checklist will serve as the first step in determining impacts to wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Drymaria-like Western Flax Monitoring Strategy: Recreation and Wildlife staffs will monitor Drymaria-like western flax habitat in areas accessible to OHVs during spring/summer. Recreation and wildlife staffs will establish photopoints for an over-view of the known lily habitat. Photos will be taken during the annual trail maintenance or monitoring activities. Recreation and Wildlife staff will also complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need for corrective actions. The checklist will serve as the first step in determining impacts to wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Serpentine Barrens Monitoring Strategy: Recreation and Wildlife staffs will monitor the two identified serpentine barrens located east of Round Mountain off of the Round Mountain Road throughout the year for vehicular intrusions and damage to Kruckeberg's jewel-flower and Snow Mountain buckwheat (BLM Sensitive Species). Recreation and Wildlife staffs will establish photopoints and annually photo monitor these serpentine barrens.

Recreation and Wildlife staffs will complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need for corrective actions. The checklist will serve as the first step in determining impacts to wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Riparian Areas (stream crossings, seeps and wet meadows) Monitoring Strategies:

Stream Crossing: Stream crossing impacts can occur to: (1) soils, by damage on each approach to the crossing (2) water, by siltation following runoff, and (3) aquatic species, including invertebrates, fish, amphibians, and reptiles. Known perennial creek crossing within the project area include Hunting, Cedar, Bedrock, and Lockwood Grade Creeks.

The major biological impacts at the stream crossings affect local fish populations, Foothill yellow-legged frog, and Northwestern pond turtle. Survival of eggs and young fish can be impacted by the amount of siltation occurring at stream crossings. Increased turbidity can limit the uptake of oxygen by developing embryos. There can also be direct disturbance to fish by vehicles repeatedly passing through the stream crossings. Like fish eggs, Foothill yellow-legged frog eggs are also susceptible to increases in stream turbidity. OHV impacts to the Northwestern pond turtle are significantly less, mostly being the stress of disturbance and in rare instances, direct contact with vehicles as they pass through the stream.

Recreation and Wildlife staffs will establish photopoints at each unbridged perennial stream crossing to document changes in turbidity during high-use weekends. Initial creek for monitoring include Hunting, Cedar, Bedrock, and Lockwood Grade Creeks. Control photos

will be taken during the spring under clear water conditions to document ideal conditions at the stream crossings. Due to the remote locations and safety issues in getting to most of these stream crossings, monitoring will not be possible during major storm events during the rainy season.

Photo monitoring will also be used to track stream bed and bank erosion over time at the crossings. Recreation and Wildlife staffs will establish photopoints and take photos at each crossing including the stream bed and both approaches. Annual photo comparisons will be made to assist in determining erosion impacts caused by OHV activity. Ultimately all unbridged stream crossings will be improved by installing bridges, culverts or other structures to reduce impacts to water, soil and biological resources. Recreation and Wildlife staffs will monitor for the presence of the Foothill yellow-legged frog (BLM Sensitive Species) and the Northwestern pond turtle and their eggs. Animals located at the crossings will be relocated down stream from the crossing a minimum of one hundred feet.

Recreation and Wildlife staffs will complete OHV Stream Channel and Crossing Monitoring Checklist forms to assess existing conditions and the need for corrective actions at each unbridged stream crossing. The checklist will serve as the first step in determining impacts to stream crossings concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Seeps and Wet Meadows: OHV use in meadows during saturated soil conditions produces deep ruts and exacerbates impacts to soils and water. Two notable meadows, McLaughlin, east of Dunnigan Road and Lower Hunting Creek, south of Hunting Creek Campground are found within the project area. These two meadows have received OHV impacts in the past. McLaughlin Meadow has recently been effectively barriered and signed to prevent vehicular access. The OHV trail originally passing through Lower Hunting Creek Meadow has been rerouted and the meadow is now closed to OHVs. Round Mountain Road seep and eastern trail seep have also been barriered and closed to OHVs. Northern pond and meadow area, located south off of the Round Mountain Road, is currently receiving OHV impacts.

