

CHAPTER TWO

ALTERNATIVES

2.1 INTRODUCTION

2.1.1 Overview

Chapter 2 describes seven alternative strategies that have been designed to conserve over 100 sensitive plants and animals and their habitats that are found within the western Mojave Desert while streamlining procedures for complying with the California and federal endangered species acts. This chapter identifies biological goals and objectives, describes the seven alternatives in depth, presents a table that compares the impacts of each of the seven alternatives, and discusses alternatives considered but eliminated from detailed consideration.

The seven alternatives include the following:

- **Alternative A: PROPOSED ACTION - HABITAT CONSERVATION PLAN.** This alternative presents a multi-species conservation strategy applicable to public and private lands throughout the planning area. It would serve as (1) an amendment of BLM's CDCA Plan for public lands, and (2) a "habitat conservation plan" for private lands. Incidental take permits would be issued to participating local jurisdictions and state agencies.
- **Alternative B: BLM Only.** This alternative consists of those elements of Alternative A that are applicable to, and that could be implemented on, BLM-administered public lands. It is applicable to public lands only.
- **Alternative C: Tortoise Recovery Plan.** This combines those elements of Alternative A that are applicable to the Mohave ground squirrel and other sensitive species with the management program recommended by the 1994 Desert Tortoise (Mojave Population) Recovery Plan. CDCA Plan amendments and a habitat conservation plan would be adopted and incidental take permits would be issued to participating local jurisdictions and state agencies. The public expressly requested detailed consideration of this alternative during NEPA scoping meetings.
- **Alternative D: Enhanced Ecosystem Protection.** This alternative places a high priority on the conservation of ecosystems and natural communities as a means to conserve sensitive plants and animals, even if adoption of those recommendations would limit motorized vehicle access to and multiple use of the western Mojave Desert. Its recommendations had their origin in discussions among the participating agencies and members of the public during NEPA scoping and the development of Alternative A. CDCA Plan amendments and a habitat conservation plan would be adopted and incidental take permits would be issued to participating local jurisdictions and state agencies.
- **Alternative E: One DWMA – Enhanced Recreation Opportunities.** This alternative places a high priority on multiple uses of desert lands, including motorized vehicle

recreation, even if this might preclude the implementation of some of the programs that otherwise might be implemented to conserve species and ecosystems. It also responds to a specific request raised by the public during scoping meetings that the EIR/S explore whether a single DWMA, protecting only the remaining areas of relatively higher tortoise populations, might be an effective means of conserving desert tortoises. CDCA Plan amendments and a habitat conservation plan would be adopted and incidental take permits would be issued to participating local jurisdictions and state agencies.

- **Alternative F: No DWMA – Aggressive Disease and Raven Management.** This alternative proposes a tortoise conservation strategy that relies on an aggressive program of tortoise disease management and raven control, supported by limited fencing, rather than the establishment of tortoise DWMA's to protect habitat. Subject to these modifications, the Alternative A conservation program for other species would be implemented. CDCA Plan amendments and a habitat conservation plan would be adopted and incidental take permits would be issued to participating local jurisdictions and state agencies.
- **Alternative G: No Action.** Existing conservation strategies currently being applied by each of the participating agencies would continue to be implemented.

Alternative A is discussed first and in depth. This discussion includes a tabular summary of CDCA Plan amendments. The description of each of the other alternatives incorporates the Alternative A discussion by reference; only those components of any given alternative that differ from Alternative A are presented.

An alphanumeric designation has been assigned to each management prescription. Thus the first desert tortoise prescription is labeled DT-1, the third Mohave ground squirrel prescription is referred to as MGS-3, and so forth. Prescription designations include the following: AM (adaptive management), B (bird), Bat (bats), DT (desert tortoise), E (education), HCA (habitat conservation area), LG (livestock grazing), M (monitoring), Mam (mammals), MGS (Mohave ground squirrel), MR (Mojave River), MV (motorized vehicles), P (plant), R (reptiles), Rap (raptors), AB (Alternative B), AC (Alternative C), AD (Alternative D), AE (Alternative E) and AF (Alternative F). Where management prescriptions are duplicative among species, the first cited notation is used.

2.1.2 Biological Goals and Objectives

Measurable biological goals have been developed for each of the species addressed by the West Mojave Plan in accordance with habitat conservation plan requirements established by USFWS. The biological goals are intended to be the broad guiding principles for the Plan's conservation program, and are applicable to all alternatives, though application of the goals to land ownership and to species may differ with each alternative. Biological goals are presented in Table 2-1.

In addition to the biological goals, biological objectives have been developed for the more complex strategies proposed for the desert tortoise, the Mohave ground squirrel, and certain other species. Biological objectives are the measurable components needed to achieve

the biological goal such as preserving sufficient habitat, managing the habitat to meet certain criteria, or ensuring the persistence of a specific minimum number of individuals. Goals and objectives can be either habitat or species based, and must be consistent with conservation actions needed to minimize and mitigate impacts to the covered species. The goals promote an effective monitoring program and help determine the focus of an adaptive management strategy.

**Table 2-1
Biological Goals and Objectives**

SPECIES	BIOLOGICAL GOALS	BIOLOGICAL OBJECTIVES
Alkali mariposa lily	<u>Goal 1.</u> Maintain the hydrological processes that support the dense populations within the Rosamond Lake Basin. <u>Goal 2.</u> Conserve outlying sites representative of alkali spring, meadow, and seep habitats.	<u>Objective 1:</u> Conserve a contiguous area of playa edge habitat on private lands adjacent to EAFB. <u>Objective 2:</u> Acquire Rabbit Springs and Paradise Springs (including water rights) through willing seller purchase or exchange.
Barstow woolly sunflower	Protect a contiguous habitat block with viable populations on public lands throughout the limited range.	<u>Objective 1:</u> Consolidate BLM and CDFG lands northeast of Kramer Junction to form a core reserve. <u>Objective 2:</u> Acquire private lands within the DWMA containing known occurrences. <u>Objective 3:</u> Protect habitat northwest of Kramer Junction. <u>Objective 4:</u> Manage the remaining outlying populations by site-specific measures.
Bats Long-legged myotis, spotted bat, California leaf-nosed bat, pallid bat, Western mastiff bat, Townsend's big-eared bat	Maintain and enhance viability of all bat populations in the planning area, regardless of species.	<u>Objective 1:</u> Install bat-accessible gates at the entrance of all significant roosts. <u>Objective 2:</u> Protect foraging habitat for Townsend's big-eared bat and California leaf-nosed bat. <u>Objective 3:</u> Adopt uniform survey requirements and mitigation measures.
Bendire's thrasher	Protect known populations and habitat on public lands.	
Bighorn sheep	Maintain and enhance the populations of bighorn throughout the planning area.	<u>Objective 1:</u> Establish two public land linkages for dispersal between mountain ranges. <u>Objective 2:</u> Maintain natural water sources. <u>Objective 3:</u> Prevent disease transmission from domestic sheep.
Brown-crested flycatcher	Conserve all suitable riparian nesting habitat.	Maintain groundwater levels in Mojave River that support the riparian habitat.
Burrowing owl	<u>Goal 1.</u> Prevent direct incidental take in urban areas. <u>Goal 2.</u> Establish reserves of occupied habitat.	<u>Objective 1:</u> Provide educational program for jurisdictions. <u>Objective 2:</u> Acquire lands containing occupied habitat.
Cushenbury buckwheat, Cushenbury	Conserve two major unfragmented populations on BLM lands contiguous with populations on	<u>Objective 1:</u> Establish an ACEC where management is focused on protection of the carbonate endemic plants. <u>Objective 2:</u> Acquire fee title or conservation easements

SPECIES	BIOLOGICAL GOALS	BIOLOGICAL OBJECTIVES
milkvetch, Cushenbury oxytheca, Parish's daisy, Shockley's rockcress	Forest Service lands.	on private land within the ACEC.
Charlotte's phacelia	Maintain and enhance existing occurrences and habitat.	
Crucifixion thorn	Preserve disjunct populations on public land and protect the crucifixion thorn community.	
Desert cymopterus	Avoid take while researching habitat and species requirements.	<u>Objective 1:</u> Establish a conservation area containing known occurrences contiguous with the EAFB population. <u>Objective 2:</u> Conduct surveys within potential and suitable habitat.
Desert tortoise	<u>Goal 1:</u> Protect sufficient habitat to ensure long-term tortoise population viability.	<u>Objective 1.1:</u> Establish a minimum of three, preferably four, Desert Wildlife Management Areas that would be managed for the long-term survival and recovery of the desert tortoise, and which would also benefit other special-status plant and animal species. <u>Objective 1.2:</u> Ensure that at least one DWMA exceeds 1,000 square miles in size. <u>Objective 1.3:</u> Design DWMA's so that they are well distributed across the recovery unit, edge-to-area ratios are minimized, impediments to the movement of tortoises are avoided, and (where feasible) boundaries are contiguous.
	<u>Goal 2:</u> Establish an upward or stationary trend in the tortoise population of the West Mojave Recovery Unit for at least 25 years.	<u>Objective 2.1:</u> Achieve population growth rates (λ) within DWMA's of at least 1.0. <u>Objective 2.2:</u> Attain a minimum average population density of 10 adult female tortoises per square mile within each DWMA. <u>Objective 2.3:</u> Establish a program for tortoise population monitoring that would detect an increase, decrease, or stable trend in tortoise population densities, and include an information feedback loop that ensures that necessary changes would be made in management.
	<u>Goal 3:</u> Ensure genetic connectivity among desert tortoise populations, both within the West Mojave Recovery Unit, and between this and other recovery units.	<u>Objective 3.1:</u> Delineate and maintain movement corridors between DWMA's, and with the Eastern Mojave Recovery Unit, the Eastern Colorado Recovery Unit, and the Northern Colorado Recovery Unit. <u>Objective 3.2:</u> Ensure a minimum width of two miles for movement corridors, and include provisions for major highway crossings.

