ENVIRONMENTAL ASSESSMENT
Issuance of 10-Year Grazing Lease for the Clover Flat Allotment
CA-660-EA-08-32

U.S. Department of the Interior
Bureau of Land Management
Palm Springs South Coast Field Office
October 2008

CHAPTER 1: INTRODUCTION

A. Summary

The Bureau of Land Management (BLM) is proposing to issue a ten year lease on the Clover Flats Allotment (approximately 7,873 acres) to authorize livestock grazing in accordance with law and policy described in the Purpose and Need section below. The following is a summary of the current situation:

Clover Flat Allotment acres	7,873
Public land Acres in allotment:	6,760*
LaPosta Withdrawal*	1,078
Kind of livestock:	Cattle
Current authorized Use:	Yearlong
Plan Area:	South Coast RMP

* Of the 6,760 acres of public lands available within the allotment, only 15%(1018 acres) is grazable due to terrain limiting factors.

*withdrawn by the Department of the Navy for the La Posta MountainWarfare Training Facility

B. Background

The Bureau of Land Management (BLM) is proposing to issue a ten-year lease to authorize cattle grazing on suitable portions of the Clover Flat Allotment. Grazing would occur on approximately 1,018 acres within a 6,760 acre allotment on public land located approximately three miles northeast of Cameron Corners, California in San Diego County. This grazing allotment is typical of central San Diego County, with low, rolling hills and a mosaic of dense chaparral and open spaces. Elevations in the allotment area range from 3000 to 3300 feet.

The current lessee has intermittently grazed this area since the 1960s. Subsequently, grazing authorizations were garnered via completion of the Otay Grazing Environmental Impact Statement (EIS) of 1984. Since 1984, grazing activity has become increasingly intermittent and ephemeral due to change in vegetation community types, recent climatic conditions change, extensive drought, and changing fire regimes in the region. Other portions of the allotment have been reduced due to a Navy withdrawal. The allotment has been grazed only once in the last ten years and habitat conditions are considered excellent in the allotment.

The lease for the Clover Flat Allotment expired in 2004; however, it was subsequently renewed under the authority of Public Law 106-113 for 10 years with the same terms and conditions as the expired lease. Public Law 106-113 requires compliance with all applicable laws and regulations including the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). Following the analysis of environmental impacts, this grazing lease may be approved, canceled, suspended or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

C. Tiering to the South Coast Resource Management Plan and Final Environmental Impact Statement; Record of Decision dated June, 1994.

The Otay Grazing EIS (1984) decisions summarized in Tables G-1 and 2 are incorporated by reference into the South Coast Resource Management Plan (SCRMP) and provide site-specific analysis for this grazing allotment. Analysis of environmental issues previously considered and addressed in the SCRMP will be incorporated by reference.

A summary of the analysis tiered in this EA is as follows:

1. The SCRMP provides overall direction for managing and allocation of BLM public land resources and developing and establishing conservation strategies for special status plant and animal species within the South Coast Area. As part of this conservation strategy, the BLM determined which public lands would be available or unavailable for livestock grazing based, in part, on impacts to these resources. In addition, the SCRMP by reference of the Otay Grazing EIS established programmatic management prescriptions including: land health standards and guidelines; utilization prescriptions for perennial species; and restrictions on cattle grazing within sensitive habitat. This EA analyzes the specific application of the programmatic management prescriptions of the SCRMP Plan and considers alternative means to achieve the purpose and need on this allotment as described in Section C of this chapter.

2. The SCRMP considered a range of alternatives for the livestock grazing program, including more or less restrictive management approaches within the 129,000 acre planning area.

D. Purpose and Need for the Proposed Action

The purpose of the proposed action is to authorize cattle grazing on public lands, determined suitable for this use, in a manner that is consistent with law and regulation. Since completion of the Otay Grazing EIS and SCRMP, there have been considerable changes in circumstances surrounding the original permit authorizations. Noticeable changes in allotment conditions have occurred since the original permit approvals, including loss of allotment acres due to withdrawal, drought, increased fire frequencies, invasive species, and many newly recognized listed and sensitive species over the last decade.

Actions must be in conformance with the implementing regulations for the National Environmental Policy Act, NEPA (40 CFR Part 1500), the Federal Land Policy and Management Act (FLPMA), BLM grazing regulations (43 CFR Part 4100), and Public Law 106-113 section 325.

E. LAND USE PLAN CONFORMANCE and Other Regulatory Compliance:

Grazing in this area in conformance with the following plans:

The South Coast Resource Management Plan and Record of Decision, June, 1994 specifically:

- The Allotment Boundary is within the San Diego County Management Area Map 2-1. It boarders the U.S. Navy occupied La Posta Microwave Station. Currently, adjacent BLM parcels are authorized for grazing

- Otay Grazing Area EIS. July, 1984

The allotment meets the Secretary of the Interior's Approved Rangeland Health Standards as follows:

Table 1: 1999 Rangeland Health Assessment

Rangeland Health Standard	Meets Standard	Does Not Meet Standard	Impacts from Livestock Yes or No	Remarks
Soils	X	n/a	n/a	
Riparian	X	n/a	n/a	
Stream Channel	X	n/a	n/a	
Native Species	X	n/a	n/a	

Authority:

1. General Grazing

Authority for the proposed action includes:

- the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) as amended by the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.);
- the Taylor Grazing Act of June 28, 1934 as amended (43 United States Code 315, 315a through 315r);
- Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.); and the
- Public land orders, executive orders, and agreements authorize the Secretary to administer livestock grazing on specified lands under the Taylor Grazing Act or other authority as specified.

2. State Historic Preservation Officer Protocol Amendment for Renewal of Grazing Leases:

In August 2004 the State Director, California Bureau of Land Management, and the California State Historic Preservation Officer (SHPO) addressed the issue of the National Historic Preservation Act (NHPA) Section 106 compliance for processing grazing permit lease renewals as defined in 43 CFR 4100.0-5. The State Director and the SHPO amended the 2004 *State Protocol Agreement between California Bureau of Land Management and The California State Historic Preservation Officer* with the 2004 Grazing Amendment, Supplemental Procedures for Livestock Grazing Permit/Lease Renewal. This amendment allows for the renewal of existing grazing permits prior to completing all NHPA compliance as long as the State Protocol direction, the BLM 8100 Series Manual Guidelines, and specific amendment direction for planning, inventory methodology, tribal and interested party consultation, evaluation, effect, treatment, and

monitoring stipulations are followed.

F. Voluntary Relinquishment

A lessee may request voluntary relinquishment of their lease at any time; however, a plan amendment would be required for subsequent designation of the allotment as unavailable for livestock grazing. If BLM determines that such an amendment is not warranted, the allotment would remain available for livestock grazing and BLM would consider new applications for lease by qualified applicants.

G. Tribes, Individuals, Organizations, or Agencies Consulted

1. Public Participation

Notification of the proposed action and analysis has been prominently posted in the Palm Springs South Coast Field Office public area and on the Field Office web site during the environmental review process. The web site main page provides a link to projects currently under environmental review.

2. Native American Consultation and Coordination:

The following Native American Tribes were consulted during formulation of the SCRM Plan including land use plan level analysis of the Clover Flat Allotment:

- Agua Caliente Band of Cahuilla Indians, Palm Springs, CA
- Barona Indian Mission
- Cahuilla Band of Mission Indians
- Campo Band of Mission Indians
- Cuyapaipe Indian Reservation
- Inaja and Cosmit Reservation
- Jamul Indian Village
- La Jolla Indian Reservation
- La Posta Band of Mission Indian
- Los Coyotes Band of Mission Indians
- Mesa Grande Band of Mission Indians
- Morongo Reservation
- Pala Indian Reservation
- Pauma Band of Mission Indians
- Pechanga Band of Mission Indians
- Ramona Indian Reservation
- Rincon Reservation
- San Pasqual Indian Reservation
- Santa Rosa Band of Mission Indians
- Sycuan Band of Mission Indians Viejas Tribal Council

3. (CCC) Consultation, cooperation, and coordination with the Lessee

1/5/04: The BLM contacted the lessee regarding the expiring grazing lease and the Secretary of the Interior's direction on renewal under the Appropriations Act 2004 (Public Law 108-108)

2/23/04: The BLM contacted lessee regarding renewal of lease, pending signatures under existing terms and conditions.

8/13/04: The BLM contacted the lessee to provide an update on the status of the lease issuance process.

9/04: The BLM contacted the lessee informing him the Navy was initiating La Posta Microwave Mountain Warfare Training Facility (MWTF) withdrawal proposal including expansion of existing withdrawal and submission of an application for a right-of-way (ROW).

2/23/05: The BLM informed the lessee about the process of lease issuance, and how the Navy's proposal may affect the Allotment activities.

4/05/05: The BLM contacted the lessee to inform him of the Navy's public meeting describing the proposed activities of the withdrawal.

4/24/07: The BLM contacted the lessee informing him that the Environmental Assessment for the La Posta Mountain Warfare Training Facility was completed and out for comments.

11/14/07: The BLM contacted lessee about the BLM's public meeting for the proposed South Coast Resource Management Plan revision.

9/23/08: The BLM contacted lessee with ongoing analysis of lease renewal for coordination and consultation purposes.

CHAPTER 2: ALTERNATIVES CONSIDERED FOR DETAILED ANALYSIS

Management Common to All Action Alternatives: Given the ephemeral nature of vegetation production in this region, in relationship to variable climatic changes including long term drought conditions, and significantly increased fire frequency, the BLM would require onsite inspections prior to livestock turn out, in order to assess range conditions. BLM would authorize non-use for those years that range conditions are not conducive for grazing.

Rangeland Health and Biological Monitoring: The methods described in the Interagency Technical References 1734-6 series Utilization and Residue Measurement, Sampling Vegetation Attributes, and Measuring and Monitoring Plant Populations would be used for overall monitoring. Methods used would be specific to monitoring for vegetation utilization, trend, and species diversity for those specific seasons where grazing has been authorized. Rangeland health monitoring would not be conducted during years when no grazing occurs. In addition, BLM as a result of monitoring would set objectives for residual dry matter (i.e., the amount of forage left in area after cattle have been removed) for this allotment in order to protect watershed resources.

Biological monitoring would be conducted on a consistent basis according to established monitoring protocols for measuring abundance and distribution of Quino checkerspot butterfly (*Euphydryas editha quino*) (QCB) larval host plants and nectar plants, as well as Quino occurrence within the allotment.

Should monitoring studies demonstrate significant conflict with management of QCB as indicated by deterioration of rangeland health conditions, failure to meet any of the fall back guidelines and has been determined to be livestock caused, BLM would immediately implement alternative adaptive management strategies and re-consult with U.S. Fish and Wildlife Service (USFWS).

Alternative A: Current Year Round Use

This alternative is to reissue the existing 10-year lease in conformance with the SCRMP, and the Otay Grazing EIS.

Authorized Use:

a. Livestock Numbers and Season of Use

Allotment Name	Cattle Number *	AUMs**	Season of Grazing Use***	
			From	To
Clover Flat	59	708	March 1	February 28

* The number of livestock authorized to graze during the season of use.

** Animal Unit Month (AUM) the amount of forage necessary for the sustenance of 1 cow or its equivalent for a period of 1 month.

*** The period livestock typically graze forage on the allotment. The grazing period of use does not apply (NA) to ephemeral allotments because grazing use would occur when forage is available

- Utilization of key perennial forage species shall not exceed 40 percent in the Clover Flat allotment: Key species are as follows:

No key species were identified in the Otay EIS or subsequent terms and conditions
BLM will further refine key species based on newly established monitoring.