Recreation and Wildlife staffs will monitor McLaughlin and Lower Hunting Creek Meadows, Round Mountain Road and eastern trail seeps, and the Northern Pond Meadow area throughout the year for vehicular intrusions and OHV impacts. Year-round photo monitoring will document when the barriers have been compromised and the resulting impacts. Recreation and Operations staffs will provide corrective repairs to vehicle barriers and signing as soon as possible following vehicle intrusion to limit meadow habitat damage.

Recreation and Wildlife staffs will establish photopoints at historical OHV intrusion sites and at new intrusion areas. Vehicle barriers will also be installed at new intrusion sites. Recreation and Wildlife staffs will take photos before and after the wet season to track OHV intrusions, impacts and impact recovery. Recreation and Wildlife staffs will complete Wildlife Habitat Monitoring Checklists to assess condition and determine the need for corrective actions. The checklist will serve as the first step in determining impacts to wildlife habitat concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and

implement further corrective actions. Use of aerial photography will be employed where feasible.

### **Resource Protection Program**

Wildlife habitat, soils and sensitive species within the Knoxville Recreation Area will be protected by a variety of different management tools. Ukiah Field Office will implement the following resource protection actions:

Law Enforcement: Law enforcement activities will enforce resource protection regulations concentrating on preventing illegal OHV use, vandalism to facilities and resources, wildlife harassment, and providing visitor assistance, information and contact.

Public Education: Law enforcement and Recreation staffs will provide visitor assistance, information and contacts to OHV enthusiasts concerning use of designated routes, trespass, the need for closed trails/areas, respecting wildlife, cultural resources and private land, preventing undue soil loss, and reporting vandalism/resource damage. Public education will be emphasized through on-site public contacts and by updating existing printed visitor information and maps.

Signing and Barriers: Signing and barriers (boulders/pipe and cable) will be used throughout the OHV area to maintain OHV use on designated routes and out of closed areas to prevent loss of wildlife habitat. Plastic flexible markers will be carried at all times by BLM employees while monitoring to replace damaged signs.

Erosion Control Devices: Rolling dips, water bars, drainage lead-outs, bridges, culverts, and turf block will be installed to reduce or eliminate soil loss at stream crossings, sensitive habitat and highly erodible soil areas.

Trail Maintenance: Routine annual trail maintenance will be used to provide soil conservation and habitat protection throughout the Knoxville Recreation Area. Trail maintenance includes general grading, cleaning drainage lead-outs and culverts, maintaining rolling dips and water bars, and trail bed maintenance. Trail maintenance will be performed by the Recreation and Operations staffs beginning in the late spring when soil conditions are optimal.

Trail Rehabilitation, Reroutes and Closures: Trails may be rerouted or closed and rehabilitated if monitoring indicates excessive soil loss and/or impacts to BLM Sensitive Species as a result of OHV use.

### **Management Review and Specific Habitat Protection Measures**

The management review process for wildlife habitat, stream crossing and soil monitoring data, and issue resolution for OHV impacts begins with open discussions of the monitor data sheets and photographs with the UFO Monitoring Standard Review Team. The team consists of the field data collector, wildlife biologist, soil specialist, outdoor recreation planner, LE ranger, and UFO manager. If necessary the team will travel to the monitoring site for evaluation. The review team will establish priorities for further action (routine maintenance, law enforcement, extensive repair, or closure) based on the affected resources and the severity of impact. The team can also recommend changes to the Wildlife Habitat Protection Plan, noting the specific problem, solution and new monitoring method.

The following measures provide management actions to resolve issues leading to OHV impacts to sensitive species or wildlife habitat. Law enforcement activities will enforce resource protection regulations concentrating on preventing illegal OHV use, vandalism to facilities and resources, wildlife harassment, and providing visitor assistance, information, and contact.

Townsend's Western Big-eared Bat: No new trails will be established within 100 feet of Townsend's western big-eared bat habitat. Existing trails revealed through photopoint monitoring and the Wildlife Habitat Monitoring Checklist to be producing excessive impacts to the bat will be closed and rehabilitated. Recreation and Operations staffs will install vehicle barriers and provide rehabilitation measures within one year of notification.