SPECIES	BIOLOGICAL GOALS	BIOLOGICAL OBJECTIVES
	<u>Goal 4:</u> Reduce tortoise mortality resulting from interspecific (i.e., raven predation) and intraspecific (i.e., disease) conflicts that likely result from human-induced changes in the ecosystem processes.	<u>Objective 4.1:</u> Initiate proactive management programs addressing each conflict, to be implemented by each affected agency or jurisdiction. <u>Objective 4.2:</u> Establish an environmental education program to facilitate public understanding and support for proactive management programs necessary to reduce tortoise mortality. <u>Objective 4.3:</u> Continue research programs and monitoring programs that assess the relative importance of human activities and natural processes that affect desert tortoise populations.
Ferruginous hawk	Prevent electrocution.	
Flax-like monardella	Maintain extant populations.	
Golden eagle	Preserve all nest sites. Maintain the baseline number of territories.	Make all electrical transmission and distribution lines raptor safe.
Gray vireo	Conserve at least one core block of suitable nesting habitat.	Establish a conservation area at Big Rock Creek.
Inyo California towhee	Protect a viable population on public lands that would, in conjunction with military conservation programs, be large enough to meet the Recovery Plan criteria for delisting.	
Kelso Creek monkeyflower	Protect all occurrences and potential habitat on public lands.	
Kern buckwheat	Protect all known occurrences.	
Lane Mountain milkvetch	Protect viable unfragmented habitat on public lands throughout the limited range.	<u>Objective 1:</u> Acquire occupied habitat on private lands. <u>Objective 2:</u> Minimize potential impacts on public lands.
Least Bell's vireo	Conserve all suitable riparian nesting habitat.	Maintain groundwater levels in Mojave River that support the riparian habitat.
LeConte's Thrasher	Conserve a large area capable of supporting viable populations in perpetuity.	
Little San Bernardino Mountains gilia	<u>Goal 1.</u> Protect all occurrences on public lands and 90% of the known populations on private land. <u>Goal 2.</u> Protect the drainages and fluvial processes that maintain the gilia populations.	
Long-eared owl	Preserve all nest sites and communal roosts.	

SPECIES	BIOLOGICAL GOALS	BIOLOGICAL OBJECTIVES
Mohave ground squirrel	<p><u>Goal 1.</u> Ensure long-term protection of MGS habitat throughout the species range.</p> <p><u>Goal 2.</u> Ensure long-term viability of the MGS throughout its range.</p>	<p><u>Objective 1.1:</u> Upon Plan adoption, establish management areas for the long-term conservation of MGS habitat: (a) the MGS Conservation Area for the protection of unfragmented habitats outside military installations; (b) Biological Transition Areas to minimize indirect impacts of human development to the MGS Conservation Area; and (c) heightened project review in northeastern Los Angeles County to minimize development of MGS habitats in the southern portion of the range.</p> <p><u>Objective 1.2:</u> Allow for adjustments to the MGS Conservation Area boundary based on findings of scientific studies.</p> <p><u>Objective 1.3:</u> Implement appropriate actions to ensure the long-term protection of habitat in the MGS Conservation Area throughout the life of the Plan.</p> <p><u>Objective 1.4:</u> On a yearly basis, track the loss of MGS habitat resulting from Plan implementation.</p> <p><u>Objective 1.5:</u> Cooperate with military installations by sharing scientific information and reviewing management plans (INRMP, CLUMP) to assist environmental managers in evaluating MGS habitat protection on the bases.</p> <p><u>Objective 2.1:</u> As per the mandate of the California Department of Fish and Game, minimize and fully mitigate the impacts of the Plan’s authorized incidental take of the MGS throughout the life of the Plan.</p> <p><u>Objective 2.2:</u> Upon Plan adoption, initiate and conduct studies that would determine the following measurable biological parameters: (1) the regional status, (2) potential hot spots (refugia), (3) genetic variation throughout the range, and (4) the ecological requirements of the MGS.</p> <p><u>Objective 2.3:</u> Establish long-term study plots throughout the range and annually monitor their MGS populations. Fund continued monitoring in the Coso Range to provide baseline population data.</p> <p><u>Objective 2.4:</u> Use the biological and population data from Goal 2, Objectives 2 and 3 to modify the management prescriptions, as warranted, to ensure the long-term viability of the species.</p>
Mojave monkeyflower	Protect viable populations on public land throughout the range.	<p><u>Objective 1:</u> Establish a core reserve on public land in the Brisbane Valley.</p> <p><u>Objective 2:</u> Establish a core reserve west of the Newberry Mountains.</p> <p><u>Objective 3:</u> Provide site-specific management of occupied habitat on public lands outside the core reserves.</p>
Mojave tarplant	Protect viable populations on public lands. These populations may be disjunct.	

SPECIES	BIOLOGICAL GOALS	BIOLOGICAL OBJECTIVES
Mojave fringe-toed lizard	Preserve the complete blowsand ecosystem at eight of the fourteen occupied habitats.	
Mojave River vole	Conserve all remaining riparian and wetland habitat.	
Panamint alligator lizard	Maintain and enhance existing habitat.	
Parish's phacelia	<u>Goal 1.</u> Preserve large intact populations on the publicly owned dry lakebeds. <u>Goal 2.</u> Conserve a public land corridor connecting the dry lakes.	Acquire private land containing occupied habitat and essential connectivity.
Parish's alkali grass	Goal 1. Conserve the single private land location. Goal 2. Survey other alkaline springs and seeps to determine if additional populations are present.	
Parish's popcorn flower	Goal 1. Conserve the single private land location. Survey other alkaline springs and seeps to determine if additional populations are present.	
Prairie falcon	Preserve all nest sites and maintain the baseline number of occupied territories.	
Red Rock poppy	Conserve and maintain all occurrences in the El Paso Mountains.	
Red Rock tarplant	Conserve and maintain all occurrences in the El Paso Mountains.	
Reveal's buckwheat	Maintain extant populations.	
Salt Springs checkerbloom	Conserve the single private land location. Survey other alkaline springs and seeps to determine if additional populations are present.	
San Diego horned lizard	Conserve two large representative areas, Big Rock Creek and Mescal Creek, with connectivity of the overall range through the National Forests.	
Short-joint beavertail cactus	Conserve two large representative populations that are contiguous with National Forest lands.	
Southwestern pond turtle	Conserve all remaining populations in the Mojave River, Lake Elizabeth and Amargosa Creek.	

SPECIES	BIOLOGICAL GOALS	BIOLOGICAL OBJECTIVES
Southwestern willow flycatcher	Conserve all riparian habitat used for breeding and migratory stopovers.	<u>Objective 1:</u> Maintain groundwater levels in Mojave River that support the riparian habitat. <u>Objective 2:</u> Achieve regional public land health standards for grazing in east Sierra canyons.
Summer tanager	Conserve all existing riparian habitat outside developed areas.	<u>Objective 1:</u> Establish a conservation area at Big Rock Creek. <u>Objective 2:</u> Maintain groundwater levels in Mojave River that support the riparian habitat.
Vermillion flycatcher	Conserve all existing riparian habitat outside developed areas.	<u>Objective 1:</u> Establish a conservation area at Big Rock Creek. <u>Objective 2:</u> Maintain groundwater levels in Mojave River that support the riparian habitat.
Western snowy plover	Preserve all nest sites and maintain and enhance nesting and wintering habitat on public lands.	
Western yellow-billed cuckoo	Conserve all potential nesting and migratory stopover habitat.	<u>Objective 1:</u> Maintain groundwater levels in Mojave River that support the riparian habitat. <u>Objective 2:</u> Achieve regional public land health standards for grazing in east Sierra canyons.
White-margined beardtongue	Preserve the wash and sand field habitat of the disjunct population on public land.	
Yellow-breasted chat	Conserve all suitable riparian nesting habitat.	<u>Objective 1:</u> Establish a conservation area at Big Rock Creek. <u>Objective 2:</u> Maintain groundwater levels in Mojave River that support the riparian habitat. <u>Objective 3:</u> Achieve regional public land health standards for grazing in east Sierra canyons.
Yellow warbler	Conserve all suitable riparian nesting habitat.	<u>Objective 1:</u> Establish a conservation area at Big Rock Creek. <u>Objective 2:</u> Maintain groundwater levels in Mojave River that support the riparian habitat. <u>Objective 3:</u> Achieve regional public land health standards for grazing in east Sierra canyons.
Yellow-eared pocket mouse	Maintain and enhance existing habitat.	

2.2 ALTERNATIVE A: PROPOSED ACTION: HABITAT CONSERVATION PLAN

Alternative A presents a multi-species conservation strategy applicable to public and private lands throughout the planning area. It was developed by the participating agencies with the intent that it would serve as (1) an amendment of BLM’s CDCA Plan for public lands, and (2) a “habitat conservation plan” for private lands. Incidental take permits would be issued to participating local jurisdictions and state agencies. Map 2-1 (foldout map at end of this document) displays components of this alternative.

The strategy is intended to achieve two overarching goals: first, to provide an economic stimulus to communities within the western Mojave Desert by simplifying the process of complying with CESA and FESA, and second, to fulfill federal and California mandates to conserve natural communities and sensitive species. The narrative description of the alternative is organized as follows:

The narrative description of this alternative is organized as follows:

- Habitat Conservation Area
- Compensation Framework
- Incidental Take Permits
- Species Conservation Measures
- Public Land Livestock Grazing Program
- Public Land Motorized Vehicle Access Network
- Education Program
- Monitoring
- Adaptive Management

To implement this alternative on public lands administered by the Bureau of Land Management, 10 amendments of the California Desert Conservation Area Plan would be necessary. Table 2-2 presents a summary of those amendments. It also cross-references more detailed discussions of each alternative that appear later in this chapter.