- Grazing use shall be managed according to grazing regulations, allotment management plans, the South Coast RMP as amended. Grazing use shall be curtailed to protect perennial plants during severe or prolonged drought. Grazing uses may also be modified to minimize conflict with threatened and endangered species.
- In years when weather results in extraordinary conditions the BLM may require the lessee to modify grazing to allow seed germination, seedling establishment, and reproduction of native plant species. During prolonged drought the BLM would require the lessee to reduce stocking rates.
- Submission of actual use reports would be required within 15 days after the end of the grazing authorization. Actual use reports would be required to provide detailed location and number of livestock.

Alternative B: No Action (No Grazing) Alternative

This alternative would authorize no grazing of the allotment and the existing permit would be cancelled.

Alternative C: Seasonal Use Modification and AUM Reduction Alternative

This alternative is to re-issue the existing 10-year lease with specific seasonal restraints as follows:

Authorized Use:

Livestock Numbers and Season of Use

Allotment Name	Cattle Number *	AUMs**	Season of Grazing Use***	
			From	To
Clover Flat	59	205	November1	March 30

* The number of livestock authorized to graze during the season of use.
** Animal Unit Month (AUM) the amount of forage necessary for the sustenance of 1 cow or its equivalent for a period of 1 month.
*** The period livestock typically graze forage on the allotment.

All other permit terms and conditions would continue to apply.

Alternative D: Ephemeral Authorized Use and Seasonal Use Modification

This alternative is to re-issue the existing 10-year lease with specific seasonal restrictions and authorized use modifications would be determined on a yearly basis, based on pre-turn out forage monitoring:

Authorized Use:

Livestock Numbers and Season of Use

Allotment Name	Cattle Number *	AUMs**	Season of Grazing Use***	
			From	To
Clover Flat	Up to 59	Variable, but not to exceed 205	November 1 variable but not exceed 5months	March 30

*The number of livestock authorized to graze during the season of use.
**Animal Unit Month (AUM) the amount of forage necessary for the sustenance of 1 cow or its equivalent for a period of 1 month.
*** The period livestock typically graze forage on the allotment. The grazing period of use does not apply (NA) to ephemeral allotments because grazing use would occur when forage is available

BLM would not allow grazing for that portion of the season where Quino larval host plant monitoring demonstrates that grazing is having a considerable effect on host plants availability needed by for QCB.

All other permit terms and conditions would continue to apply.

CHAPTER 3: ENVIRONMENTAL ANALYSIS

A. Issue Identification

Significant issues are defined as those actions which may cause a direct or indirect effect to the physical or biological environment, create an unresolved conflict between uses or have the potential for significant resource degradation.

Non-significant issues that will not be addressed in detail are those outside of the scope of the proposed action, already decided by law, regulation or policy, not germane to the decision being made, or are conjectural or lacking factual evidence.

The following table summarizes potential impacts to various elements of the human environment, including the "critical elements" listed in BLM Manual H-1790-1, Appendix 5, as amended. Elements for which there are non-substantial impacts are briefly described in the body of this document with supporting rational and will not be discussed further in this document. No analysis is provided for those resources that are not present.

An interdisciplinary team was used to identify potential issues to be address by this environmental assessment. The following table identifies those issues to be addressed by detailed analysis.

Environmental Element	Action Alternatives	No Action Alternative
Air Quality	Negligible affect	No impact
ACEC's	Not present	Not present
Cultural Resources	No effect	No effect
Native American Concerns	See discussion	See discussion
Farmlands	Not present	Not present
Floodplains	Not affected	Not affected
Energy (E.O. 13212)	Not present	Not present
Minerals	Not affected	Not affected
T&E Animal Species	See discussion	See discussion
T&E Plant Species	See discussion	See discussion
Invasive, Nonnative Species	See discussion	See discussion
Wastes (hazardous/solid)	No impact	No impact
Water Quality (surface and ground)	See discussion	See discussion
Wetlands/Riparian Zones	See discussion	See Discussion
Wildlife	See discussion	See Discussion
Wild and Scenic Rivers	Not present	Not present
	Not present	Not present

Wilderness		
Environmental Justice	No issues identified	No issues identified
Vegetative condition	See Discussion	See Discussion
Visual Resource Mgmt.	Not impacted	Not impacted

AIR QUALITY

Affected Environment

The South Coast Air Basin, Air Quality Management District (SCAQMD) has State air quality jurisdiction over the area associated with the proposed action. The SCAQMD has rules that apply to this project along with permitting requirements. Much of the time, air quality throughout the project area is generally good. However there are times that the area does not meet air quality standards due to locally generated and/or wind transported pollutants. The vicinity in which all subject grazing allotments are located is currently classified as a federal non-attainment area for ozone and particulate matter less than 10 microns in diameter (PM-10) under national standards. The area is within the South Coast PM-10 Planning Area and the San Diego Air Pollution control District (SDAPCD) non-attainment area. The State Implementation Plan (SIP) identifies sources of PM-10 emissions and control measures to reduce emissions. The SIP emphasizes controls and management.

Environmental Consequences:

a. Impacts of All Action Alternatives

In general, soil disturbance from the trampling action of the livestock when soil moisture levels are low would result in increased fugitive dust emissions (PM10) in the allotment. In addition, vehicles used in association with livestock operations on the access roads would also generate small additional amounts of PM10 emissions and various precursor emissions for ozone.

However, the overall effect on air quality would be slight due to the generally wide distribution of livestock movement patterns in the allotment. Occasionally, livestock would be concentrated in temporary holding areas for short periods off the allotment. Emissions would be higher during potential holding periods, but would not exceed standards. PM-10 and ozone emissions within this allotment are de minimus and no further conformity determination is required.

b. Impacts of No Action Alternative.

No soil disturbance from the trampling action of the livestock would occur and additional fugitive dust emissions would not result.

c. Cumulative Impacts of Action Alternatives

The slight increase in PM10 emissions resulting from grazing would make a very small contribution to overall PM10 levels in the general area. Sources of PM10

particles in the area include vehicles being driven on unsurfaced roads and areas devoid of vegetative cover and subject to wind erosion.

Consultation: Consultation with South Coast Air Quality Management District was not undertaken as emissions are expected to be de minimus and air quality is not expected to be impacted.

2. CULTURAL RESOURCES

Affected Environment

Cultural resources are definite locations of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence. The term includes archaeological and historic, or architectural sites, structures, districts, or places with important public and scientific uses and may include locations of traditional cultural or religious importance to specified social and/or cultural groups. Significant cultural resources are those that meet one or more criteria for inclusion in the National Register of Historic Places (NRHP). The responsibilities of federal agencies with respect to these resources are identified in several regulations, including the National Historic Preservation Act (16 U.S.C. § 470), the Archaeological Resources Protection Act (16 U.S.C. §470aa), and the Native American Graves Protection and Repatriation Act (25 U.S.C. § 3001).

Domestic Livestock Grazing Impacts on Cultural Resources

Experimental studies designed to address the impacts of domestic livestock grazing on archaeological resources have demonstrated that intensive trampling may have an adverse effect (ASPNN 1990: Osborn et al. 1987; Roney 1977: and Nielson 1991). Intensive trampling may result in artifact breakage and disruption of features, stratigraphy, and spatial patterning of archaeological materials. Removal of vegetation or loosening of surface soils may lead to erosion.

Halford (1999:np) notes: “Intensity of grazing , soil hardness, moisture, vegetation cover, and type are factors influencing the level and types of impacts. The areas of greatest concern are those locations where livestock congregate and tend to spend a large percentage of their time (field observations1999).”

Based on these observations cultural resources survey should be focused on areas where cattle tend to congregate (man-made and natural water sources, meadows, and range improvement areas) within areas of high sensitivity for cultural resources. Fence lines should be surveyed where they pass through areas with a high sensitivity for significant cultural resources.

A records search was conducted as part of the cultural resources compliance for this EA using data on file in the BLM Palm Springs-South Coast Field Office and provided by the South Coast Information Center. Several linear surveys have been conducted in the portion of the allotment along the border with Mexico. Two large block surveys have been conducted: one in the northern portion of the allotment (Underwood and Gregory 2004) and one in the southern (Musser 1983). As a result of these inventories approximately 3054 acres have been inventoried for cultural resources. A recent survey of routes of travel conducted in support of the South Coast Plan

revision resulted in 14 miles of inventory along existing routes (Bholat and Chandler 2008). Of the 1018 grazable acres, approximately 410 acres have been surveyed at a Class III, intensive, level. The following brief overview of the project area is taken from Underwood and Gregory 2004 and Bholat and Chandler 2008.

Background

The prehistory of southeastern San Diego County and the Proposed Action area will be very briefly reviewed here. The cultural sequence begins with the Paleoindian period (approximately 12,000 to 7000 years before present [B.P.]). In the San Diego area, this is expressed as the San Dieguito complex. Early researchers believed that the economic focus during this period was on hunting big game. However, more recent research has shown the people of this period had a more generalized gathering and hunting economy. Along the coast, there was a considerable emphasis on marine resources.

The following period, the Archaic, (approximately 7000-1500 B.P.) is characterized by the La Jollan complex along the coast and the Pauma complex inland. These represent a long, stable adaptation with an emphasis on gathering and processing hard seeds. The La Jollan complex also emphasized collecting shellfish along the coast. The Pauma complex may represent the inland portion of a seasonal round which also included the coast and La Jollan sites, or the differences between the two may represent separate coastal and inland cultural groups.

The Late Prehistoric period (approximately 1300 B.P. through European contact around 200 B.P.) is marked by the appearance of small projectile points indicating the use of the bow and arrow, the common use of ceramics, and the replacement of inhumations (in-ground burials of the dead) with cremations, all characteristic of the Cuyamaca complex. Bedrock mortars are believed to be associated with the addition of acorns as a dietary staple.

When Spanish colonists arrived in southern California in 1769, southern San Diego County was occupied by the Kumeyaay, a group of independent, territorial bands with patrilineal descent. The Kumeyaay spoke a Yuman language of the Hokan linguistic stock (Underwood and Gregory 2004:11). The Kumeyaay Nation is divided into the Tipai, Ipai, and Kamia subgroups (Bholat and Chandler 2008:23). For the Kumeyaay vegetal materials- including grass and other seeds, cactus fruits, wild plums, pinyon nuts, and acorns- were probably among their primary foods. Small game provided the primary source of protein, and deer were hunted as well. All three subgroups probably practiced agriculture to some degree.

The Mission San Diego de Alcala, built in 1769, represents the first effort by the Spanish to establish a mission system in southern California. During the Mission period, the Kumeyaay strongly resisted the Spanish. Native use of the landscape was radically curtailed as the most productive land and water resources along the coastal strip were seized for the ranching and agricultural pursuits of the presidios, missions, and rancheros. Numerous coastal Indian rancherias in the San Diego region were soon abandoned, and survivors retreated to more remote areas.

Following Mexican independence in 1821, several large ranchos were established in San Diego County, west of the current project area. Transfer of California from Mexico to the United States in 1849 triggered an influx of settlers. The communities of Cameron Corners, La Posta, Campo, and Clover Flat were developed and the first federal land surveys were conducted in the area

from 1856 to 1859. The Homestead Act of 1862 further contributed to local settlement. The Campo Indian Reservation, which borders the allotment to the east, was established in 1893. During this early period of settlement mail and stage routes, connecting San Diego with Yuma ran through the area. Beekeeping, ranching, and mining were the primary economic pursuits. The San Diego and Arizona Railway reached Campo in 1916; the route between San Diego and El Centro was completed in 1919.