Adobe Lily: No new trails will be established in Adobe lily habitat. Existing trails revealed through photopoint monitoring and the Wildlife Habitat Monitoring Checklist to be producing excessive impacts to Sonoma manzanita will be closed and rehabilitated. Recreation and Operations staffs will install vehicle barriers and provide rehabilitation measures within one year of notification.

Drymaria-like Western Flax: No new trails will be established in Drymaria-like western flax habitat. Existing trails revealed through photopoint monitoring and the Wildlife Habitat Monitoring Checklist to be producing excessive impacts to Sonoma manzanita will be closed and rehabilitated. Recreation and operations staff will install vehicle barriers and provide rehabilitation measures within one year of notification.

Serpentine Barrens: Serpentine barrens containing OHV trails with excessive soil loss or impacts to BLM Sensitive Species as indicated through photopoint monitoring and Wildlife Habitat Monitoring Checklists will be closed, rehabilitated and, if feasible, rerouted. Recreation and Operations staffs will implement the closures, reroutes and rehabilitation measures within one year of notification.

Stream Crossings: Stream crossings with excessive soil loss or impacts to BLM Sensitive Species as indicated through photopoint monitoring and OHV Stream Channel and Crossing Monitoring Checklists will either be closed or harden. Installation of rolling dips, water bars, drainage lead-outs, bridges, culverts, or turf block will normally resolve excessive soil loss and habitat impacts at stream crossings. Recreation and operations staffs will provide installation and maintenance of corrective erosion control devices at stream crossings within one year of notification. Future trail development with perennial stream crossings will contain the appropriate erosion control devices.

Wet Meadows: Recreation and Operations staffs will repair or replace vandalized vehicle barriers and visitor information signs as indicated by photopoint monitoring and Wildlife Habitat Monitoring Checklists. Installation of visitor information signs and vehicle barriers will normally resolve OHV intrusion to meadow habitat. Repair or replacement of vehicle barriers and signs will occur within one year of notification. Future trail development will provide an effective buffer zone around meadow habitat.

### **Knoxville Monitoring Summary**

Monitoring accomplishments will continue through November or until the winter rains begin.

Serpentine Barrens Monitoring Results: UFO Outdoor Recreation Planner and Wildlife Biologist monitored the northern serpentine barren located across the Round Mountain Road from the Northern Staging Area. The barren contains several spur trails that branch off of the primary trail paralleling Round Mountain and Dunnigan Roads. These spur trails are causing excessive erosion and vegetative damage. The spur trails are included for closure in the Knoxville Lake County Connector Trail and Restoration project to be implemented in fiscal year 2002.

Riparian Areas (stream crossings, seeps and wet meadows) Monitoring Results:

Stream Crossing: UFO Outdoor Recreation Planner and the Natural Resource Specialist monitored selected riparian sites in the Knoxville area. Hunting Creek upper low water vehicle crossing is an old concrete structure located at the northern entrance to Knoxville. Stream flow is undercutting the structure at the bank and culvert piping and partial plugging is evident. Recommend that the UFO Operation Crew continue annual maintenance and develop a plan to replace the existing vehicle crossing. The lower Hunting Creek ford contains two separate areas for crossing the creek. The concerns at this ford are damage to riparian vegetation, potential for widening, vehicle access into the creek, and the hazard to aquatic wildlife. Recommend replacement with a compacted gravel and culvert crossing structure. Hunting Creek monitoring point adjacent to Hunting Creek Campground showed no sign of OHV use or impacts.

Culvert installation on Pocock Road for three crossings of Cedar and Pocock Creeks removes the potential for further OHV impacts. Temporary installation impacts are evident, with no OHV impacts recorded at any of the three crossings. Bedrock Creek crossing, about .75 miles downstream from the Hunting Creek Campground, shows minimal damage to the approaches. The rolling dip just before the northern creek approach needs reshaping. The southern approach needs rock to harden the approach where the trail meets the creek. Lockwood Grade Creek crossing is located down stream of the Bedrock Creek crossing. The northern approach is stable, and the southern approach needs a rolling dip reshaped just before reaching the creek.