**Table 2-2
Summary of BLM CDCA Plan Amendments**

AMENDMENT		SUMMARY	SEE SECTION
NO.	TITLE		
1	New ACECs	Designate 14 new ACECs including: <ul style="list-style-type: none"> • Four Desert Tortoise DWMA's • Bendire's Thrasher • Carbonate Endemic Plants Research Natural Area • Coolgardie Mesa • Kelso Creek Monkeyflower • Middle Knob • Mojave Fringe-toed Lizard • Mojave Monkeyflower • West Paradise • Parish's Phacelia • Pisgah Crater Research Natural Area 	2.2.1
2	ACEC Boundary Amendments	Modify boundaries of four ACECs: <ul style="list-style-type: none"> • Afton Canyon (See Amendment 5 below) • Barstow Woolly Sunflower • Harper Dry Lake • Rand Mountains (See Amendment 5 below) 	2.2.1

3	Multiple Use Class Changes	Change Multiple Use Class in Following Areas: <ul style="list-style-type: none"> • Afton Canyon Natural Area • Bendire’s thrasher Conservation Area • Carbonate Endemics Plants ACEC • Lands adjacent to Edwards AFB • Inyo County Disposal Parcels • Land Tenure Adjustment Project • Little San Bernardino Mountains Gilia Habitat • Los Angeles County Significant Ecological Areas • Mojave Fishhook Cactus ACEC • Mojave Fringe-toed Lizard Conservation Area • Mojave Monkeyflower ACEC • Mohave Ground Squirrel Habitat • Non-Wilderness Class C Lands • North Edwards Conservation Area • Pisgah Crater ACEC • San Gabriel Mountains Foothills 	2.2.1.2
4	Mohave Ground Squirrel WHMA	Designate the Mohave Ground Squirrel Conservation Area as a Wildlife Habitat Management Area	2.2.1.1.2
5	Rand Mountains – Fremont Valley Management Plan	Amend the CDCA Plan as stated below to implement the 1994 Rand Mountains – Fremont Valley Management Plan <ul style="list-style-type: none"> • Expand Western Rand Mountains ACEC • Multiple Use Class Changes • Adopt Motorized Vehicle Access Network • Designate as Desert Tortoise Category I Habitat • Authorize Mineral Withdrawal Implement a use permit program.	2.2.1.2
6	Afton Canyon Natural Area	Modify ACEC boundaries, adopt motorized vehicle access network, change multiple use class designations.	2.2.1.2
7	West Mojave Land Tenure Adjustment Program	Modify boundaries of consolidation, retention and disposal zones to conform to conservation area goals.	2.2.1.2
8	Regional Public Land Health Standards and Guidelines for Grazing Management	Standards and Guidelines, already adopted for BLM CDCA Public Lands outside of the West Mojave, would be adopted for lands within the planning area	2.2.5
9	Route Designation	Adopt a network of motorized vehicle access routes as a component of the CECA Plan. This network would be composed of routes designated by ACEC management plans, BLM’s 1985-87 route designation process, BLM’s Ord Mountain Pilot Project and BLM’s 2002 West Mojave designation process for lands in sensitive wildlife and plant habitat.	2.2.7
10	Motorized Vehicle Stopping, Parking and/or Vehicular Camping	Amend Motorized Vehicle Access Element’s Stopping and Parking Section, incorporating following restrictions within DWMA’s: <ul style="list-style-type: none"> • Motorized vehicle based camping limited to previously existing disturbed camping areas adjacent to routes designated “open” • Motorized vehicle stopping and parking allowed within 50 feet of centerline of routes designated “open” 	2.2.7

11	Barstow to Vegas Race Course	Delete that portion of the Barstow to Vegas Race Course which lies within the West Mojave Planning Area.	2.2.7
----	------------------------------	--	-------

2.2.1 Habitat Conservation Area

A network of ecosystem conservation areas would be established to protect viable populations of native plant and animal species and their habitats. Collectively, these are referred to as the *Habitat Conservation Area* or HCA. A description of the HCA, its component parts, and limits on new ground disturbance within the HCA follows.

2.2.1.1 Structure and Components

2.2.1.1.1 Overview

Conservation Areas: The HCA would be composed of eighteen conservation areas that are intended to conserve the habitat of particular species, groups of species or biologically important geographic areas. Conservation areas include those established to protect:

- *Desert tortoise.* Four tortoise conservation areas would be established. They are referred to as tortoise DWMAs (Desert Wildlife Management Areas) because this name is consistent with the terminology used by the Desert Tortoise (Mojave Population) Recovery Plan, and has been adopted by other regional planning efforts throughout the listed range of the tortoise.
- *Particular species (except the desert tortoise).* These bear the name of the species being protected, such as Mohave Ground Squirrel Conservation Area or the Alkali Mariposa Lily Conservation Area.
- *Groups of species or an important habitat.* These areas are given a geographic name, such as the Middle Knob Conservation Area.

Conservation areas may overlap one another. For example, the tortoise DWMAs and the Mohave Ground Squirrel Conservation Area partially overlap, and the Barstow Woolly Sunflower Conservation Area is located within this overlap zone. Within such areas, all of the prescriptions associated with each overlapping conservation area apply.

Open Space Corridors: Three open space corridors would protect critical linkages and wildlife movement corridors. These corridors connect the HCA with surrounding National Park Service and Forest Service lands.

Biological Transition Areas (BTA): Strips of land adjacent to the tortoise DWMAs and Mohave Ground Squirrel Conservation Area wherein a heightened biological review of all new projects would be conducted to ensure that such projects would not degrade the biological integrity of or conflict with the conservation goals established for the adjacent conservation area.

Special Review Areas (SRA): Lands not adjacent to the HCA but possessing biological values for which a heightened environmental review of new projects would be conducted.

2.2.1.1.2 Desert Tortoise Component of HCA

Tortoise DWMA: (HCA-1) Four tortoise DWMA's would be established. The boundaries of these DWMA's correspond to the general boundaries identified by the Desert Tortoise (Mojave Population) Recovery Plan (Recovery Plan): the Fremont-Kramer (773 square miles) and Superior-Cronese (963 square miles) DWMA's, which are adjacent; the Ord-Rodman DWMA (388 square miles); and the Pinto DWMA (183 square miles). Tortoise DWMA's would be managed for tortoise conservation and recovery until which time the tortoise may be delisted as per criteria given in the Recovery Plan.

Public lands administered by the BLM within Tortoise DWMA's would be designated as ACECs. The West Mojave Plan would serve as the ACEC management plan so that future ACEC plans for the four Tortoise DWMA's would not be required.

Existing ACECs that lie within the boundary of the Tortoise DWMA's ("included ACECs") would be maintained, unless specifically deleted by the West Mojave Plan. The provisions of the Tortoise DWMA's would augment, rather than replace, current ACEC protections. If a provision of an included ACEC's management plan conflicts with any of the measures described herein for the Tortoise DWMA, the measures identified by this alternative take precedence and the included ACEC's management plan would be amended to conform to the West Mojave Plan.

Within DWMA's, current BLM multiple use class designations would be retained, except within the DWMA's overlap with the western third of the Pisgah Crater ACEC and the Western Rand Mountains ACEC. In those areas, the multiple use class would change from class M to class L (see section 2.2.1.2, below). In addition, lands removed from the LTA disposal zone would change from Unclassified to Class M.

All BLM-administered public lands within Tortoise DWMA's would be managed as BLM Category I tortoise habitat. All public lands outside of the Tortoise DWMA's that are within the range of the tortoise would be managed as BLM Category III Tortoise Habitat.

2.2.1.1.3 Mohave Ground Squirrel Component of HCA

MGS Conservation Area: (HCA-2) A conservation area would be established for the long-term survival and protection of the MGS. This MGS Conservation Area would include portions of the Fremont-Kramer and Superior-Cronese Tortoise DWMA's, and additional, essential habitats located west and north of the two tortoise DWMA's. The MGS in all other areas would either be managed by the military or be available for incidental take subject to restrictions identified by this alternative.

Within the MGS Conservation Area, the public land south of Owens Lake classified by

the CDCA Plan as multiple use class M would be changed to class L.

Public lands within the MGS Conservation Area would be designated as a BLM Wildlife Habitat Management Area in the BLM's CDCA Plan.

Sierra Foothills Habitat Connector: There exists a narrow band of MGS habitat along the eastern side of the Sierra Nevada that is considered to be a very important corridor linking MGS habitats from north to south. Highway 178 west of Freeman Junction bounds this corridor to the south, Olancho bounds the north, the Sierra Nevada the west (up to about 5,500 feet), and Highway 14 and 395 the east. Although this area is already part of the MGS Conservation Area, special review of projects should occur in this area to ensure that the narrow corridor is not completely severed.

Los Angeles County Significant Ecological Area: Los Angeles County has identified a Significant Ecological Area (SEA) for northeastern Los Angeles County that should prove beneficial to protection of the MGS. Within SEAs, the County performs a heightened environmental review for new projects, and has proposed zoning the area for a minimum lot size of 10 acres. The West Mojave Plan would adopt these provisions as a means of protecting the MGS in the southern portions of its range.

2.2.1.1.4 Other Conservation Areas

(HCA-3) Fourteen conservation areas (in addition to the tortoise DWMA and the MGS Conservation Area) would be established to conserve species and habitats of biological significance. All conservation areas, and general management measures to be applied in each, are presented in Table 2-3. Species-specific conservation measures applicable within the conservation areas are described in subsequent sections. Map 2-1 (foldout map at end of document) indicates the regional location of the conservation areas. Specific maps of the following conservation areas are presented later in this chapter, as a part of the more detailed discussion of species conservation strategies in section 2.2.4: the two Lane Mountain Milkvetch conservation areas (Map 2-10, the Coolgardie and West Paradise Conservation Areas); the Pisgah Crater Conservation Area (Map 2-11) and the Carbonate Plants Area Conservation Area (Map 2-12).