Environmental Consequences of the Action Alternatives:

Based on investigations to date, 23 archaeological sites and 10 isolates are located within the grazing allotment. Six of the sites have been recommended as eligible for listing on the National Register of Historic Places. According to the site forms and associated survey reports, none of the 33 resources have been impacted by grazing.

a. Impacts of the Action Alternatives

Four archaeological resources are located within the grazable area. The resources consist of: the La Posta road, San Diego-Arizona railroad, a windmill, and an isolated hole in top can. None of these resources have been impacted by grazing.

Existing range improvements consist of a windmill, watering trough, the fence along the La Posta road, and a cattle guard. All of these are located within areas that have been surveyed for cultural resources.

The Action Alternatives will have no effect to historic properties.

b. Impacts of No Action

The No Action Alternative will have no effect to historic properties as livestock use would not be authorized.

c. Cumulative Impacts of the Action Alternative

No impacts to cultural resources as a result of grazing have been identified. There would therefore be no cumulative impacts to cultural resources as a result of permit renewal.

Maps: Identifying the locations of cultural resources are not included due to the proprietary nature of the information.

References:

ASPPN
1990 Impacts of Domestic Livestock Grazing on Archaeological Resources Archaeological sites Protection and Preservation Notebook, Technical Notes I-15. U.S. Army Engineer Waterways Experiment Station, Vicksburg MS.
Bholat, Sara and Evelyn Chandler

2008 Cultural Resources Inventory of BLM Routes within the Border Mountains Planning Area San Diego County, California. Report on File: BLM Palm Springs-South Coast Field Office.

Halford, F. Kirk

1999 A Research Design for the Bishop Field Office Grazing Allotment Lease Renewal Assessments. Cultural Resource Project: CA-170-99-04. On file at the Department of the Interior, Bureau of Land Management, Bishop Field Office, Bishop, CA.

2003 Affected Environment. In: Environmental Assessment, Livestock Grazing Authorization. Department of the Interior, Bureau of Land Management, Bishop Field Office, Bishop, CA.

Musser, R. A.

1983 Cultural Resources Input for the Environmental Assessment of the Effects of the Proposed Conveyance of Public Lands near Campo, California to God Unlimited University of Healing, Inc.

Nielsen, Axel E.

1991 Trampling the Archaeological Record: an Experimental Study. American Antiquity 56(3):483-503

Osborn, Alan, Susan Vetter, Ralph Hartley, Laurie Walsh, and Jesslyn Brown

1987 Impacts of Domestic Livestock Grazing on the Archaeological Resources of Capitol Reef national Park, Utah. Midwest Archaeological Center Occasional Studies in Anthropology No. 20. National Park Service.

Roney, John

1977 Livestock And Lithics: The Effects Of Trampling. Manuscript on file at the Bureau of Land Management, Winnemucca District Office, Winnemucca, NV.

Underwood, Jackson and Carrie Gregory

2004 Draft Cultural Resources Survey of La Posta Mountain Warfare Training Facility San Diego, California. Report on File: BLM Palm Springs-South Coast Field Office.

3. ENVIRONMENTAL JUSTICE

Affected Environment:

The grazing allotment being analyzed is located in rural east San Diego County. The rural areas of this county are typically occupied by moderate to low-income households. No minority communities or low-income communities are located within or adjacent to the proposed project area. The proposed action would not impact the Native American's distinct cultural practices or result in disproportionately high or adverse human health or environmental effects on minority communities.

Environmental Consequences:

a. Impacts of Action Alternatives

The implementation of the proposed action would not affect minority or low income populations. Continued grazing in this allotment under the action alternatives would have an economic benefit to the lessee. This benefit would have a slight direct and indirect benefit on the local Cameron Corners economy.

b. No Action Alternative

Cancellation of the current grazing permit would not affect minority or low income populations. Under this alternative there would be no economic benefit to the lessee and no direct or indirect benefits would accrue for the local economy of the community of Cameron Corners.

c. Cumulative Impacts

All of the action alternatives would result in minimal accrual of economic benefits to the local economy of Cameron Corners.

Consultation: None
Maps: None
References: None

4. HEALTH AND SAFETY

Affected Environment:

Public use of this rural area consists of occasional through traffic on the Campo Road and low numbers of recreationists engaged in camping and touring along Shokey Truck Trail Road. The potential for public visitation proximal to grazing operations and occasional herding, present limited potential hazards to the public. Most of the grazable portions of the allotment are fenced, limiting public contact with livestock operations.

BLM would retain its responsibility to inspect the allotment for health, safety, and environmental issues.

Environmental Consequences:

a. Impacts of Proposed Action and No Action Alternatives.

The impact of livestock grazing on public health and safety is minimal. The facilities required for grazing, such as existing fences and watering troughs, are minimal and relatively isolated posing little or no risk to the public.

b. Cumulative Impacts

There are no known cumulative impacts to health and safety associated with livestock grazing operations.

Consultation: None
Maps: None
References:
Federal Land Policy and Management Act of 1976, Titles I – III.

Department of Interior, Part 485, Safety and Occupational Safety & Health Program, Chapter 23

Public Safety and Health.

5. NATIVE AMERICAN CONCERNS

Affected Environment:

The following Native American Tribes were consulted during formulation of the SCRMP and the Otay Grazing EIS, of which identified the allotment as available for continued domestic cattle use.

a. Agua Caliente Band of Cahuilla Indians, Palm Springs, CA
b. Barona Indian Mission
c. Cahuilla Band of Mission Indians
d. Campo Band of Mission Indians
e. Cuyapaipe Indian Reservation
f. Inaja and Cosmit Reservation
g. Jamul Indian Village
h. La Jolla Indian Reservation
i. La Posta Band of Mission Indian
j. Los Coyotes Band of Mission Indians
k. Mesa Grande Band of Mission Indians
l. Morongo Reservation
m. Pala Indian Reservation
n. Pauma Band of Mission Indians
o. Pechanga Band of Mission Indians
p. Ramona Indian Reservation
q. Rincon Reservation
r. San Pasqual Indian Reservation
s. Santa Rosa Band of Mission Indians
t. Sycuan Band of Mission Indians Viejas Tribal Council

None of the tribes have identified any concerns over the grazing authorizations for this allotment which have been in place for over thirty years.

Environmental Consequences:

a. Impacts of Proposed Action and No Action Alternatives.

No impacts were identified associated with continued cattle grazing in this allotment.

b. Cumulative Impacts

No cumulative impacts were identified during the Native American consultation process.

Consultation: See above list of tribes consulted.
Map: None.
References: None.

6. RECREATION

Affected Environment:

The Clover Flat Allotment receives light recreational use in the area (primarily on and adjacent to Campo Road). Limited water, dense chaparral vegetation, and steep terrain present challenging opportunities for hunting, bird watching, or hiking. In addition the allotment is contiguous with the U.S/Mexico border fence area and a significant amount of Department of Homeland Security (DHS) activity throughout the area. The presence of Border Patrol agents can intimidate the casual recreationist.

Environmental Consequences:

a. Impacts of Action Alternatives.

The impact of cattle grazing on recreation would not be substantial given the low numbers of recreationists using this area. However, this use may increase during wet spring seasons when wildflowers are prevalent and cattle grazing is most likely to occur. Grazing may disturb wildflower areas sought by recreationists however, a positive impact of grazing would be a reduction of dense vegetation that impedes access to areas that provide beautiful vistas.

b. Impacts of the No Action Alternative

Under this alternative, no disturbance to wildflower areas sought by recreationists would occur. Over time, chaparral could re-invade open areas reducing opportunities for wild flower establishment and maintenance of vistas subsequent related recreation.

c. Cumulative Impacts

There are no known cumulative impacts to recreation associated with this perennial cattle grazing allotment given the low levels of human activity in the general area.

Consultation: None
Maps: None
References: None

7. SOCIAL AND ECONOMIC

Affected Environment:

The Clover Flat Allotment Lessee manages his livestock operation from the ranch where he lives in Cameron Corners, Ca. He has grazed this area since 1960. Although grazing is currently authorized year round, the allotment has been grazed far less than the allowable use. Due to long-term drought and small fires on the allotment, resulting in insufficient forage, the allotment has

not been grazed in six years. Warmer, dryer climate trends have resulted in what is essentially, ephemeral use of the allotment. During years of non-use the lessee uses his own fields near Cameron Corners and, livestock are moved from pasture to pasture depending on available forage.

It is unknown what percentage of the lessee's income is derived from cattle operations or to what degree that percentage of income is maintained by the lessee's dependence on grazing this allotment. Local ranchers in Campo realize income from rental of pasture for the lessee's livestock. Other support services such as transport, veterinary, and equipment suppliers realize economic gains related to the lessee's operations.

Overall, the lessee's economic contributions to the economy of eastern San Diego County are relatively small. This region's economy is primarily based upon other investments (especially along the (International Boarder DHS), farming, the State Prison, military operations and Interstate 8 related businesses.

Environmental Consequences:

a. Impacts of the Action Alternatives.

Under these alternatives grazing would continue at current or seasonally reduced levels resulting in a nominal influence on the local and regional economy of Eastern San Diego County.

b. No Action Alternative

No economic benefits would accrue for the local or regional economy.

c. Cumulative Impacts

There would be no meaningful, cumulative impacts to the local or regional economies of San Diego County from the implementation of either the proposed action, or the no action alternative. The past, present, or future contributions of these operations to the local or regional economy would be nominal.

Consultation: None
Maps: None
References: None

8. SOIL

Affected Environment:

Soils in the Proposed Action area consist of Mottsville-Calpine and the Tollhouse-La Posta Rock land association. The Mottsville series is a deep, loamy coarse sand, occurring in valleys and on alluvial fans. The Calpine series is also granitic and on alluvial fans, but it is on very deep coarse sandy loams. Tollhouse soils are excessively drained, shallow or very shallow coarse sandy loams. About 10 percent of the surface is typically covered with rock outcrops and

20 percent with boulders. Permeability of these soils is rapid, runoff is medium to rapid, and the erosion hazard is moderate to high. The La Posta series consists of somewhat excessively drained loamy coarse sands. Rock outcrops cover 5 to 10 percent of the surface in some areas. The La Posta rocky loamy coarse sand is moderately sloping to moderately steep and is 40.6 to 81.3 centimeters (16 to 32 inches) deep. Permeability is rapid, runoff is medium, and the erosion hazard is moderate (U.S. DON 2002a).

Observed erosion appears to be a typical condition of this area that has not been aggravated by current grazing practices.

A Rangeland Health Assessment, conducted on May 10, 1999, rated all soils as stable.

Environmental Consequences

a. Impacts of Action Alternatives

Localized areas of soil impacts may be associated with congregation areas such as watering sites or holding areas. Alternative A would represent an 81% increase of cattle use within the allotment over the seasonal and ephemeral use alternatives. Year round use within the allotment concentrated in the estimated 15 % of the allotment that is not terrain or vegetative limiting would be expected to result in substantial over- use of the allotment. Alternatives C and D would minimize soil impacts due to a substantial reduction of forage use, resulting in more biomass left to protect the soil surface and reduce potential sediment transport and erosion. Alternatives C and D would result in limited seasonal or ephemeral use of this allotment and, low intensity cattle grazing would not be expected to create any downward trends in soil stability.

b. No Action Alternative

Under the No Action Alternative, livestock would be permanently removed and livestock related soil impacts would not occur.

b. **Cumulative Impacts**

Currently, the primary impacts to soils on this allotment are low levels of vehicular use on the Shokey Truck Trail. and several other routes used by Border Patrol agents in the area. Little increased erosion has been observed from these activities due to on-going maintenance of the Shokey Road and low levels of vehicular use in the area.

Consultation: None
Maps: None
References: None

9. WASTE, HAZARDOUS OR SOLID

Affected Environment:

The BLM has no records of solid waste dumping; reportable spills of fuel or other petroleum products; or the dumping of cattle carcasses associated with cattle grazing in this allotment. .