Seeps and Wet Meadows: UFO Outdoor Recreation Planner and the Wildlife Biologist monitored several seeps and wet meadows in the Knoxville area. They found the northern seep located north just off of Round Mountain Road OHV impact free and the pipe and cable barrier in place. UFO will be closing another vehicle access to the seep before the winter rains begin. Hunting Creek wet meadow, about two miles down stream from the campground was also OHV use and impact free. Downed trees blocking the old vehicle access point are still effective, with other vegetation beginning to take over the opening to the meadow.

McLaughlin seep is located off Dunnigan Road just past the Knoxville northern entrance. The McLaughlin area was severely impacted two years ago by OHVs during the wet season. UFO and UC, Davis installed pipe and cable, boulders and fencing to close the area to OHV use. The area is showing signs of healing with no new OHV activity evident. Cedar Creek meadows are accessed via the Cedar Creek jeep trail off of Pocock Road. The three meadows, adjacent to the jeep trail are closed to OHV use, yet they received continuous illegal use. This past winter UFO gated the 1.5 mile jeep trail to eliminate the illegal use and allow the meadows to recover. The meadows have not received any OHV use since the gate was installed in January, 2001.

**Item F: Soil Conservation Activities**

## **South Cow Mountain Recreation Area**

Soils Monitoring Strategy: The vast majority of trails on South Cow Mountain are located on soils with an Erosion K Factor of less than 0.32. K factors less than 0.32 present soils that will sustain trail and road development and use. UFO will prioritize monitoring and maintenance, or rerouting and restoration on trail segments that pass through soils with a K factor greater than 0.32.

Soil loss monitoring priority is based on the following criteria: soil type, slope steepness, habitat type, location of sensitive species, weather events, and the amount of use on the trail. First monitoring priority will be given to trails where the greatest number of monitoring criteria are occurring in one place. Subsequent priorities will be established on a decreasing scale of monitoring criteria occurrence.

Recreation and Operations staffs will monitor approximately seventy-five miles of trail annually in the South Cow Mountain OHV Recreation Area (almost ½ of the trail system mileage). Staff members will select specific trails for monitoring each year based on the above monitoring priority criteria. Recreation and Operations staffs will use the Soil Loss Monitoring Checklist forms (green, yellow and red conditions) to assess condition and determine the need for corrective actions. Photos will be taken at each “yellow” and “red” checklist point monitored on the trail. “Green” trails do not require checklist forms or photos. Checklist evaluations will serve as the first step in determining soil loss impacts to the trail system concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Soil Loss Monitoring Results and Standards Compliance Strategy: Fiscal year 2001 monitoring will continue until the winter rains saturate the soils, making access hazardous. UFO Outdoor Recreation Planner and the Natural Resource Specialist monitor trails for soil loss standards on South Cow Mountain. Results indicate the majority of trails on South Cow are sustainable employing a rotating annual maintenance strategy using hand crews and trail mechanized equipment (no Green Sticker funding is used for maintaining trails with mechanized equipment). Long segments of trail rate “green” with short lengths needing annual maintenance or “yellow” sites. Yellow maintenance tasks commonly include reshaping or reopening rolling dips, minor out sloping, culvert cleaning, or filling a rut. Currently two trail segments are identified for reroutes of less than a 1/4 mile, and two segments for closure. However, further monitoring will document hill climbs and portions of trail out of compliance.

UFO will focus on maintaining about twenty-five miles of hand built trail by hand crews from the CCCs, inmate crews and private contractors in fiscal year 2002. UFO is also researching maintenance equipment to purchase a single track trail maintenance tractor. If hand crews are not efficient or effective at maintaining the single tracks, or a single track tractor is not available the trails will be converted (widen to a minimum of about four feet) to Sweco maintained trails. Unsustainable hill climbs will be closed and rehabilitated using the same procedures as fire break rehabilitation.

Trails other than single track will be maintained with the Sweco or small dozer. Green Sticker funding will not be used for operation of mechanized equipment for trail

maintenance. UFO Operation Crew will maintain approximately seventy-five miles of trail with mechanized equipment on South Cow Mountain in fiscal year 2002.