**Table 2-3
Other Conservation Areas**

CONSERVATION AREA	ACRES	CONSERVATION MEASURES
Fremont-Kramer DWMA	492,854	See discussion under desert tortoise.
Superior-Cronese DWMA	620,680	See discussion under desert tortoise.
Ord-Rodman DWMA	247,080	See discussion under desert tortoise.
Pinto Mountains DWMA	117,046	See discussion under desert tortoise.
MGS Conservation Area	1,701,947	See discussion under Mohave ground squirrel.
Alkali Mariposa Lily	3,500	Establish one conservation area and three interim conservation areas. Long-term intent: replace the interim designations with permanent reserves in order to achieve greater planning certainty for jurisdictions. The Alkali Mariposa Lily Conservation Area would be located west of Edwards Air Force Base, from the military boundary to Sierra Highway, and from the Lancaster City limits on the south to the Kern County line. Within Los Angeles County, the best habitat lies between Avenue C and Avenue A.
Barstow Woolly Sunflower	36,211	Establish a conservation area composed of BLM, CDFG and private lands northeast of Kramer Junction, entirely within the Fremont-Kramer DWMA. Most of the conservation area would become an addition to the CDFG West Mojave Ecological Reserve, pending completion of a land exchange between the BLM and CDFG. The remaining public lands would be designated a BLM ACEC. Management would include acquisition of private lands, signing and designation of vehicle routes. The CDFG would prepare a management plan for the Ecological Reserve after the land exchange is completed.
Bendire's Thrasher	28,046	Establish a conservation area with three sub-units, in southern Kelso Valley in Kern County, and northern Lucerne Valley and Coolgardie Mesa in San Bernardino County. Designate public lands within the conservation area as an ACEC.
Big Rock Creek	10,785	Conservation management should be compatible with existing land uses in the SEA and enhance potential for improvements of a regional hiking and equestrian trail. Protection of the riparian habitat, wildlife corridor and ecological processes for the Mojave fringe-toed lizard would be priorities.
Carbonate Endemic Plants	5,169	Designate public lands east of Highway 18 in the foothills of the San Bernardino Mountains as an ACEC to protect four federally listed and one unlisted species of plants, as well as the San Diego horned lizard, gray vireo, and bighorn sheep. Lands within the proposed ACEC would be subject to a standard of no surface occupancy to prevent undue and unnecessary degradation of lands under the surface mining regulations. Private lands within the proposed ACEC may be purchased or exchanged for BLM lands in Lucerne Valley. Acquired lands would be withdrawn from mineral entry. The CDCA Plan multiple use class would change from class M to class L.
Coolgardie Mesa	13,354	This area north of the Mud Hills lies entirely within the Superior-Cronese DWMA and includes a small portion of the Rainbow Basin Natural Area.

North Edwards	14,337	Establish conservation area to protect desert cymopterus and Barstow woolly sunflower. Acquire conservation easements on the privately owned land. Conduct botanical surveys and adjust boundaries based on survey results.
West Paradise	1,243	This area lies entirely within the Superior-Cronese DWMA and adjoins the military lands of the Fort Irwin National Training Center near Lane Mountain. Designate the West Paradise Conservation Area as an ACEC. Reserve-level management will apply to the conservation area, including withdrawal from mineral entry (subject to valid existing rights), minimization of vehicle routes of travel, and fencing if deemed necessary to protect these endangered plants. Private lands that may be acquired will be withdrawn from mineral entry.
Parish's Phacelia	898	Prohibit vehicle travel on the series of dry lakes with occupied habitat. Acquire private lands with occupied habitat.
Pisgah Crater	14,224	Designate an ACEC for this area, currently a Research Natural Area . Designate routes of travel, including the Johnson Valley to Parker race corridor on a specified route partially within the ACEC. Change the CDCA Plan multiple use class from M to L. Allow existing mineral extraction operations to continue.

2.2.1.1.5 Open Space Corridors

(HCA-4) Three open space corridors are proposed to protect critical linkages and wildlife movement corridors (see foldout Map 2-1). These corridors include Big Rock Creek corridor, the Joshua Tree to Yucca Valley corridor and the Liebre Ridge to Antelope Valley Poppy Preserve State Park corridor.

Big Rock Creek: Conservation of Big Rock Creek wash in its natural state would preserve a known wildlife movement corridor for larger animals moving between the mountains and the desert. It also provides habitat connectivity for Saddleback Buttes State Park, which would otherwise be an isolated block of public (state) lands. Los Angeles County recognizes the Big Rock Creek open space corridor in both its existing and proposed system of Significant Ecological Areas.

Joshua Tree to Yucca Valley: This linkage would connect Joshua Tree National Park (JTNP) and the San Bernardino Mountains and would enhance dispersal of bighorn sheep. It would also provide conserved lands for the endemic Little San Bernardino Mountains gilia, triple-ribbed milkvetch and the disjunct population of the Bendire's thrasher. The BLM has already taken steps to establish a linkage between the National Park and the mountains with the expansion of the Big Morongo ACEC, though several parcels of private land are included in the potential corridor. This area was identified as an open space corridor by the Town of Yucca Valley General Plan in 1994, and thus is consistent with Town policies. In addition, the Wildlands Conservancy has already acquired a substantial amount of land in this area.

Portal Ridge to Antelope Valley Poppy Preserve: Los Angeles County has included a linkage from the San Gabriel Mountains to the Antelope Valley Poppy Preserve State Park as

part of its proposed San Andreas Rift Zone Significant Ecological Area. Alternative A would adopt the proposed SEA boundaries. This corridor would also protect remnant native grassland and wildflower fields plant communities and habitat for the burrowing owl. A habitat linkage would prevent the Poppy Preserve from being an isolated block of protected lands.

2.2.1.1.6 Biological Transition Areas (BTA)

(HCA-5) Certain lands adjacent to the DWMA's and the Mohave Ground Squirrel Conservation Area would be designated as Biological Transition Areas. BTAs would be established to ensure that projects sited just outside of these conservation areas would not degrade their biological integrity or conflict with conservation goals. Characteristics of BTAs include the following:

- Lands within the BTA would be part of the incidental take area, and would be subject to development.
- BTAs would be located in certain areas adjacent to DWMA's and the MGS Conservation Area in the form of a band of land one to two miles wide.
- The pertinent county would conduct a heightened biological review for all new projects proposed to be located within the BTA. This could include a review by the Implementation Team. The intent of this review is to lessen the indirect impacts on the adjacent conservation area of large-scale industrial, residential and commercial development and public utilities, and to ensure that no new landfills are located within these areas.
- The management goal within the BTAs would focus on take avoidance rather than on long-term conservation, so that any impacts on the capability of the DWMA or the MGS Conservation Area to conserve populations would be minimized.
- Proactive programs to protect the adjacent conservation area (such as fencing) could be pursued where appropriate.
- BTAs could be established by local governments through ordinances, codes, or included in permitting processes adopted by the jurisdiction. The guidelines for BTA implementation would be consistent within the West Mojave planning area.

2.2.1.1.7 Special Review Areas (SRA)

There exist regions that are not well suited for inclusion within the Tortoise DWMA's, although they contain relatively high numbers of tortoises. The land ownership pattern may be too fragmented, and the size too small. While these areas are not suited for long-term conservation, enough tortoises are present to warrant a heightened level of environmental review for new projects.

The special management required for protection of the Little San Bernardino Mountains gilia also warrants designation of a Special Review Area.

(HCA-6) Three "Special Review Areas" would be established: the Brisbane Valley SRA (located between Interstate 15 and National Trails Highway), Copper Mountain Mesa SRA

(located north of Highway 62, between Yucca Valley and Twentynine Palms), and the Joshua Tree SRA, located south of Highway 62 near the community of Joshua Tree. The first two areas contain relatively high numbers of tortoises, but are isolated, small and composed of fragmented land ownership patterns. Neither is particularly well suited for designation as a Tortoise DWMA. The Joshua Tree SRA would be established for conservation of the Little San Bernardino Mountains gilia. Conservation of the gilia would be an additional requirement within the Copper Mountain Mesa SRA.

Management within the tortoise SRAs would focus on take avoidance rather than on long term tortoise conservation. Clearance surveys would be performed throughout the SRA by tortoise biologist(s) authorized to move tortoises out of harm's way. Protective fencing may be needed to preclude tortoises from a development site in the absence of a biological monitor. BLM public lands would be managed as Category III tortoise habitat.

Management of the gilia SRA would require avoidance of known occurrences and a setback from the banks of desert washes within this area. Flood control would be by non-structural floodplain management and acquisition of easements rather than constructed improvements to stream channels.

2.2.1.2 Miscellaneous BLM Management Issues

Establishing the Habitat Conservation Area on public lands would require BLM to amend the multiple use class of numerous parcels of land, address issues associated with the wilderness designations of the California Desert Protection Act of 1994, establish new ACECs, and resolve several pending land use issues. These are described below. The discussion is organized as follows:

- BLM Multiple Use Class Changes
- California Desert Protection Act Non-Wilderness
- BLM Areas of Critical Environmental Concern
- Rand Mountains – Fremont Valley Management Plan
- Afton Canyon Natural Area
- Harper Dry Lake
- Western Mojave Land Tenure Adjustment Project
- Mojave River Wild and Scenic River Eligibility Determination

2.2.1.2.1 BLM Multiple Use Class Changes

Alternative A proposes several changes in the multiple use class (MUC) assigned by BLM's CDCA Plan to public lands within the planning area. These changes are indicated on Map 2-2 (see attached CD Rom). Multiple use class changes are listed in Table 2-4. Within DWMA's, current BLM class designations would be retained, except as specifically noted below.