Environmental Consequences:

a. Impacts of Action Alternatives.

There is very limited potential for grazing-related releases of hazardous and/or solid waste including dumping of cattle carcasses and/or releases of fuel or any other petroleum products from haul and service trucks. In addition, there may be minimal risk to the public that may come into contact with any contaminated areas.

d. No Action:
Under this alternative, there would be no potential for grazing related hazardous materials release.

b. Cumulative Impacts:

There is a low potential for hazardous or solid waste contamination from recreation use on the Navy training facility that traverses the area, however, there are no known records of such contamination in the area.

Consultation: None
Maps: None
References: None

40CFR Part 300, National Oil and Hazardous Substance Pollution Contingency Plan; Federal Land Policy and Management Act of 1976, Titles I – III. ;

Department of Interior, Part 485, Safety and Occupational Safety & Health Program, Chapter 23 Public Safety and Health.

10. WATER QUALITY, SURFACE AND GROUND

Affected Environment:

Composed of steep, naturally erosive mountains formed by dynamic geologic forces, the watersheds surrounding the Allotment area provide a relatively direct delivery system for precipitation and sediment to reach streams. The allotment's hydrology is influenced by several factors, including those that are natural (topographic, geologic, climatic, etc.) and human influenced (land use, etc.). Proper management and stewardship of water resources are fundamental to natural resource and land use sustainability.

The Allotment area is within the Tijuana Hydrologic Unit. The Tijuana Hydrologic Unit is drained by Cottonwood and Campo creeks, which are tributaries of the Tijuana River. Runoff is primarily captured by Morena Reservoir and Barrett Lake on Cottonwood Creek. The Campo and Cameron Hydrologic Areas are two of eight hydrologic

areas in the Tijuana Hydrologic Unit. The majority of the Proposed Action area is in the Campo Hydrologic Area with a small portion in the Cameron Hydrologic Area.

The presence of robust phreatophytic plants indicate that ground water is present in portions of the allotment. At least three mining-related water wells are present in the allotment, but they have been abandoned for many years. BLM has no data on the depth or extent of ground water on the allotment.

The allotment exists within a Pacific montane environment, characterized by highland areas below the tree line, with temperatures ranging from below freezing in the winter to greater than 30 degrees Centigrade (°C) (86 degrees Fahrenheit [°F]) in the summer. Moderate amounts of snowfall are experienced in the winter and rainfall averages 51 to 76 centimeters (20 to 30 inches) annually. Surrounding areas in the lower elevations experience a Mediterranean-type climate with moderate temperatures and rainfall amounts generally less than 25 to 30 centimeters (10 to 12 inches) per year. Urban development near and adjacent to the allotment can have a dramatic effect on natural resources. Many stream channels downstream of the allotment have been altered through flow management or channelization, which resulted in a break in the connectivity with natural streams that previously flowed through towns, cities, and farmland to the Pacific Ocean.

There are no permanent surface water resources within the Allotment area. The property drains via ephemeral channels, primarily to the south and west and ultimately into the Tijuana River drainage basin. Most water produced in the Cleveland National Forest (adjacent to the allotment meets or exceeds federal and state water quality standards. Groundwater quality in the Proposed Action area is generally good.

Environmental Consequences:

a. Impacts of Action Alternatives.

Regardless of the alternative chosen, the impacts of cattle on water quality in the area is very low given that any surface water quickly infiltrates into the sandy loam soil. Since no ground water testing has been done on the allotment, it is not known whether cattle have caused any introduction of pollutants to the ground water. However, it is very unlikely that cattle grazing would cause adverse impacts due to the occasional nature of cattle use and, a lack of long-term concentrations of cattle in localized areas.

b. No Action Alternative

Under the No Action Alternative, there would be no potential for livestock related surface or ground water impacts.

c. Cumulative Impacts

There is a low potential for water quality issues associated with grazing operations, Naval activities, recreation use or the road that traverses the area, however, there are no known records of such contamination in the area.

Consultation: None
Maps: None
References: None

11. WILDLIFE HABITAT

Affected Environment:

Wildlife (General)

The wide range of habitats in the area supports a great diversity of wildlife. Desert transitional/desert scrub, mountain, and coastal species may be found throughout the area. The area supports populations of representative common mammal species either observed directly or detected indirectly by sign (e.g., tracks, scat, or fur) within the project area. Those species include numerous small mammals, mountain lion (*Felis concolor*), bobcat (*Felis rufus*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*).

The allotment includes potential habitat for common reptilian species. Reptile species observed within the Proposed Action area include relatively common species such as the garter snake (*Thamnophis* sp.), northern red diamond rattlesnake (*Crotalus ruber ruber*), western fence lizard (*Sceloporus occidentalis*), alligator lizard (*Gerrhonotus multicarinatus*), and side-blotched lizard (*Uta stansburiana*). Also occurring on-site were the common kingsnake (*Lampropeltis getulus*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), coastal rosy boa (*Lichanura trivirgata roseofusca*), western whiptail (*Cnemidophorus tigris*), granite spiny lizard (*Sceloporus orcutti*), and San Diego horned lizard (*Phrynosoma coronatum blainvillii*). Other amphibians and reptiles expected to occur on-site include San Diego gopher snake (*Pituophis melanoleucus annectens*), California tree frog (*Pseudacris cadaverina*), and Pacific tree frog (*Pseudacris regilla*).

The allotment supports a variety of resident and migratory bird species, with 48 species documented within the local area. Resident species include the spotted towhee (*Pipilo maculatus*), western scrub jay (*Aphelocoma californica*), redtailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), and song sparrow (*Passerella melodia*), black-throated sparrow (*Amphispiza bilineata*), common raven (*Corvus corax*), white-crowned sparrow (*Zonotrichia leucophrys*), Brewer's sparrow (*Spizella breweri*), red-tailed hawk (*Buteo jamaicensis*), Western kingbird (*Tyrannus* verticalis), black-tailed gnatcatcher (*Polioptila melanura*), blue-gray gnatcatcher (*Polioptila caerulea*), phainopepla (*Phainopepla nitens*), northern mockingbird (*Mimus polyglottos*), Gambel's quail (*Lophortyx gambelii*), American kestrel (*Falco sparverius*), turkey vulture (*Cathartes aura*), verdin (*Auriparus flaviceps*), mourning dove (*Zenaidura macroura*), lesser nighthawk (*Chordeiles acutipennis*), horned lark (*Ermophila alpestris*), Poorwill (*Phalaenoptilus nuttallii*), rock wren (*Salpinctes obsoletus*), canyon wren (*Catherpes mexicanus*), Anna's hummingbird (*Calypte anna*), Costa's hummingbird (*Calypte costae*), and house finch (*Carpodacus mexicanus*).

Migratory bird species on the Clover Flat Allotment use the open space within the allotment area as a temporary stopover point during the winter or summer seasons, while other migratory species, such as the western wood-pewee (*Contopus sordidulus*) and the yellow-rumped warbler

(*Dendroica coronata*), likely nest within the local area.

Threatened and Endangered Species:

There are two known federally listed endangered species that may occur near the grazing allotment or have unoccupied suitable habitat within the allotment. These species include: the Quino checkerspot butterfly (*Euphydryas editha quino*) (QCB), and Arroyo toad (*Bufo californicus*). These two species, their associated plant communities, and their potential to occur within the allotment area are summarized and ~~are~~ discussed below. There is currently no designated critical habitat within the Clover Flat Allotment, although changes to critical habitat for QCB, which include the Clover Flat allotment, were proposed on January 18, 2008 by the U.S. Fish and Wildlife Service. Detailed species accounts are incorporated by reference from the San Diego County Habitat Conservation Plan (SDCHCP) and the Biological Assessment for the La Posta project (DON, 2007).

Quino checkerspot butterfly (QCB) is currently known only from western Riverside County, southern San Diego County, and northern Baja California, Mexico. More than 75% of its historic range has been lost including more than 90 % of its coastal mesa and bluff distribution (USFWS 2003). The species inhabits diverse open woody canopy landscapes containing low to moderate levels of nonnative vegetation. Vegetation types that support QCB include coastal sage scrub, open chaparral, juniper woodland, and native grassland (USFWS 2003).

Surveys for QCB have been conducted by the Navy on the La Posta Mountain Warfare Training Facility (MWTF) over the past couple of years. Isolated sightings of QCB have been documented on the BLM. Each sighting has been a few individuals in distinct areas suggesting that these animals were either dispersing from a larger source population.

The QCB, a subspecies of Edith's checkerspot butterfly (*Euphydryas editha*), is a federally listed endangered species. The QCB was listed as an endangered species by the USFWS on ~~16~~ January 16, 1997 (Federal Register 62 FR 2322). This listing status applies to the entire population of QCB. Critical habitat has been designated (USFWS 2002a) and a recovery plan has been issued (USFWS 2003) for this species.

Critical habitat for the QCB was designated in April 2002 and includes 121,819 hectares (301,010 acres) in four areas in Riverside and San Diego counties. The critical habitat area closest to the project location is located approximately 19 kilometers (11.5 miles) to the east. The QCB is the southwesternmost subspecies of *Euphydryas editha* (Mattoni et al. 1997). The QCB is known to occur in association with a variety of plant communities, soil types, and elevations (up to 1,522.84 meters [5,000 feet]). The QCB is generally found in clay soil meadows, open grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodlands, and semi-desert scrub where high densities of host plant species occur (Ballmer et al. 2001; USFWS 1997). The QCB is also associated with clay soils that have cryptogamic crusts and vernal pools (USFWS 2002a).

On January 18, 2008 the U.S. Fish and Wildlife Service published a proposed rule in the Federal Register to revise the designation of critical habitat for QCB. This proposed critical habitat is within the La Posta/Campo unit (Unit 7). Approximately, 1843 acres of proposed critical habitat falls within the Clover Flat Allotment (Federal Register / Vol. 73, No. 12 / pp. 3328-3373).

There are areas of occupied and/or suitable habitat within the other areas of BLM ownership, which would be within the South Riverside/North San Diego Recovery Unit.

QCB adults have one flight period per year, which generally occurs between late January and mid-May, with peak activity between March and April. This active period may vary depending upon weather conditions (Ballmer et al. 2001). The adult butterfly feeds on nectar, which it obtains from spring annuals such as goldfields (*Lasthenia* sp.), fiddleneck (*Amsinckia* sp.), cryptantha (*Cryptantha* sp.), yerba santa (*Eriodictyon crassifolium*), wild mustard (*Brassica* sp.), California buckwheat, and blue dicks (*Dichelostemma capitatum*).

Adult males patrol suitable habitat for females, perching intermittently on the ground or vegetation. They also engage in hill-topping activity, during which hilltops or ridges are guarded against other males. Females lay egg masses on host plants, typically between mid-February and April. A female may lay 20 to 150 eggs at one time and may produce up to 1,200 eggs in her lifetime. Eggs hatch in about 10-14 days in favorable weather conditions, and the larvae begin to feed upon host plants immediately. One of the most common larval host plant species for the QCB in the majority of San Diego County is dwarf plantain (*Plantago erecta*) (USFWS 2002b).

Field observations and laboratory studies indicate several other host plants may be used for egg deposit and larval feeding, including white snapdragon, owl's clover (*Castilleja exserta*), southern Chinese houses (*Collinsia concolor*), and bird's beak (*Cordylanthus rigidus*). White snapdragon is thought to be a primary larval host plant species for the QCB in parts of Riverside County and eastern San Diego County where dwarf plantain is absent (Pratt 2004). Larvae also have been found in the field using woolly plantain (*Plantago patagonica*) and nest-straw (*Stylocline* sp.), and it is likely that they use other plantain species occurring in native habitats (e.g., *P. ovata, P. bigelovii*).