### **Knoxville Recreation Area**

Soils Monitoring Strategy: The vast majority of trails within the Knoxville area are located on soils with an Erosion K Factor of less than 0.32. Soils with a K factor less than 0.32 will sustain trail and road development and use. UFO will focus monitoring and maintenance, or rerouting and restoration, on segments that pass through soils with a K factor greater than 0.32.

Soil loss monitoring priority is based on the following criteria: soil type, slope steepness, wildlife habitat type, location of sensitive species, and the amount of use on the trail. First monitoring priority will be given to trails where the greatest number of monitoring criteria are occurring in one place. Subsequent priorities are established on a decreasing scale of monitoring criteria occurrence. The soil loss checklist (green, yellow and red sheets) will be used annually to assess condition and determine the need for corrective actions.

Recreation and Operation staffs will monitor approximately twenty-five miles of trail annually in the Knoxville Recreation Area (about ½ of the trail system mileage). Staff members will select specific trails for monitoring each year based on the above monitoring priority criteria. Recreation and Operation staffs will use the Soil Loss Monitoring Checklist forms (green, yellow and red conditions) to assess condition and determine the need for corrective actions. Photos will be taken at each “yellow” and “red” checklist point monitored on the trail. “Green” trails do not require checklist forms or photos. Checklist evaluations will serve as the first step in determining soil loss impacts to the trail system concentrating on identifying OHV use occurring off designated trails, increasing trail width, impacts to vegetation, damage to sensitive areas, erosion impacts, and any direct impacts to sensitive species. Follow-up studies may be necessary to plan and implement further corrective actions. Use of aerial photography will be employed where feasible.

Soil Loss Monitoring Results and Standards Compliance Strategy: Fiscal year 2001 trails monitoring will continue until the winter rains begin. UFO Outdoor Recreation Planner and the Recreation Solutions Outdoor Recreation Planner conducted monitoring which lead to the recommendation to close of approximately nine miles of trail. The majority of the of trail closures are in highly erodible soils. Trail closures will begin this fall funded through a National Recreational Trails grant and Jobs-in-the-Woods money. UFO Outdoor Recreation Planner and the Natural Resource Specialist will continue monitoring in the spring of fiscal year 2002, documenting recommendations for trail maintenance and closures.

Trails will be maintained with the Sweco or small dozer. Green Sticker funding will not be used for operation of mechanized equipment for trail maintenance. UFO Operation Crew will maintain approximately twenty-five miles of trail with mechanized equipment at Knoxville this coming fiscal year.

**Item H: Detailed Cost Summary**

	<b>Cow Mnt.</b>	<b>Knoxville</b>	<b>BLM Contribution</b>	<b>Total</b>
<b>Conservation</b>				
Management				
Salaries			14,400.00	14,400.00
Uniforms			800.00	800.00
Soil Monitoring				
Salaries			4,800.00	4,800.00
Vehicles	400.00	950.00		1,350.00
Pick-up truck use rate			1,200.00	1,200.00
Vegetation and Wildlife Monitoring				
Salaries			4,800.00	4,800.00
Vehicles	400.00	950.00		1,350.00
Erosion Prevention				
Salaries			19,200.00	19,200.00
Boulder rip/rap	12,000.00	12,000.00		24,000.00
Pipe and Cable	1,500.00	1,000.00		2,500.00
Equipment Maint.	800.00	200.00	500.00	1,500.00
Vehicles	800.00	950.00		1,750.00
Contracts (hand crews)				
Inmate crew trail bed maint.	2,000.00	1,000.00		3,000.00
CCC crew trail bed maint.	20,000.00	2,000.00		22,000.00
Single track trail contract	10,000.00			10,000.00
Mulch and Native Seed	500.00	500.00		1,000.00
Jobs-in-the-Woods watershed improvement			110,000.00	110,000.00
Resource Protection				
Salaries			4,800.00	4,800.00
Signing	250.00	250.00		500.00
Cow Mnt. Map/ Brochure	5,000.00			5,000.00
Volunteer Day	400.00	400.00	400.00	1,200.00
Conservation Training	1000.00	500.00		1,500.00
Subtotal	55,050.00	20,700.00	160,900.00	236,650.00