Table 2-4
BLM Multiple Use Class Changes

LOCATION	MUC CHANGE	ACRES	COMMENTS
Western Rand –Fremont Valley Management Area (HCA-7)	M to L	13,120	Recommended in 1994 ACEC management plan.
Afton Canyon Natural Area (HCA-8)	M to L	8,751	Better reflects goals of 1989 ACEC management plan. T 11N, R 5E – E ½ of Section 14, portions of Sections 13, 23, and 24.
Bendire’s thrasher conservation area (B-1)	M to L U to L	9,809 7,638	North Lucerne Valley Kelso Valley
Carbonate Endemic Plants ACEC (HCA-9)	M to L	4,393	Class L better protects critical habitat.
Pisgah Crater ACEC (HCA-10)	M to L	14,224	Class L better reflects goals of Research Natural Area and offers better protection for Mojave fringe-toed lizard and three sensitive plant species.
Little San Bernardino Mountains Gilia habitat (P-35)	Unclassified to M	1,922	Lands adjoining Joshua Tree National Park.
Mojave Fishhook Cactus ACEC (HCA-12)	Unclassified to L	628	T 8N, R 4W – E ½ of Section 32 T 7N, R 4W – N ½ of Section 4
Mojave Fringe-toed Lizard Conservation Area (HCA-3)	Unclassified to L	8,485	Mojave River parcels
Mojave Monkeyflower Conservation Area (HCA-3)	U and I to L M to L	10,663 25,997	Brisbane Valley Daggett Ridge
Inyo County (HCA-13)	M and L to Unclassified	6,828	Ten parcels. These lands would immediately become available for disposal or transfer to Inyo County or directly to private ownership in exchange for acquisition of habitat within HCA or other conservation areas identified in this plan.
Non-Wilderness Class C lands (HCA-14)	C to L C to M	3,997 842	Intent is to reflect the California Desert Protection Act (CDPA), enacted in 1994 by the United States Congress. See section 2.2.1.1.10, below.
Land Tenure Adjustment within DWMA	U to M		Lands within DWMA removed from disposal under LTA and MUC changed to reflect adjacent retention zone.
Land Tenure Adjustment to prevent urban encroachment on EAFB	U to M	1,225	T 9N, R 12W - SW ¼ of Section 10. T 10N, R 12W – SW ¼ of Section 34. T 10N, R 11W – All BLM parcels in Sections 10 and 12.
Mohave Ground Squirrel Habitat (HCA-16)	Unclassified to L	181	Lands between Saddleback Butte State Park and Edwards AFB in Los Angeles County: T 8N, R 9W - Portions of Sections 27 and 30. T 7N, R 9W - Portions of Sections 3, 11, and 15.
Mohave Ground Squirrel Habitat (HCA-2)	M to L	136,086	Lands in Inyo County south of Owens Lake.
Mohave Ground Squirrel Habitat	I to L		Linkage east of Searles Lake.
San Gabriel Mountains Foothills (B-9)	Unclassified to M	706	T 4N, R 8W - portions of Section 17 T 4N, R 9W – portions of Sections 2, 3, 11, 14, and 15.
Los Angeles County SEAs (HCA-17, B-9)	Unclassified to M	164 316 93	SEA #47: T 8N, R 9W – NW ¼ Section 30. SEA #48: T 5N, R 9W - S ½ of Section 6. SEA #51: T 7N, R8W - Portions of SW ¼ Section 19.

		38 234 395	SEA #52: T 7N, R 9W - Portions of Sections 31. SEA #54: T 7N, R 9W - Portions of Section 32. SEA #55: T 4N, R 8W - portions of Sections 3, 4, 10, 13, and 24. T 6N, R 8W - Portions of S ½ of Section 33.
		75 326 265	SEA #56: T 6N, R 13W - Portions of Section 13. SEA #58: T 7N, R 15W -Portions of Sections 13, and 14. SEA #61: T 5N, R 12W, portions of Sections 26 and 35.
North Edwards Conservation Area (HCA-18)	Unclassified to M	1,143	Lands NW of Kramer Junction. T 11N, R 7W - Section 26, Portions of Section 28.

2.2.1.2.2 California Desert Protection Act Non-Wilderness

The BLM’s 1980 CDCA Plan identified wilderness study areas and recommended certain of them for designation by Congress as wilderness (multiple use class C (controlled) lands). In 1994, Congress determined which of the public lands should be designated as wilderness, taking into consideration BLM’s recommendations and other factors. This designation occurred through enactment of the 1994 California Desert Protection Act. Congress did not, however, designate all class C lands as wilderness. In such cases, the CDCA Plan provides as follows:

Areas not approved by Congress would, unless Congress directed specific management in lieu of wilderness, return without [multiple use class] designation. They would immediately become part of a Plan amendment proposal and a public planning process would ensue as part of that year’s input into the land use decision as well as consideration by the District Multiple Use Advisory Committee. In the interim between Congressional rejection and the District Manager’s decisions, areas would be managed under the Class “L” guidelines. [CDCA 1982 Plan Amendment Numbr 53]

Congress failed to designated 4,839 acres of class C lands as wilderness. Accordingly, CDCA Plan multiple use class changes would be made to reflect the decisions of Congress in 1994 (see Table 2-3, HCA-14). These new designations would be based on sensitivity of resources, kinds of uses, and other criteria identified in this alternative. In total, this would involve a change of 3,997 acres from class C to Class L, and 842 acres from Class C to Class M.

None of the prohibited uses in wilderness are specified as components of either Alternative A or any of the alternatives. Should any such prohibited uses in wilderness (e.g., construction of structures or use of motorized equipment) become necessary to implement the plan, then a site specific environmental assessment would be prepared. An alternative that does not require any of the prohibited uses would be included in that analysis.

2.2.1.2.3 BLM Areas of Critical Environmental Concern

Implementation of Alternative A would create 14 new BLM ACECs, modify the boundaries of two others, and result in the modification of the management strategies presented in 26 existing ACEC management plans. Five ACECs would not be affected. The West Mojave Plan would serve as the ACEC management plan for each of the new ACECs. In addition, all necessary amendments of existing ACEC management plans would be set forth in the West

Mojave Plan. Appendix D lists all new and amended ACECs, and presents new and amended management strategies for each ACEC.

2.2.1.2.4 Rand Mountains – Fremont Valley Management Plan

The BLM's 1994 Rand Mountains – Fremont Valley Management Plan (Rand Plan) determined that four amendments of the BLM's CDCA Plan were necessary to allow full implementation of the Rand Plan. These changes are incorporated as components of Alternative A, and are depicted on Map 2-3. They follow:

- (HCA-19) Expand the Western Rand ACEC by 13,120 acres.
- Change the CDCA Plan multiple use class designation of the 13,120 acres of class M lands in the Western Rand ACEC expansion area to class L (see Table 2-4, HCA-7).
- (HCA-20) Close the entire management area to off highway vehicle use except for 129 miles of designated open routes.
- (HCA-21) Categorize a portion of the Rand Mountains – Fremont Valley management area as Desert Tortoise Category I habitat.

(HCA-22) In addition, 32,590 acres within the Rand Mountains – Fremont Valley management area would be withdrawn from mineral location and entry. The 6,090-acre Koehn Lake and an additional 8,320 acres within the management area would remain as class I and open to mineral entry.

(HCA-22a) Implement a visitor use permit program. Those desiring to use vehicles in the Rand Mountains would be required to obtain permits prior to entering the management area. The permit would authorize visitors to utilize the Rand Mountain motorized vehicle access network. To obtain a use permit for the Rand Mountains, visitors would complete a short educational orientation program and, once this is accomplished, could purchase a permit.

The educational orientation program would provide an overview and explanation about the Rand Mountains designated route network. It would include information about vehicle use safety, sensitive restoration areas, habitat values and recreation opportunities. The goal would be to increase compliance with applicable rules and regulations.

[Click here for Map 2-3](#)

Payment of a fee would be required to obtain a use permit. This fee would be applied to cover the administrative costs of managing the permit program and, thereby, increase visitor compliance with and contribution towards goals of the Rand Mountains management plan.

2.2.1.2.5 Afton Canyon Natural Area

The Afton Canyon Natural Area management plan (1989) was prepared in cooperation with the CDFG under the Sikes Act. It covers a larger area than the Afton Canyon ACEC. The plan protects the riparian community in the Mojave River, the scenic values of the canyon, and the adjacent desert habitat in the Cady Mountains, which is occupied habitat for bighorn sheep and contains nest sites for prairie falcon and golden eagle.

The 1989 management plan determined that amendments of the BLM's CDCA Plan were necessary to implement the 1989 plan. These amendments (See Map 2-4) would be made through the West Mojave planning process:

- (HCA-23) The boundary of the ACEC would be expanded by 3,840 acres and 480 acres would be deleted, making the expanded ACEC 8,160 acres in size.
- The CDCA Plan multiple use class designations would be changed from M to L on certain lands within the expanded ACEC (see Table 2-3, HCA-8).
- Adopt the network of vehicle access routes identified by the ACEC plan as a component of the CDCA Plan's motorized vehicle access network (see section 2.2.7, below).

(HCA-24) In addition, all lands within the expanded ACEC boundary would be withdrawn from mineral location and entry.