After feeding, the early larval stages undergo an obligatory aestival diapause (dormant stage), which may be broken after fall or winter rains (Murphy and White 1984; Osborne 1998). Post diapause larvae feed on host plants, develop to pupae, and emerge as adults, usually within 2 weeks in late February and March. Winter rainfall and temperature influence host plant germination, growth, and senescence, which in turn affect developmental rate and survivorship of larvae. Substantial population decline has been observed after extended periods of drought. If adverse weather conditions such as drought occur, the emergent larva may reenter a diapauses stage repeatedly, for up to 5 or 6 years, until favorable weather conditions permit enough growth of its host plant to occur. The multiple life stages of the QCB make them prone to being disturbed, harmed, harassed, and/or killed, throughout the year, independent of season.

Survey Results

Habitat Assessment and Focused Host Plant Surveys

Potential QCB habitat may exist on nearly 1,843 acres of the 7,873 acre area within the allotment of which approximately 1,018 acres is grazable. The habitat area is characterized by gently and steeply sloping hills. The dominant vegetation within this area includes chamise series, chaparral whitethorn series, and scrub oak-chamise series.

The primary host plants known to occur within the allotment area are white snapdragon and Bird's beak. White snapdragon appears to be a facultative fire-follower in non-desert areas (Thompson 1988; USFWS 2004). The plant displays morphological characteristics similar to those of some other primary host plant species, as individual plants often produce a substantial cluster of spreading leaves close to the ground (Thompson 1988).

White snapdragon is distributed throughout all plant communities within the allotment area, although it tends to be most abundant within larger openings in chamise series and near the edges of annual grassland series.

Given the host and nectaring plants and two adult QCBs observed in the area, it is assumed that the QCB is using portions of the allotment for its entire life cycle or is transient user of portions of the allotment. Informal consultation with the USFWS has been initiated.

Arroyo Toad

Species Background

The arroyo toad is a federally listed endangered species. The arroyo toad was listed as an endangered species by the USFWS on 16 December 1994 (Federal Register 59 FR 64866). This listing status applies to the entire population of arroyo toad. Critical habitat was proposed by the USFWS on 28 April 2004, and re-designated on 13 April 2005, as a result of a lawsuit regarding the adequacy of the economic analysis associated with the original critical habitat designation.

The USFWS has also published a recovery plan for the species (USFWS 1999). The species occurs along rivers and streams that sustain a flow sufficient to allow the development of tadpoles. Eggs develop best in the waters of slow-moving, quiet streams with sandy or gravelly banks. The arroyo toad aestivates during the drier months in burrows in upland habitats up to 914 meters (3,000 feet) from preferred water sources. Breeding habitat for the species includes areas that support slow-moving streams during the spring and early summer seasons, in channels with sandy or sand-cobble substrate.

Habitat Assessment and Potential for Species Occurrence On-Site

No surface flows or other features required for arroyo toad breeding habitat occur on the allotment and it is not expected that the arroyo toad would use any portion of the of the allotment for reproduction. The closest known population of arroyo toad is located approximately 4.8 kilometers (3.0 miles) to the west of the allotment area, in the Cottonwood Valley.

Sensitive Species

One sensitive reptile species and four sensitive avian species are also known to occur in the allotment. The northern red diamond rattlesnake (*Crotalus ruber ruber*), a California state species of special concern was observed on multiple occasions throughout the upland vegetation series of the parcels. Three avian species, the Cooper's hawk (*Accipiter cooperi*), northern harrier (*Circus cyaneus*), and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), are also considered California state species of special concern. The Cooper's hawk was observed throughout portions of the allotment containing coast live oak

series. There is a high potential that this species nests and forages on-site within the coastal live oak series and associated upland series. The northern harrier is associated with grassland series.

Environmental Consequences:

a. Impacts of Action Alternatives

Quino checkerspot butterfly

General Impacts: The extent of suitable habitat in the allotment varies each year depending on local weather and precipitation patterns. According to the USFWS (March 2008) proposed critical habitat overlay, approximately 1,843 acres of habitat for QCB are proposed within the allotment boundary. These acres are expected to increase or decrease as new survey information becomes available, and are highly dependent on annual fluctuations in precipitation and weather. These are areas where it is expected that cattle grazing may have an impact on QCB and/or their suitable habitat. Lands that are outside of cattle use areas are expected to experience minimal to no direct impact from cattle use, and thus pose no potential conflict between cattle grazing and QCB.

Under Alternatives C (Seasonal Use) and D (Ephemeral Use), areas of known occupancy would be avoided during the QCB flight season and nector sources would be protected for at least seven months per year and seasonal or ephemeral use would minimize the effects of grazing on host plants.

The recovery plan for this species (USFWS 2003) recommends maintaining openings of suitable habitat, and reducing non-native invasive species that would out-compete native host plants. Weiss (1999) concluded that cattle may be beneficial to the quality of QCB habitat due to preferential grazing on plants that crowd out host plants. Light grazing after host plants have set seed would help reduce non-native grass species and continue to keep the habitat fairly open. Conversely, poorly managed or intensive cattle grazing can also increase the spread of non-native plants which out-compete host and food plants (USFWS 2003). Host plants have the ability to grow in cryptogamic crusts, whereas many non-native plants cannot. Cattle may break apart this cryptogamic crust when walking along repeated paths and trails. Loss of this soil type may result in an increased invasion of noxious weeds (USFWS 2003).

Under Alternative A, there would be an elevated potential for undetected individual butterflies and/or larvae near the pastures to be consumed or crushed by cattle. It is possible that the presence of cattle in any areas where QCB have diapaused may be accidentally trampled. Additionally, because suitability of potential sites on BLM may vary from year to year due to precipitation, it is possible that some take of undetected larvae could occur. Alternatives C and D would minimize this impact by reducing grazing seasonally or ephemerally. Because cattle grazing could result in the direct mortality of diapausing larvae or the indirect impacts to adult butterflies by reducing host plants and nectar sources, a determination of “may affect, but not likely to adversely affect” has been made for QCB.

Summary: The primary effects of cattle grazing on QCB are: soil compaction; removal of forage and cover; direct mortality through trampling of diapausing larvae; and grazing on host plants or nectar sources. Improper stocking rates and long seasons of use can exacerbate impacts to QCB. Alternative A provides the greatest opportunity for adverse impacts to QCB to occur by authorizing year-round grazing. Alternative C would reduce impacts to QCB by reducing season of use and reducing authorized use to 205 AUMs from the 715 AUMs authorized in Alternative A.

Under all of the Action Alternatives, monitoring the use of perennial plants by cattle would ensure that the grazing season does not last beyond the proper season of use, as indicated by cattle switching from ephemeral to perennial forage.

Because this allotment has been lightly grazed (i.e., non-use for seven years due to minimal rains producing poor forage capabilities), impacts to QCB habitat have been minimal. The lack of past monitoring data, coupled with the difficulty of predicting levels of use for any one year over the long term on an allotment, makes prediction of the precise impacts of the Action Alternatives difficult. The impacts to QCB habitat that would result from future ephemeral grazing seasons that would be authorized under Alternative D, should be monitored to determine the effectiveness of the proposed action's terms and conditions, to ensure that there would be no adverse impacts to QCB habitat

Under all of the Action Alternatives, monitoring the use of perennial plants by cattle will ensure that the grazing season does not last beyond the proper season of use as indicated by cattle switching from ephemeral to perennial forage.

General Wildlife Impacts: Under Alternatives A and C, 59 cattle would be authorized year round or seasonally. Alternative A would present the greatest opportunity to provide conflict with wildlife in that cattle would be present year round and overutilization of quality forage would be expected to occur. The potential for year round utilization of vegetation during dry months would also increase competition for dwindling forage adversely affecting nutrient intake for a variety of wildlife.

Alternative C would provide for less forage competition with wildlife by seasonally limiting forage utilization to wetter months when forage competition would be of less concern. It also represents a reduction of forage utilization of approximately 81% over utilization of forage that would occur under Alternative A.

Alternative D would offer the greatest opportunity to eliminate forage competition concerns and conflicts with wildlife. Livestock authorization would only occur if sufficient precipitation exists to produce suitable forage. Given future predictions for drying trends, it is expected that non-use or minimal use of the allotment would continue.

Arroyo Toad

No surface flows or other features required for arroyo toad breeding habitat occur on the allotment and it is not expected that the arroyo toad would use any portion of the allotment for reproduction. The closest known population of arroyo toad is located approximately 4.8 kilometers (3.0 miles) to the west of the allotment area, in the Cottonwood Valley.

Sensitive Species

Grazing may contribute to habitat change by introducing or spreading invasive species and habitat degradation, especially in areas of concentrated cattle use. Most herpetofauna and fossorial mammals burrow in soft dirt or move into rock crevices or under debris, so it is possible that cattle could turn over these areas during their normal activities. It is unlikely that cattle will inadvertently consume herpetofuana or/and small mammals. Implementation of utilizations standards should help reduce the effect of habitat degradation on these species. The current cattle grazing program is not expected to further fragment the habitat for these species or increase movement barriers above and beyond what was already occurred in the past. Current stocking rates are significantly lower than what was previously authorized, so there is no expected increase in potential disturbance.

b. Impacts of No Action Alternative

The effects of removing grazing from QCB habitat are unknown without monitoring. There could be an improvement in QCB habitat due to cattle not being present to trample the host plants. Conversely, there could be a negative effect to QCB habitat if cattle are not present to remove shrubs, forbs, and grasses that could encroach on host plant patches, and reducing space and resources available for the host plants.

Under the No Action Alternative, livestock use of the allotment would be eliminated and no impacts from grazing would occur.

c. Cumulative Impacts

Quino Checkerspot Butterfly:

The cumulative effects analysis area for QCB is the potentially suitable habitat within the portion of the recovery unit that lies within the BLM boundary. Cumulative effects have or might occur from several BLM projects, and consist of alteration of suitable or potentially suitable habitat.

Several BLM hazardous fuels reduction projects have altered, reduced or increased the amount of available suitable habitat for QCB. Fuel break treatments such as the Hauser, Border, Otay, Dulurza and Beauty Mountain projects all have resulted in opening up dense chaparral that may be beneficial for QCB host plants. These projects were planned to reduce mature chaparral and mixed-conifer growth, and result in a mosaic of open and closed canopy vegetation. The goal of implementing these fuel reduction and controlled burns is to avoid landscape-scale wildfires, which would benefit the QCB (USFWS 2003).

The recovery plan for this species (USFWS 2003) recommends implementing controlled burns over small areas to avoid landscape-scale wildfires. While these treatments would have a short-term negative effect on the habitat, over the long-term they would prove beneficial in reducing the risk of landscape scale, high intensity wildfire. Additionally, host plants adapted to disturbance may colonize these areas (K. Kramer pers. comm. 2006). Other multiple-use activities that occur on the Palm Springs South Coast areas such as OHV use, road maintenance, and recreation also have altered the amount of suitable and potentially suitable habitats for this species. Due to the dispersed nature of these BLM activities, and the scattered occurrences of the species, it is difficult to quantify the extent of effect on QCB and its habitats. The BLM's multiple use mission typically results in a variety of activities that are authorized to occur on the same lands. Other activities that may overlap grazing allotments include utility corridors (including electrical towers and natural gas pipelines), general recreation (i.e. hunting, picnicking, camping and rock hounding) scientific study, and off-highway vehicle (OHV) activities. These activities may indirectly impact wildlife by degrading vegetation at various intensities, in localized areas, for parking, camping or construction work areas.