	<b>Cow Mnt.</b>	<b>Knoxville</b>	<b>BLM Contribution</b>	<b>Total</b>
<b>Law Enforcement</b>				
Management				

Uniforms			800.00	800.00
OHV Patrol				
LEO salaries	53,000.00	26,500.00	36,900.00	116,400.00
FPO salaries			2,400.00	2,400.00
Supplies				
Riding Equip.	1,250.00	250.00	250.00	1,750.00
Vehicle				
Motorcycle Maint.	500.00	100.00		600.00
Contracts				
Mendocino County Sheriff's Department	15,000.00			15,000.00
Lake County Sheriff's Department	15,000.00			15,000.00
Other				
Special enforcement team details	10,000.00	10,000.00	10,000.00	30,000.00
Wilderness Study Area Intrusion				
Salaries			2,400.00	2,400.00
Aerial flights			2,000.00	2,000.00
Signs and barricades				
Salaries			9,600.00	9,600.00
Cost of signs	750.00	250.00		1,000.00
Vehicles			5,000.00	5,000.00
Contracts				
Vandalized sign repair	500.00	250.00		750.00
Pipe and Cable barrier	1,000.00	250.00		1,250.00
Boulder barriers	24,000.00	12,000.00		36,000.00
Enforcement Training	500.00	250.00		750.00
Subtotal	121,500.00	49,850.00	69,350.00	240,700.00

	<b>Cow Mnt.</b>	<b>Knoxville</b>	<b>BLM Contribution</b>	<b>Total</b>
<b>Facility Maintenance</b>				
Management				
Salaries			4,800.00	4,800.00
Picnic tables	1,200.00	600.00		1,800.00
Fire rings	900.00	300.00		1,200.00
Garbage containers	500.00	250.00		750.00
Abandoned Vehicles	750.00	500.00	1,000.00	2,250.00
Uniforms			600.00	600.00
Housekeeping				
Salaries			4,800.00	4,800.00
Supplies	1000.00	500.00		1,500.00
Contracts				
LADB Fac. Maint.	25,000.00			25,000.00
Vault toilet pumping	1,500.00	500.00		2,000.00
Facility Repair				
Salaries			2,400.00	2,400.00
Supplies			500.00	500.00
Contracts				
Sign painting	500.00	500.00		1,000.00
Tools	100.00	100.00	100.00	300.00
Road and Trails				
Salaries			14,400.00	14,400.00
Supplies			1,000.00	1,000.00
Heavy Equipment				
Use rate			14,800.00	14,800.00
Fuel			3,000.00	3,000.00
Vehicles				
Pick-up truck use rate			1,200.00	1,200.00
Fuel			12000.00	12,000.00
Contracts				
Inmate crew trail brushing	2,000.00	1,000.00		3000.00
CCC crew trail brushing	20,000.00	2,000.00		22,000.00
Signs				
Salaries			2,400.00	2,400.00
Cost of signs	500.00	250.00		750.00
Contract				
LADB trail sign maint.	3,000.00			3,000.00
Subtotal	56,950.00	6,500.00	63,000.00	126,450.00

	Cow Mnt.	Knoxville	BLM Contribution	Total
<b>Administration</b>				
Management				
Salaries			4,800.00	4,800.00
Supplies			500.00	500.00
Subtotal			5,300.00	5,300.00

	<u>1999/2000</u>	<u>2000/2001</u>	<u>2001/2002</u>	<u>% Change</u>
Conservation	<u>116,000.00</u>	<u>151,000.00</u>	<u>75,750.00</u>	<u>-50%</u>
Enforcement	<u>31,500.00</u>	<u>135,000.00</u>	<u>171,350.00</u>	<u>27%</u>
Facility Maintenance	<u>77,500.00</u>	<u>32,500.00</u>	<u>63,450.00</u>	<u>97%</u>
Administration	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
Other	<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
Grand Total Request	<u>225,000.00</u>	<u>318,500.00</u>	<u>310,550.00</u>	<u>-2.5%</u>