2.2.1.2.6 Harper Dry Lake

Recent improvements to the Harper Dry Lake ACEC include provision of surface water to the remnant marsh, and establishment of a parking area, kiosks, and restrooms. In order to accommodate these facilities, BLM would take the following step:

- (HCA-25) Change the existing ACEC boundary by including 110 acres of public lands on the south boundary and deleting 110 acres on the northern boundary (Map 2-5). The southern expansion includes the Watchable Wildlife Site improvements and the northern deletion contains barren lakebed.

2.2.1.2.7 Western Mojave Land Tenure Adjustment Project

(HCA-26) Boundaries of retention, consolidation and disposal zones established by the BLM – Edwards AFB 1991 Land Tenure Adjustment Project would be modified so that no

[Click here for Map 2-4](#)

[Click here for Map 2-5](#)

[Click here for Map 2-6](#)

disposal zones are included within the HCA. Scattered parcels that provide habitat for San Gabriel Mountains foothills species or are within an existing SEA are also removed from the disposal zone of the LTA. Scattered BLM lands bordering Edwards AFB on the northwest and west boundaries would be removed from disposal under the LTA to prevent urban encroachment. These are indicated on Map 2-6 and in Table 2-4.

2.2.1.2.8 Mojave River Wild and Scenic River Eligibility Determination

In accordance with the Wild and Scenic Rivers Act of 1968 (PL 90-542), the BLM must identify and evaluate all rivers that have potential for wild and scenic river designation. To be eligible for designation, a river must be free flowing and contain at least one Outstandingly Remarkable Value (ORV), i.e. scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar value. A “river” means a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills and small lakes. “Free-flowing” is defined as “existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping or other modification of the waterway.” Rivers with intermittent or non-perennial flows may be eligible for designation.

Rivers are designated 1) when requested by Congress, 2) through an agency planning process, or 3) by the National Park Service when requested to include a State designated river in the national system. The eligibility determinations made in the West Mojave Plan arise through the planning process. In addition, the CDCA Plan litigation settlement with the Center for Biological Diversity, Sierra Club and Public Employees for Environmental Responsibility stipulated that BLM would perform an eligibility determination for the Mojave River.

The National Wild and Scenic River System (NWSRS) study process includes three regulatory steps:

- Determination of what river(s) and/or river segment(s) are eligible for designation;
- Determination of eligible river(s) and/or segment(s) potential classification with respect to wild, scenic or recreational designation or any combination thereof; and
- Conducting a suitability study of eligible river(s) and/or segment(s) for inclusion into the NWSRS via legislative action.

The eligibility of the Mojave River for inclusion in the NWSRS was determined as indicated in Table 2-5. The report documenting the determination according to federal standards is presented in Appendix F.

Table 2-5
Mojave River Wild and Scenic River Eligibility

RIVER REACH	LENGTH	COMMENTS
Mojave Forks Dam to Spring Valley Lake	11 miles	Not eligible – no free flowing water. Public land limited to two parcels totaling 0.375 miles.
Spring Valley Lake to Interstate 15 bridge	3.5 miles	No determination. No public land.
Interstate 15 bridge to Oro Grande	4.5 miles	No determination. No public land.
Oro Grande to Helendale	10 miles	No determination. No public land.
Helendale to Barstow	19 miles	Not eligible – no free flowing water. Public land limited to 2.25 miles in three parcels.
Barstow to Harvard Road crossing	22 miles	Not eligible – no free flowing water. Public land on 8.0 miles in 5 separate parcels.
Harvard Road crossing to Basin Road	22.5 miles	Eligible in part. Free flowing water for 2.9 miles. Recommended classification of “Recreational” for this segment. Outstanding remarkable scenic, geologic, recreational, wildlife, cultural and historic values. Public land limited to 14 miles in this reach. Seven miles are within Afton Canyon ACEC and one mile is within Manix ACEC.
Basin Road to Soda Lake (Mojave National Preserve)	8 miles	Not eligible – no free flowing water. Public land covers 7 river miles within Razor Open Area.

Selected other river segments have been evaluated for wild and scenic river status within the West Mojave Plan area. The Coachella Valley Amendment to the BLM CDCA Plan determined that public land portions of Whitewater Canyon and Mission Creek (main channel, North Fork, South Fork and West Fork) were eligible for designation as wild and scenic rivers. Portions of Big Morongo Canyon and Little Morongo Canyon within the West Mojave Plan area were determined to be not eligible.

2.2.1.2.9 Inyo County Land Disposal Tracts

Ten parcels of land, encompassing approximately 6,400 acres, and located adjacent to existing major highways and towns, have been identified for disposal in Inyo County. The intent of this measure is to encourage development to locate close to existing transportation and urban facilities, rather than in conservation areas. These are indicated on Map 2-7.

2.2.1.3 Allowable Ground Disturbance (AGD)

(HCA-27) Establish a “one percent” threshold for new ground disturbance within the Habitat Conservation Area, applicable for the 30-year term of the West Mojave Plan. New ground disturbance includes any clearing, excavating, grading or other manipulation of the terrain occurring after adoption of the West Mojave Plan whether or not a permanent use is proposed for the site. This threshold would be calculated separately for those portions of the HCA under the jurisdiction of each agency or local government participating in the Plan. This acreage would constitute the jurisdiction’s *allowable ground disturbance*, or “AGD.” Once a jurisdiction’s or an agency’s AGD is exceeded: (1) Private land applicants seeking permits from a jurisdiction must

[Click here for Map 2-7](#)

obtain incidental take permits from CDFG and USFWS on a case-by-case basis, and could not utilize the streamlined permitting program established by the West Mojave Plan; (2) Case by case Section 7 consultations may be required to process BLM permits.

- **Continuous Accounting.** Acreage of new ground disturbance would be tracked on a continuing basis, separately for each jurisdiction. Baseline acreage would be set as of time of Plan adoption. AGD accounts would be adjusted to reflect transfers of land from the jurisdiction of one agency or government to another.
- **Non-Participating Agencies.** AGD would apply only to projects permitted by agencies participating in the West Mojave Plan. If an agency not covered by the West Mojave Plan approved a project that disturbs HCA lands, the project’s ground disturbance acreage would not be deducted from the affected member jurisdiction’s available AGD.
- **Habitat Credit Component.** Existing disturbed habitat could be restored, and credits granted which would raise a jurisdiction’s AGD ceiling, once specified success criteria have been met.
- **Periodic Review.** Rate of new ground disturbance, effects on wildlife and plant populations and the success of restoration programs would be assessed on a periodic basis and the Plan amended as necessary.

Table 2-6 indicates approximate AGD acreages, by jurisdiction.

**Table 2-6
Allowable Ground Disturbance (AGD) by Jurisdiction¹**

JURISDICTION	APPROXIMATE AGD (IN ACRES)
BLM	13,000
Inyo County	No private land in HCA
Kern County	300
Los Angeles County	100
San Bernardino County	4,000
California City	120
Caltrans	1,600

AGD Examples. (1) At the time it adopts the West Mojave Plan, County A has permitting jurisdiction over 150,000 acres of private lands within a tortoise DWMA. The AGD for County A would be 1,500 acres. (2) A new project is approved and constructed within County A. As a result, 250 acres of these lands are disturbed. County A’s AGD would be reduced to 1,250 acres. (3) A party successfully restores 300 acres of previously disturbed habitat within the HCA. The AGD for County A would be increased to 1,550 acres.

¹ AGD acreage figures are approximate. Final AGD would be calculated prior to issuance of Biological Opinion and Section 10(a) permits.

2.2.2 Compensation Framework

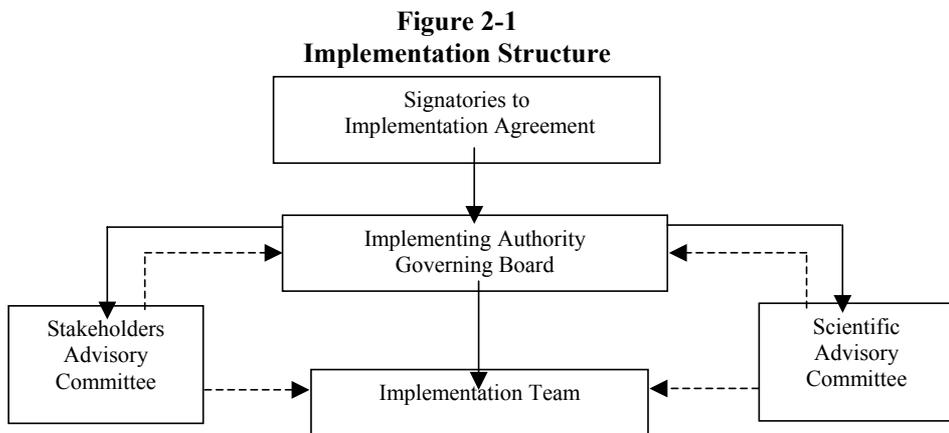
2.2.2.1 Administrative Structure

(HCA-28) The agencies participating in the West Mojave Plan would establish an Implementing Authority to oversee the implementation of the habitat conservation plan. This authority would be established through an interagency agreement (such as a memorandum of agreement or MOA) or a Joint Powers Agreement as determined by the agencies participating in the plan. This agreement would define the composition of the governing board for the authority.

It is expected that the governing board would be composed of elected officials representing the cities and counties as well as representatives of the BLM, Caltrans, and other public entities signatory to the agreement. USFWS and CDFG would participate on the governing board as ex officio, non-voting members. Staff reporting to the governing board would conduct day-to-day oversight for implementation.

The Implementation Team would be physically located in an office in the West Mojave planning area to facilitate communication and to provide a single location for public contact on plan issues. USFWS and CDFG may consider co-locating their staff with the Implementation Team to further facilitate communication and streamlining of the permit process.

In addition, two advisory committees would be established. A Stakeholders Advisory Committee would advise staff and the Governing Board on issues affecting the various interest groups and general public. A Scientific Advisory Committee would provide professional, scientific review and advice to the Implementation Team and Governing Board. The composition and duties of the Governing Board, Implementation Team, and advisory committees are detailed in Figure 2-1.