Past impacts to the QCB San Diego Recovery Unit include mining, recreational off-highway vehicle (OHV) use, development, operation and maintenance of utility and energy facilities and corridors (e.g., electricity and natural gas transmission lines), livestock grazing, construction and vehicles use of paved and unimproved roads. Grazing of cattle in San Diego County has occurred continuously since the mid-1700's (Lovich and Bainbridge 1999). Early grazing in Southern California occurred on public lands and was unrestricted. Consequently, overgrazing resulted in adverse impacts to habitat for many wildlife species, including listed species. In response to deteriorating conditions of public lands, the Taylor Grazing Act was passed in 1943. Following enactment, open range grazing became restricted to geographical areas allotted to one or more livestock producers based on historical or current grazing. Prior to 1968, the BLM allocated long-term grazing based on perennial forage production. A new grazing rule published on December 7, 1968 authorized BLM field offices in California to modify perennial classified allotments from perennial designation to ephemeral or ephemeral/perennial designation. The listing of the Quino Checkerspot Butterfly in 1997 and Recovery Plan (U.S. Fish and Wildlife Service 2003) in combination with the Otay Grazing EIS as incorporated by SCRMP has led to much greater restrictions on grazing and other activities to aid in the recovery of listed species and their habitat. The modifications and terms and conditions in grazing resulting from the implementation of the SCRMP, as well as a reduction in mining activities have allowed for the commencement of natural recovery of wildlife habitat. However, natural recovery rates of soils and perennial vegetation in Mediterranean habitats is moderate (U.S. Fish and Wildlife Service 2000).

Arroyo Toad:

No habitat suitable for breeding arroyo toads was detected within or adjacent to the Proposed Action area. Based on the lack of potential for the species to occur on-site,

it has been determined that no permanent or temporary direct loss of suitable or occupied breeding habitat for the arroyo toad would occur through implementation of the Action Alternatives. Given this lack of suitable habitat for the arroyo toad, no indirect temporary or permanent impacts are expected through implementation of the Proposed Action.

Sensitive:

For the purpose of cumulative effects, the entire allotment would be considered the action area, despite the reality that cattle do not use the entire allotment for grazing. Approximately 85% of the allotment is inaccessible to cattle due to topography, unpalatable forage, and infrastructure (i.e. fencing, cattleguards etc.). The grazing allotments on the South Coast BLM contain known or suitable habitat for BLM sensitive species. All of the species known to occur have been, are, and will continue to be affected by the continuation of the livestock grazing program. Historically, the cattle stocking rate for the Field Office was much higher than the current levels. Effects to species and their habitats were most likely more significant than currently observed. Implementation of the terms and conditions and utilization standards and, the flexibility of the AMP should help reduce future impacts to these species and their habitats.

Many other BLM activities occur within the allotment boundaries. Activities include: recreation (camping, biking, hiking, equestrian use, target shooting, hunting), OHV use, road maintenance, hazardous fuels treatment, mining, prospecting, special use events, law enforcement, fuel wood cutting, Native American gathering and fire suppression. BLM lands are also places where numerous illegal activities including marijuana plantations, hazardous material dumping, trash dumping, and illicit drug cultivations occur. State and private activities and/or events may also occur on the BLM with or without permits or authorizations.

Cumulative effects from BLM projects consist of alteration of occupied, suitable or potentially suitable habitat for sensitive wildlife species. Several BLM hazardous fuels reduction projects have altered reduced or increased the amount of available suitable habitat for wildlife species. Prescribed burns such as the Poppet Flats, (implemented in 2005) opened up large areas of chaparral habitat. Prescribed burning and removal of chaparral may be beneficial for species that prefer disturbed or more open habitats. The Border and Otay Mountain hazardous fuels project will affect a portion of other Allotments. While these treatments would have a short-term negative effect on the habitat, over the long term they would prove beneficial in reducing the risk of landscape scale, high intensity wildfire, and providing a mosaic of habitat types that could enhance biological diversity.

On-going activities such as regional growth and development, and increased demand for recreation are expected to increase in the present and near future, as the population of Southern California continues to increase. The cumulative effect of all of these activities is a reduction in quantity and quality of habitat for sensitive species over the long term. This effect is permanent, as more areas become developed and fewer areas remain undisturbed placing greater emphasis on public lands to provide

the mechanism to preserve dwindling habitats. However, the livestock grazing program on the South Coast BLM alone does not result in moving these species towards thresholds of vulnerability or listing.

The No Action alternative would have no effect on sensitive species and would not contribute to cumulative effects.

Consultation: Informal
Maps: See Appendix 1
References: Upon Request

13. VEGETATION INCLUDING INVASIVE/NON-NATIVE SPECIES

Affected Environment:

Generally, the Allotment area consists of steep hills and slopes that are bisected by narrow ravines and a few broad valleys. Chaparral characterizes most of the Clover Flat Allotment area. More than 85 percent of the vegetation within the Clover Flat Allotment is mapped as the chamise series and not typically preferred by livestock. The holly-leaf cherry, scrub oak-chamise, and chaparral whitethorn series are also conspicuous series within much of the area. The holly-leaf cherry and chaparral whitethorn series are more prevalent on the steeper, rockier slopes while the scrub oak chamise series is more common on the flatter and gentler slopes. The coast live oak series occurs along some of the canyon valleys and ravines with seasonal water. The California annual grassland series occurs in the broader valleys where the majority grazing has occurred in the past.

Upland forage on the allotment consists of introduced annual grasses and native perennial bunch grasses. Intermixed with these grasses are a suite of native (e.g., *Nasella pulchra*) and non-native forbs. There is an increase in abundance of montane native perennial grasses such as California brome, red fescue, squirreltail, blue wildrye, and *Poa secunda* and non-native perennials such as *Poa pratensis*. The arid communities have an abundance of non-native annual grasses (especially red brome) and non-native annual forbs like filaree. There are also native bunchgrasses like Littleseed muhly, tall melic, squirreltail and non-native perennials like rabbitfoot and Mediterranean schismus. In moisture areas, there are stands of deergrass. Desired conditions for these grasslands are to maintain productivity, ground cover and increase native species diversity. There is also a desire to manage to increase the relative groundcover made up by native perennial grasses. Reduction of cover of non-native annuals in the arid communities is important as these may increase fire frequency and spread in these communities.

Research has shown that climatic variability is the driving force behind grassland productivity and composition in California grasslands (Jackson and Bartolome 2002). Light to moderate grazing has been shown to result in higher species diversity in grasslands than heavy grazing or complete exclusion (Hart 2001, Hayes 2003). Rest from grazing does not result in these types of grasslands moving towards a pre-European state, nor does it increase the proportion of native grasses in most studies (D'Antonio et al. 2002). In California annual grasslands, leaving a moderate amount of residual dry matter (RDM) increases productivity of rangelands as well as providing protection from soil erosion and nutrient losses (Bartolome et al. 2002).

Research results have been mixed as how to determine methods for increasing native perennial composition in California grasslands (D'Antonio et al. 2002) but, grazing in late winter or early spring may reduce the competition for light and nutrients from introduced annual grasses (Dyer 1999).

Comparisons of grazed and ungrazed sites in Arizona with a similar mix of perennial bunchgrasses and cool season non-native annual grasses found that sites with light to moderate grazing had higher percentages of native perennial bunchgrasses and were more resilient to drought than sites with long term grazing exclusion (Sprinkle et al 2007).

The chaparral plant communities contained in the allotment are mostly impenetrable and unpalatable to cattle. Some species, especially Mountain mahogany and *Ceanothus spp.* are palatable as browse species. These areas are considered secondary range because after fire or disturbance access is possible and there is usually a flush of herbaceous vegetation that is palatable to cattle. Woody species in the chaparral recover rapidly from fire. In the local area, cattle grazing alone have not been shown to prevent the recovery of chaparral in burned areas. There is a concern that non-native annual grasses may increase fire frequency in chaparral areas. This concern is addressed in the noxious weed section.

There are 18 vegetation series within the Allotment area. A description of the species composition of each series is discussed below.

Big sagebrush series

This series occurs along the upper edges of the valley floor, typically adjacent to dirt roads and other areas that had some prior disturbance. Big sagebrush (*Artemisia tridentata*) is the dominant species, but other species such as chamise (*Adenostoma fasciculatum*), white sage, and California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*) may also be present. Big sagebrush is conspicuously absent from adjacent undisturbed communities suggesting that this is a disturbance-mediated species.

Birchleaf mountain-mahogany series

This series occurs on some of the lower and upper slopes within the Allotment area. This series is relatively open and dominated by birchleaf mountain-mahogany (*Cercocarpus betuloides*) though scattered chamise, chaparral whitethorn (*Ceanothus leucodermis*), and hollyleaf cherry are also present. Because this series is so open, ripgut brome (*Bromus diandrus*) and red brome (*Bromus madritensis* ssp. *rubens*) are present in high numbers.

California annual grassland series

Annual grasses and herbs are dominant in the ground layer of this series. Within the Allotment area, this series is present in the valleys and some of the slopes of adjacent hillsides. Ripgut brome and red brome are the two dominant species within this series. Cheat grass (*Bromus tectorum*), filaree (*Erodium* sp.), fiddleneck (*Amsinkia* sp.), and popcorn flower (*Plagiobothrys* sp.) are also present. The present species composition in these areas is likely the result of previous grazing activities. Ripgut brome and red brome are conspicuous components of other series in the Proposed Action area, again probably due to prior grazing activities.

California buckwheat is scattered throughout the areas of this series suggesting that in the absence of disturbance these areas may develop into scrub or chaparral communities.

California buckwheat-white sage series

California buckwheat and white sage are the two dominant species within this series. This series occurs on lower slopes and is relatively open allowing for the occurrence of annual grasses and herbs such as ripgut brome, red brome, popcorn flower, and white pincushion-flower (*Chaenactis artemisiaefolia*).

California buckwheat series

This series appears to be another disturbance-mediated community. Several of the areas within the Allotment area where California buckwheat is the dominant species are alongside dirt roads. Other areas occur on some of the higher slopes that may be periodically burned. Ripgut brome and red brome are also present.

Chamise series

Chamise is the most common shrub within the Allotment area and occurs on a variety of topographic features from the flat valleys to steep slopes. This series is used to describe those areas where chamise is the primary dominant species though other shrub species may also be present and locally common. Generally, California peony (*Paeonia californica*) is the primary component of the understory. On the valley floors, big sagebrush, scrub oak (*Quercus berberidifolia*) and sugar bush (*Rhus ovata*) may be associates. On the adjacent slopes, Eastwood manzanita (*Arctostaphylos glandulosa*), bigberry manzanita (*Arctostaphylos glauca*), holly-leaf cherry, and chaparral whitethorn are associates. Openings in this series may support such species as chia (*Salvia columbariae*), white pincushion-flower, and several spineflower species (*Chorizanthe* spp.).
Chamise-bigberry manzanita series

This series is similar to the chamise series; the difference is that bigberry manzanita is much more conspicuous in these stands. This series appears to be more prevalent in areas of decomposing granite. Undisturbed stands of this series are usually very dense and have low plant species diversity, supporting very little understory species. Disturbed areas have a higher component of introduced grasses and forbs.

Approximately 48.71 hectares (120.36 acres) of this series occur within the Allotment area. A total of 29.77 hectares (73.56 acres) occur within the existing withdrawal; 16.37 hectares (40.46 acres) occur within Parcel C; and 2.57 hectares (6.34 acres) occur within Parcel E. This series does not occur within Parcel G.

Chamise-Eastwood manzanita series

This series is very similar in appearance to the chamise-bigberry series, only Eastwood manzanita replaces the bigberry manzanita as the major associate of chamise. This series is also very dense with little understory components. Understory species are only present in sandy openings, where chia, white pincushion-flower, and several spineflower species may be present

or in areas of disturbance where ripgut brome and red brome are present.