2.2.2.2 Mitigation Fee

(HCA-29) To replace the existing array of complex and time-consuming mitigation formulas, enhancement and endowment fees, and survey requirements, a single mitigation fee would be established as compensation for habitat disturbance within the West Mojave planning area. The fee would apply to new ground-disturbing activities located on public and private lands under the jurisdiction agencies participating in the HCP including the BLM, Caltrans, cities, counties and special districts. This mitigation fee would be based on the average value of an acre of the private lands to be acquired for the implementation of this plan. The average value would be determined prior to finalization of the Implementation Agreement.

There would be three levels of compensation. Within the Habitat Conservation Area the fee would be based on a compensation ratio of 5:1 (five times the average value of an acre of land within the HCA). Outside of the HCA on lands delineated as disturbed habitat, the mitigation fee would be based on a compensation ratio of 0.5:1 (one half the average value of an acre of land within the HCA). Within all other areas outside of the HCA, the mitigation fee would be based on a 1:1 compensation ratio. The criteria utilized to delineate disturbed habitat is shown in Table 2-7. Map 2-8 graphically displays the three compensation areas.

The mitigation fee would be applicable to development and/or loss of habitat on both private and BLM administered public lands, and would be considered to be the complete compensation for loss of habitat. On private lands, the mitigation fee would apply to all new land disturbing development subject to a grading and/or building permit and would be collected by the local jurisdiction at the time of permit issuance. On BLM lands, the mitigation fee would apply to all new land disturbing projects subject to federal permits, and would be collected by the BLM at the time of permit issuance. The mitigation fee would not be additive where multiple species exist on site, or where conservation areas for species overlap.

**Table 2-7
Criteria Used to Delineate Disturbed (0.5 to 1) Areas**

<p>1) Agriculture (active & fallow) Fallow land is any land that has ever been cultivated and is not, at any given time, in current use for crop production. Evidence of prior cultivation includes, but is not limited to, crop surveys by government agencies, aerial photographs, statements by eyewitnesses, and contemporaneous documentation.</p> <p>2) Defensible boundaries (nearest 1/4 section lines encompassing development; follow roads or other physical features such as aqueduct, railroad line, power line; don't split legal boundaries)</p> <p>3) Clustered/concentrated development (includes urbanized areas, areas where infrastructure to support urban development exists, and areas developed at a density of approximately 25 structures per 1/4 section or greater)</p> <p>4) Impaired habitat (direct & indirect; not viable; mined lands where 80 acres or more have been disturbed)</p> <p>5) Contiguity to existing development</p> <p>6) Outside military land, NPS and State Parks boundary (no other jurisdiction)</p>

[Click here for Map 2-8](#)

(HCA-30) The compensation structure for the Brisbane Valley portion of the Mojave Monkeyflower Conservation Area would differ somewhat from the compensation framework described above. Within the Brisbane Valley portion of the conservation area, the mitigation fee would be based on a compensation ratio of 5:1. Surrounding this conservation area, a Survey Incentive Area would be established. The compensation ratio within the Survey Incentive Area would vary from 1:1 to 2:1 depending on whether a botanical survey is conducted and results of that survey. (See Section 2.2.4.10.13 for a detailed description of the conservation strategy for the Mojave monkeyflower.)

(HCA-31) A different method of compensation would be utilized for mining projects within the Carbonate Endemic Plants management area. The provisions of compensation for take of undisturbed habitat in this area are described in the separate interagency Carbonate Habitat Management Strategy (CHMS). The CHMS provides incentives for donations, land exchanges and conservation of occupied habitat, and applies a 3:1 mitigation ratio for compensation lands to replace habitat lost to mining. Non-mining projects within the management area would follow the mitigation fee provisions of the West Mojave Plan.

Certain uses would be exempt from the established mitigation fee. The development of a single-family residence on a lot of record outside of the HCA, and maintenance activities within an existing and previously improved road or utility right-of-way, are examples of uses exempt from payment of the mitigation fee. A complete listing of uses exempt from fee payment on private land is displayed in Table 2-8. Uses exempt from the mitigation fee on BLM administered land are shown in Table 2-9.

On private lands, the mitigation fee would be based on the size of the parcel to be developed. Development on parcels less than one acre in size would be charged on a pro rata basis. The fee for projects on private land parcels greater than 2 ½ acres may be calculated by determining the acreage of land actually disturbed, if steps are taken by the project proponent to ensure that the remainder of the parcel would remain undisturbed (e.g. the project area is fenced off from the remainder of the parcel and a conservation easement is granted for the remaining land). For projects occurring on public land, the mitigation fee would be based on the total acreage of land to be disturbed.

(HCA-32) In order to identify the loss or disturbance of habitat without compensation, a base line aerial photo data set would be established to identify those properties that were developed prior to the adoption of the Plan. An owner of property that is developed subsequent to the adoption of the plan would be subject to payment of the mitigation fee. Although no fee would be required for agriculture and other uses that do not require a development or building permit, the conversion of existing agricultural land, either under current cultivation or fallow, to any use that requires a development or building permit would be subject to the mitigation fee.

**Table 2-8
Activities/Uses Exempt from Fees on Private Land**

EXEMPT ACTIVITIES AND USES
<ul style="list-style-type: none"> • Single family residential dwellings and associated accessory structures, including non-discretionary second dwelling units that are permitted pursuant to California state law. Exemption applies to single family residential dwellings and non-discretionary second dwelling units on legal lots of record created prior to (date of enactment of fee ordinance). Residential construction on lots created after (date of enactment of fee ordinance) would be subject to the fee. This exemption does not apply within the Habitat Conservation Area. • Remodels and renovations totaling no more than 25% of pre-existing development. (Note: Fee applies only to those classes of construction that generally represent new ground disturbance.) • Demolitions • Mobilehome replacements and reconstruction of any structure damaged or destroyed by fire or other cause. • Maintenance activities within an existing and previously improved road or utility right-of-way. For the purposes of this section, “maintenance” includes paving, repaving, grading, and laying of gravel or other base, as long as these activities take place within an already graded road right of way. • Any project for which a discretionary or ministerial approval was granted by the local jurisdiction prior to (date of enactment of fee ordinance), and any project for which a Vesting Tentative Map or Development Agreement approved prior to (date of enactment of fee ordinance) confers vested rights under a local jurisdiction ordinance or State law to proceed with development. Projects subject to this exemption must comply with all provisions of State and Federal law. (Note: This exemption is intended to apply to already approved projects where the application of subsequently adopted fees would be in conflict with State law.) • Development that has already obtained required permits from the State Department of Fish and Game and/or U.S. Fish and Wildlife Service. • Any project occurring on an area that was legally paved, landscaped, or graded and covered with a base prior to adoption of the West Mojave Plan.

**Table 2-9
Activities/Uses Exempt from Fees on BLM Land**

EXEMPT ACTIVITIES AND USES
<ul style="list-style-type: none"> • Any project included on the BLM CX List (list of Categorical Exclusions) as incorporated into the DOI NEPA manual at 516 DM6, Appendix 5, Section 5.4 (effective 5/19/92), unless the project is found to have adverse effects on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have adverse effects on designated Critical Habitat for these species (Exception 2.8, DOI NEPA manual at 516DM2, Appendix 2 [effective 9/26/84]). • Any project for which required permits from the U.S. Fish and Wildlife Service were obtained prior to the Record of Decision for the West Mojave Plan. • Any project for which habitat compensation requirements were established prior to the Record of Decision for the West Mojave Plan. Any such project would comply with the mitigation requirements established through the NEPA process. • Any project accomplished by the BLM, or its authorized agent, to implement provisions of the West Mojave Plan.

Administration of Mitigation Fees: An Implementing Authority established by agreement among the participating jurisdictions would administer mitigation fees collected on private lands. Mitigation fees collected on BLM lands would be managed by the BLM and maintained in a special account established for the acquisition of mitigation lands within the HCA. Appendix C (Implementation Plan) identifies priorities for the acquisition of land within Chapter 2

the HCA. Mitigation funds could also be expended on other implementation measures established by the Plan. Appendix C lists those measures and provides an initial prioritization for implementation. The Implementing Authority and BLM would coordinate the acquisition of mitigation lands and funding of other measures after reviewing and adjusting as necessary the Land Acquisition Priority Map and Implementation Priority Table. The interagency agreement establishing the Implementing Authority and the Implementation Agreement with the wildlife agencies would provide the specifics regarding the Implementing Authority's decision making process and coordination responsibilities to ensure that lands and measures most critical to species conservation are acquired or implemented early on.

2.2.2.3 Habitat Rehabilitation Credits

(HCA-33) Habitat Rehabilitation Credits (HRCs) would be awarded to a person or entity that successfully rehabilitates degraded habitat of covered species. The West Mojave Implementation Team would identify degraded habitat suitable for rehabilitation. Rehabilitation sites would be located within the Habitat Conservation Area. Successful rehabilitation would be determined by whether rehabilitation success criteria are attained. The Implementation Team would make this determination, following consultation with the Scientific Advisory Panel. HRCs are considered a secondary means to mitigate impacts, and should not result in extensive areas of re-created habitat that are intended to functionally replace previously undisturbed habitat.

Award and Use of HRCs: The West Mojave Implementing Authority would award HRCs, following the determination by the Implementation Team that success criteria have been attained. One HCR would be awarded for every acre of land restored. An award of HRCs would have two results:

- The AGD for the entity having jurisdiction over the rehabilitated lands would be increased immediately, by one acre for every HRC awarded.
- The person or entity to which the HRC was awarded is designated as the "holder" of that HRC. The holder may take the following actions concerning the HRC: (1) retain the HRC for future use; (2) transfer the HRC to another person or entity; or (3) when compensating for any new ground disturbance, apply the HRC to reduce the required compensation.