Chaparral whitethorn series

This series occurs on the slopes within the Allotment area. Chaparral whitethorn is the dominant species, but chamise, holly-leaf cherry, California buckwheat, and birchleaf mountain mahogany may also be present. This series intergrades with the holly-leaf cherry series in rockier areas. Open areas support a dense cover of ripgut brome and red brome. Small islands of this community are also present on rock outcrops within the chamise series. On these rock outcrops, species such as monkeyflower (*Mimulus aurianticus*), onion grass (*Melica imperfecta*), silverleaf lotus (*Lotus argophyllus* ssp. *argophyllus*), and fringed spineflower (*Chorizanthe fimbriata* var. *laciniata*) may be present.

Coast live oak series

This series is best represented along the major north-south-oriented valleys within the Allotment area. Smaller, isolated stands are present along some of the narrower lateral canyons. Coast live oak (*Quercus agrifolia*) is the dominant species. Arroyo willow (*Salix lasiolepis*) is a minor component in at least one of these stands. Shrub species such as chamise, big sagebrush, and poison oak (*Toxicodendron diversilobum*) are infrequent within this series, generally occurring along the outer edges of the canopy. Dirt roads and some structures are present beneath some of the larger stands. In these instances, the disturbance has eliminated all but the most weedy understory species, such as ripgut grass, red brome, and horehound (*Marrubium vulgare*).

Holly-leaf cherry series

This series occurs on the slopes within the Allotment area and intergrades with the chaparral whitethorn and chamise series. Holly-leaf cherry is the dominant species but chaparral whitethorn is a common associate. Chamise, California buckwheat, and birchleaf mountain mahogany may also be present. Similar to the chaparral whitethorn series, open areas support a dense cover of ripgut brome and red brome. Small islands of this community are also present on rock outcrops within the chamise series. On these rock outcrops, species such as monkeyflower, onion grass, silverleaf lotus, and fringed spineflower may be present.

Mixed scrub oak series

This series describes areas where scrub oak, bigberry manzanita, chaparral whitethorn, and chamise are all very common. This dense series does not have a conspicuous understory component. Only a small amount of this series occurs within the Allotment area. Approximately 0.77 hectare (1.89 acres) of this series occurs within the Allotment area, all of which is within the existing La Posta withdrawal. *Needlegrass series* Giant stipa was the dominant species with deerweed (*Lotus scoparius*) and California buckwheat as the common associates of this series. This series is likely a disturbance-mediated, early seral series that will develop into one of the shrub-dominated series over time with the absence of regular disturbances. This series was only observed in a very small area, 1acre.

Scrub oak-chamise series

This series occurs on some of the lower slopes within the Allotment area. Though chamise is still the most common species, scrub oak is such a co-dominant that it is much more conspicuous than the chamise. Sugar bush and California peony are fairly common, but because this is a relatively dense community, species diversity is low.

Scrub oak series

Though scrub oak is present within and co-dominant in several series, areas dominated solely by scrub oak are uncommon within the Allotment area and are represented by relatively small stands. Scrub oak is the dominant species and its dense cover precludes the presence of many understory species, though individuals of chamise and chaparral whitethorn may be present. This series is most common along some of the washes and mesic north-facing slopes within the Allotment area.

Scrub oak-birchleaf mountain-mahogany series

This series is very similar to the scrub oak series, only birchleaf mountain-mahogany is more common within this series. Similarly, this series is represented by small stands that are uncommon within the Allotment area. The high cover and density of the overstory shrubs in this series preclude the presence of many understory species, except for the aforementioned nonnative annual grasses, and thus this series has a low diversity of species.

Scrub oak-chaparral whitethorn series

This series is very similar to the scrub oak series, only chaparral whitethorn is more common within this series. Similarly, this series is represented by small stands that are uncommon within the Allotment area. The high cover and density of the overstory shrub species of this series preclude the presence of many understory species and thus this series has a low diversity of species.

Yellow bush penstemon series

Yellow bush penstemon is the dominant or co-dominant species within this series. In some areas California buckwheat is a co-dominant. Sugar bush and holly-leaf cherry are common associates. This series was restricted to Parcel G of the Allotment occurring on the rock outcrops or saddles of the higher slopes.

Unvegetated and Developed Areas

Areas mapped as unvegetated do not support permanent structures but have been recently cleared and do not currently support vegetation. Some of the larger dirt roads have been included within the unvegetated habitat designation. Developed areas within the Allotment area support permanent structures. Approximately 8.36 hectares (20.67 acres) of unvegetated areas and 5.56 hectares (13.76 acres)of developed areas occur within the Allotment area. A total of 6.53 hectares (16.14 acres) of unvegetated areas and 3.76 hectares (9.30 acres) of developed areas occur within the existing La Posta withdrawal. A total of 1.62 hectares (4.02 acres) of unvegetated areas and 0.92 hectare

Federally Listed Plant Species

No federally listed plant species were observed or are known to occur within the Clover Flat Allotment area. A CNDDB Search (RareFind 3) was conducted for the USGS Cameron Corners quad (i.e., the Proposed Action area) and the five quads (Morena Reservoir, Descanso, Mount Laguna, Sombrero Peak, and Live Oak Springs) surrounding the Allotment area.

No federally listed plant species are reported from Cameron Corners. Only one federally listed species, San Bernardino blue grass (*Poa atropurpurea*) is reported from these quads and this species is restricted to montane meadows within coniferous forests. Neither of these communities occurs within the Allotment area. As such, the San Bernardino blue grass is not expected to occur within the Allotment area and will not be further discussed within this document.

Vegetation data for the allotment is good but trend data for this allotment is sparse. Due to the lack of any large disturbances in the area and two seasons of grazing in the last fifteen years, downward vegetative trends are unlikely.

Noxious Weeds

Livestock can affect the distribution of noxious weeds in several ways. Livestock moving into an area can be a source of seed from seeds sticking in their hair, hooves or in fecal pats. Disturbance from livestock can open growing space for some noxious weeds. Livestock can alter the competitive interaction among plant species as well. This effect can both encourage noxious weed spread or used to control or remove noxious weeds from a site. Some landscape scales studies have shown that actively grazed cattle ranches contain fewer non-native plants than adjacent ungrazed natural areas (Maestas, Knight 2003). While no quantifiable survey has been conducted on the BLM lands in the South Coast comparing grazed and ungrazed areas, there does not appear to be considerably more noxious weeds in grazed sites than similar ungrazed sites on the BLM lands.

This EA differentiates between noxious weeds and certain introduced species that have already become widespread and, in effect, naturalized, such as many non-native annual grasses and forbs. Non-native annual grasses dominate much of the drier grasslands and oak and pine savanna areas in these allotments. Land management of these areas can seek to try to improve cover of native perennials and forbs, but no method has been shown to essentially shift dominance of these areas back to native species. Management of these areas in terms of noxious weeds seeks to prevent and limit the spread of certain species that are capable of producing monocultural type stands or lead to other ecological degradation. Noxious weeds of concern in the area include yellow starthistle (currently in very limited distribution on BLM lands and not found on this allotment), Italian thistle, medusahead grass (also limited distribution and not currently found on the allotment), and riparian invaders like tamarisk, castor bean, edible fig and tree of heaven.

In chaparral the occurrence on non-native annual grasses is considered problematic as these species can lead to increased fire frequency. Increased fire frequency can in turn limit the

regeneration of chaparral and may lead to type conversion to non-native herbaceous dominated systems.

Environmental Consequences

a. Impacts of Action Alternatives:

There is a potential for cattle to bring seed onto the allotments from private lands. However, this effect will be negligible because cattle are not expected to introduce seeds not already present in the project area or introducible by a variety of other vectors. Cattle are only fed hay on the allotments in emergency situations. Hay in Riverside and San Diego Counties comes mostly from the Imperial Valley which does not have infestations of starthistle or other noxious weeds not currently in abundance on BLM South Coast lands already. Best Management Practices calls for certified weed-free feed to be used on public land.

Cattle may cause some ground disturbance that may be colonized by noxious weeds. However, forage utilization standards will limit the amount of bare ground created by grazing. Indirectly, cattle grazing in spring in the allotment will put grazing pressure on introduced annual grasses, *schismuss spp*, *bromus spp*, *avens spp*, *erodium spp.* and *brassica spp.* while they are most palatable and before seed set. This may reduce their competitiveness with native perennial grasses.

All of the Action Alternatives would result in increased monitoring by BLM personnel on the allotment as well as presence of the permittees. This should lead to an increased ability to detect new noxious weed invasions early, especially for starthistle and medusahead grass and Russian thistle.

Cattle may introduce small amounts of annual grass seed into recently burned chaparral areas. This effect is considered minor compared to the amount of seed introduced by other vectors, including wildlife. In addition, this effect is expected to be minor on these allotments because current herding practices do not require movement through chaparral areas and the proposed action does not allow increased numbers to graze increased herbaceous forage in recently burned chaparral areas.

It is thought that biological soil crusts help prevent the spread of non-native grasses into chaparral vegetation. Cattle may impact these crusts through trampling and trailing, possibly opening up a seed bed for annual grasses. This effect is expected to be minor and confined to areas already adjacent to primary rangelands and road or trails. This is due to the relative inaccessibility of mature chaparral to livestock. Livestock may enter these areas after wildfire, but herding or increasing stocking rates to use of these areas would not occur.

b. No Action Alternative:

Under this alternative livestock would not be a potential source of seed into this allotment. However, this benefit is unlikely to protect this allotment from non-native plant invasion since many of the most noxious weeds have wind-dispersed seed or could be carried in by wildlife, hikers or on vehicle tires from adjacent areas.

There would be no potential for grazing to open up growing space through disturbance for noxious weeds. Under this alternative, non-native annual grasses and forbs can be expected to increase in more productive areas of the allotment, especially in the California annual grassland series. In addition, no grazing may serve to increase the amount of fine fuels and thatch in natural grasslands that may carry fire quicker into adjacent areas.

c. Cumulative effects:

The allotment is adjacent to private lands and also has lightly to moderately traveled access roads into and adjacent to the allotment. There are also areas of dispersed camping and other recreational activities within the allotment boundaries. These activities act as a source of noxious weed plant seed into the area and, the roads act as a potential source of ground disturbance due to unauthorized OHV use. Livestock movement in and out of the allotment adds a small amount to these already present vectors of weed transmission. Fire suppression is also a source of weed seed and disturbance into these areas during wildfires. Post fire, rehabilitation activities and noxious weed surveys are conducted. Grazing management may be altered if new infestations are detected due to these activities.

Drought and fire are also disturbances that can open growing space for noxious weeds. Range management practices such as pasture resting after fire and during drought would minimize the cumulative impacts of these disturbances.

Environmental Consequences:

a. Impacts of Action Alternatives:

It is expected that by implementing the proposed action and following forage utilization standards of 40% utilization. Forage located in accessible portion of the allotment (approximately 1,018 ac) upland forage, lower elevation in the allotment, would be subjected to light grazing pressure from domestic cattle. Forage productivity and plant diversity in these areas would be maintained.

Implementation of monitoring for forage utilization standards and enforcement of reduced season of use when standards have been met would result in an improvement in upland forage condition in the Clover Flat Allotment. The season of use favors utilization of non-native annual grasses and forbs. It is expected that the proposed action would result in some favorable removal of non-native annual grasses and forbs but is not expected to have a measurable impact due to the highly dispersed nature of the grazing use.

Chaparral areas do not typically receive grazing use except after fire and in less sparse areas immediately adjacent to primary range or travel routes. Under the proposed action, use of chaparral areas is expected to be very light and incidental. No herding into these areas would be authorized and the proposed action does not allow for increased numbers in response to fire. After fire, grazing is not expected to slow or prevent the recovery of chaparral with the minimal permitted numbers of cattle. It is undetermined how much grazing practices contribute to the introduction and/or

spread of non-native invasive species. It is possible that livestock can cause the spread of invasive species through seeds sticking to their hide, or deposition of seed through their digestive system. Improper grazing practices reduce the diversity, and reproductive abilities of native, mediterranean plant communities. This, in turn, promotes the establishment and spread of non-native invasive species that now occupy habitat once inhabited by native species. Grazing practices that allow for periodic recruitment opportunities commonly have lower densities of non-native species and are more compatible with sustaining native plant communities.

Overall, the current densities of non-native invasive species on the allotment being analyzed in this document are considered moderate. Annual fluctuations in densities are directly influenced by the amounts of late winter, early spring precipitation.

Implementation of the proposed terms and conditions, including Standards and Guidelines and biological stipulations, along with grazing strategies that require proper cattle distribution and the long periods of non-grazing, would aid in sustaining native plant communities, and would ensure that cattle grazing would have only a slight risk of introducing and/or spreading non-native/ invasive species on the Clover Flat Allotment.

e. Impacts of the No Action Alternative

Under this alternative livestock would not be a potential seed source into these allotments. However, this benefit is unlikely to protect these allotments from invasion since many of the most noxious weeds have wind-dispersed seed or could be carried in by wildlife, hikers or on vehicles from adjacent areas.

There would be no potential for grazing to open up growing space through disturbance for noxious weeds. Under this alternative, non-native annual grasses and forbs can be expected to increase in more productive areas of the allotments,

c. Cumulative Impacts – Grazing Lease Renewal for Clover Flats Allotment

Cumulative impacts, as defined by Council of Environmental Quality regulations in 40 CFR 1508.7, are “the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or persons undertakes such other actions.” The cumulative impact analysis for the Clover Flat Allotment is tiered to the analysis of the SCRMP incorporated by Otay Grazing EIS as described below.

<u>Cumulative Impact</u>

The spread and establishment of non-native invasive species occurs through a variety of mechanisms. The BLM’s multiple use mission typically results in a variety of activities that are authorized to occur on the same lands. Other activities that may overlap grazing allotments including utility corridors (including electrical towers and natural gas pipelines), general recreation (i.e. hunting, picnicking, camping, and rock

hounding), scientific study, and off-highway vehicle (OHV) activities. All of these activities, past, present, and future have contributed to the introduction and spread of non-native/invasive plant species.

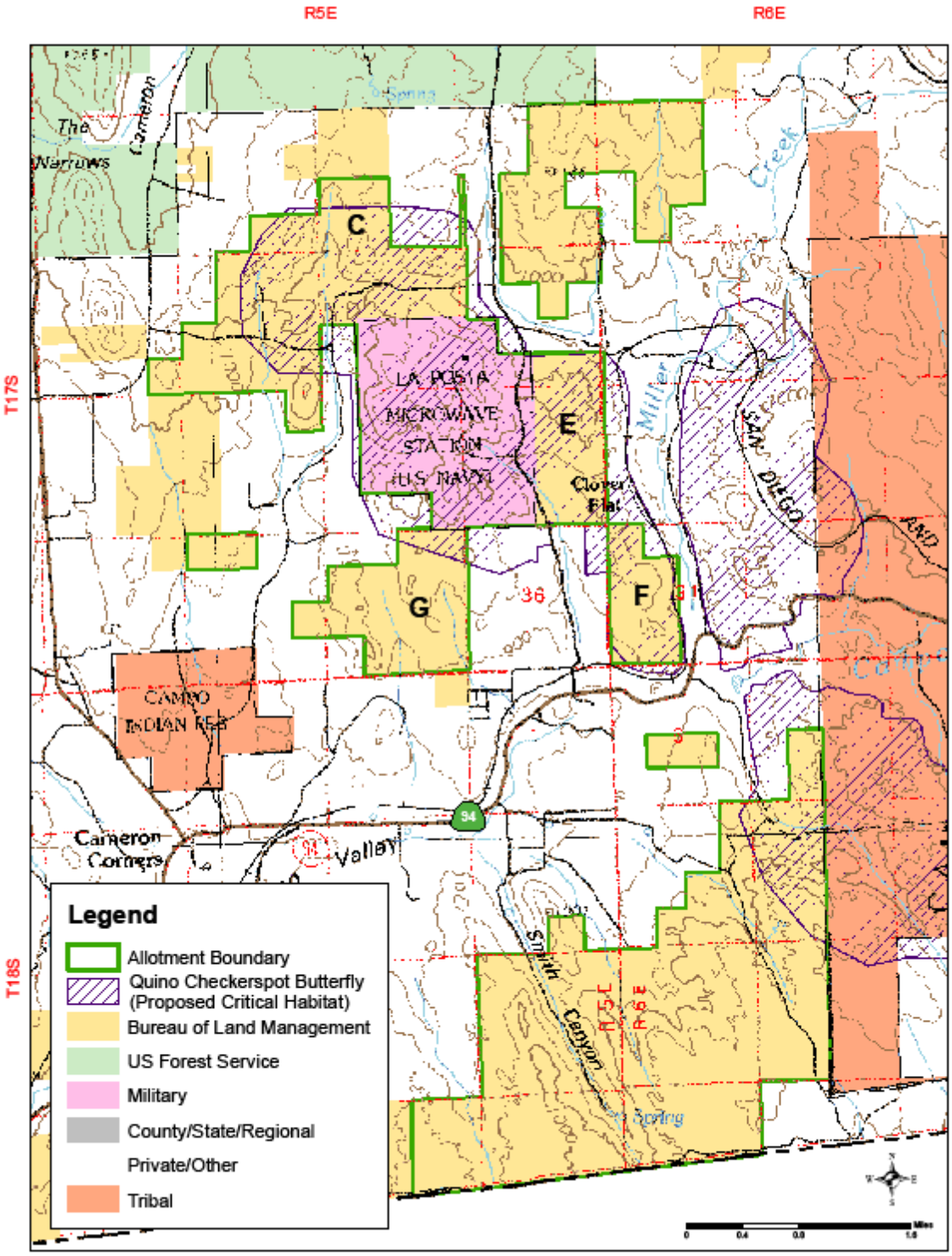
Future activities may include grazing, rights of way, authorized and unauthorized vehicle use, and activation of additional mining claims, and recreational activities. The terms and conditions in the proposed action would, offset the impact potential for cattle grazing to introduce and spread non-native/invasive species and cumulative impact of past, present and future activities.

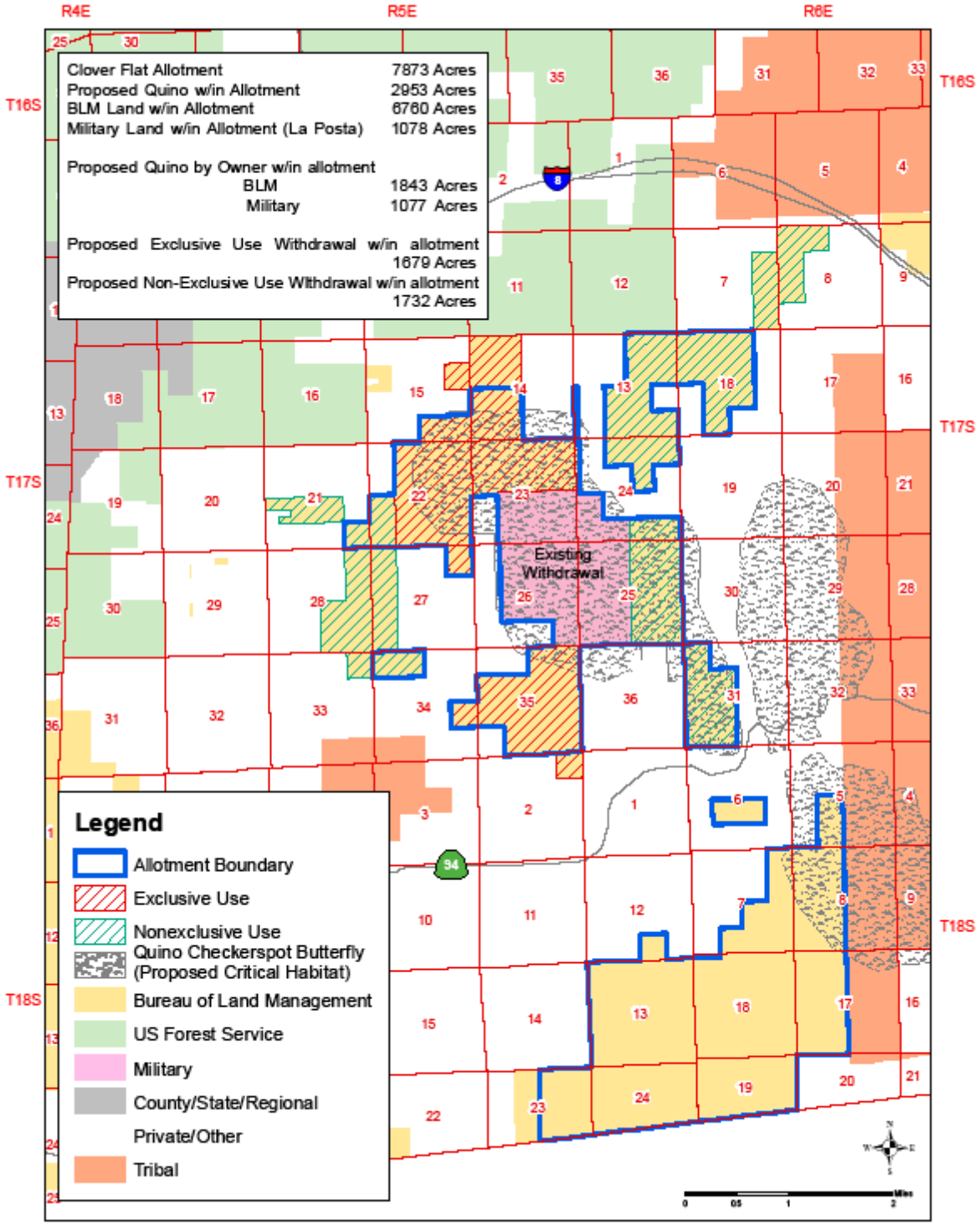
Consultation: None

Maps: None
References:

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, CA.

APPENDIX 1
MAPS


R5E
R6E
T17S
T16S
C
E
F
G
LA POSTA MICROWAVE STATION (U.S. NAVY)
Clover Flat
Miller Creek
SAN DIEGO AND
CAMPO INDIAN RES
Cameron Corners
Valley
Smith Canyon
Spring
Legend
Allotment Boundary
Quino Checkerspot Butterfly (Proposed Critical Habitat)
Bureau of Land Management
US Forest Service
Military
County/State/Regional
Private/Other
Tribal


R4E
R5E
R6E
T16S
T17S
T18S
Clover Flat Allotment 7873 Acres
Proposed Quino w/in Allotment 2953 Acres
BLM Land w/in Allotment 6760 Acres
Military Land w/in Allotment (La Posta) 1078 Acres
Proposed Quino by Owner w/in allotment
BLM 1843 Acres
Military 1077 Acres
Proposed Exclusive Use Withdrawal w/in allotment 1679 Acres
Proposed Non-Exclusive Use Withdrawal w/in allotment 1732 Acres
Existing Withdrawal
Legend
Allotment Boundary
Exclusive Use
Nonexclusive Use
Quino Checkerspot Butterfly (Proposed Critical Habitat)
Bureau of Land Management
US Forest Service
Military
County/State/Regional
Private/Other
Tribal