The reduction of required compensation would be accomplished by applying the following formula:

$$\text{Compensation} = ((\text{CR} \times \text{DA}) - (\text{Number of HCRs})) \times \text{L}$$

CR is the applicable compensation ratio, DA is the number of disturbed acres, and L is the average cost of land within the HCA. Examples of the application of an HRC to reduce compensation ratios are presented in Box 2-1.

Tracking HRCs. The Implementation Team would maintain a record of all HRCs awarded by the Implementing Authority.

Projects Not Eligible for HRCs.

Habitat Rehabilitation Credits would not be awarded for revegetating sites disturbed by new projects. Revegetation is currently a standard requirement for mitigating ground disturbing impacts. Pipeline proponents, for example, are typically required to salvage and replant cacti and *Yucca* species, stockpile topsoil, scarify the ground (i.e., usually imprinting), redistribute the topsoil over the impact area, reseed the disturbed right-of-way with locally collected seed stock, and in some cases apply mycorrhizal spores over the disturbed area. This is current management, and successful mitigation along such a pipeline would NOT be eligible for an award of HRCs.

Box 2-1 Application of HRCs
<p>Example 1. Smith proposes a two-acre project within the HCA. Smith holds three HRCs. Assume L is \$500. Smith applies all three credits. The compensation is $((5 \times 2) - 3) \times \\500, or \$3,500.</p>
<p>Example 2. Jones proposes a ten-acre project within the disturbed fee zone. Jones holds three HRCs. Assume L is \$500. Jones applies all three credits. The compensation is $((0.5 \times 10) - 3) \times \\500, or \$1,000.</p>

The acquisition of land from private landowners and its donation to a jurisdiction or agency, or its placement under a conservation easement or other conservation management, is not eligible for an award of HRCs. Only those activities that rehabilitate degraded habitat in a manner that meets the rehabilitation success criteria may earn HRCs.

Identification of Degraded Habitat: The Implementation Team would determine whether a property constitutes “degraded habitat” eligible for an award of HRCs. This may be done proactively by the Implementation Team, which could identify and maintain a list of degraded habitat within the HCA. Alternatively, a project proponent may propose a site for rehabilitation. The Implementation Team would then determine whether the proposed site is an acceptable candidate for rehabilitation, and whether it is appropriately situated within the HCA.

If a project proponent seeks to rehabilitate lands to mitigate a specific project (rather than to prospectively rehabilitate degraded habitat and bank the HRCs for future use), the rehabilitation site should be located in a region where species affected by the project would be benefited. Where a person or entity wishes to earn HRCs as a form of mitigation banking, it is still important that the rehabilitation sites occur within regions where there is the greatest net benefit to the conservation of covered species in that area.

Goals. Once the Implementation Team identifies degraded habitat, the person or entity seeking HRCs would employ state of the art rehabilitation techniques to realize the following goals:

- *Goal 1.* If the intent is to mitigate on-site impacts to one or more covered species, rehabilitation off-site must benefit those same species. If the intent is to obtain and hold

HRCs as a form of banking, the site must be rehabilitated so that success criteria for that region and its covered species are being met.

- *Goal 2.* The short-term goal is to eliminate existing conditions that are not conducive to species conservation and recovery. This may entail (a) eliminating mine pits, trash dumps and other existing conditions that adversely affect covered species; (b) visually reducing or eliminating the impact area so that it is not targeted for additional human uses that are not conducive to conservation of covered species (i.e., use of an old mine site as a motorcycle play area); (c) securing the soil through scarification, imprinting, or other methods to reduce the amount of fugitive dust; and (d) eliminating hazardous materials from old mine and other sites where the contaminants are potentially adversely affecting covered species.
- *Goal 3.* Long-term goals include (a) restoring vegetation native to the area in the relative same species composition, density and cover as found in native, undisturbed habitats adjacent or nearby; (b) rehabilitating the site so that other constituent elements become re-established (i.e., provide for natural topsoil cover, replenish the seed bank of native plant species, regrowth of mycorrhizal fungi, etc.); and ultimately, (c) providing conditions that would result in the use of the site by covered species. Rehabilitation that results in establishing fields of non-native species such as mustards (i.e., *Descurania* ssp., *Sisymbrium* ssp., etc.) or Russian thistle (*Salsola tragus*) does not satisfy these goals, as these exotic species are seldom associated with occupied habitats of most covered species. The ultimate success of rehabilitation should be judged, in part, by reoccupation of the site by the targeted covered species.

Any successful rehabilitation project should ultimately reflect pre-disturbance conditions, which should, in most cases, be judged relative to non-degraded habitats immediately adjacent to the site. Creating conditions that support native biodiversity, and maintaining such sites so that they eventually function as habitat for covered species, are two components of successful rehabilitation.

Unique features that provide crucial habitat components for covered species should not be ignored. If Joshua Trees, for example, are a component of adjacent undeveloped habitats, rehabilitation should strive to replace them on the site at densities similar to adjacent areas.

Success Criteria: The following success criteria must be met prior to an award of HRCs. The West Mojave Implementation Team, in consultation with the West Mojave Scientific Advisory Panel, would determine whether these criteria have been attained.

- *Sustainability.* Native vegetation should maintain/replace itself over time. The vegetation should not be dependent on artificial water, fertilizers, or labor (weed removal, etc). Recruitment of native plants or production of a viable seed bank are two ways to judge the sustainability of a given rehabilitation site.
- *Resistance to exotics.* Disturbance often lends itself to the establishment of exotic annual

plant species. A healthy ecosystem would resist invasion of non-native plants so long as new disturbances are eliminated or adequately curtailed.

- *Nutrient retention.* It is important to keep nutrients in the cycle and avoid having them leak off-site. In the desert most nutrients are tied up in the plant material, and sufficient biomass must be maintained in different age stands and vegetation types (e.g., native annual forbs and perennial shrubs) to enhance and maintain nutrient cycling.
- *Full complement of biotic interactions.* Successful rehabilitation should (a) re-establish mycorrhizal associations throughout the affected soil layer; (b) re-establish topsoil and, eventually, soil crusts; (c) attract native pollinators; and (d) provide habitat for natural ecosystem functions (i.e., support everything from key abiotic elements in the soil, soil movers (ants, small burrowing mammals, etc.), and (eventually) the covered species to be benefitted by the rehabilitation effort.

Partial Credit. It may require decades to judge the success of a rehabilitation program, and the process may require the investment of considerable funds before success is achieved. Therefore, as an incentive to undertake and continue the implementation of a rehabilitation program, partial credit would be awarded as certain milestones are met. These milestones follow:

- One-third (1/3) credit would be awarded when all existing structures, pits, and debris are removed; the surface is scarified; the site is reseeded; and salvaged plants are returned to the rehabilitation area.
- Two-thirds (2/3) credit would be applied once the site supports natural ecosystem functions (i.e., perhaps judged by the density and diversity of native plants, the occupation of the site by ants and small burrowing mammals, etc.).
- Full (100%) credit would be awarded once the site supports the targeted covered species and other pertinent criteria are met.

The process would be applied in the following manner:

1. Applicant contacts Implementation Team to determine possible rehabilitation sites.
2. Applicant selects a site, and obtains permission from underlying fee owner to initiate process (BLM or private property owner or other).
3. Applicant submits Rehabilitation Plan to property owner and Implementation Team for review and approval and to obtain any required permits. The Implementation Team would refer the plans to the appropriate land use authority for review and comment.
4. Plan accepted or revisions required by Implementation Team after consultation with the Scientific Advisory Panel.
5. Implementation Team recommends appropriate action to the Implementing Authority on the plan, including the number of credits to be issued upon completion, and the work that must be accomplished in order to obtain partial credits. To approve a proposed

rehabilitation plan, the Implementing Authority must find that the proposal is consistent with the goals stated in this section.

6. Applicant initiates rehabilitation work.
7. Once milestones for partial credit are reached, applicant requests a review by the Implementation Team. If Implementation Team, after consultation with the Scientific Advisory Panel, concurs that milestones have been met, then the Implementation Team would recommend to the Implementing Authority that it award the partial HRCs to the applicant.

2.2.3 Incidental Take Permits

2.2.3.1 Covered Activities and Terms of Permits

Alternative A assumes that Section 10(a) and Section 2081 incidental take permits would be issued to participating cities, counties and special districts, for a term of thirty years. Activities covered by the permits could include Caltrans projects, SCE maintenance activities, private activities subject to the permitting authority of a participating city or county, and public activities undertaken by a participating city or county. Incidental take permits do not cover activities on public lands, which are addressed by “Section 7” consultations. Caltrans would also need to comply with Section 7 requirements for projects involving federal funds.

An incidental take permit covers only those activities that are subject to a building or development permit from a participating agency. If a non-covered activity is expected to result in the take of a listed species, the project proponent must obtain a separate take permit from the USFWS and/or CDFG.

Activities covered and not covered by the permits are listed in Table 2-10.

Table 2-10

Activities Covered And Not Covered By The Incidental Take Permit
<p>Covered Activities include:</p> <ul style="list-style-type: none">• Private activities subject to the permitting authority of a city or county participating in the HCP. (Examples: building permits, conditional use permits, and subdivisions.)• Public activities undertaken by a participating city or county. (Examples: road improvement projects, construction of public buildings.)• Specified Caltrans maintenance activities (See Appendix W) and projects.• Activities on public lands.• SCE maintenance activities, raven nest removal and potential raptor electrocutions
<p>Activities Not Covered include:</p> <ul style="list-style-type: none">• Public and private activities undertaken or permitted by agencies not participating in the HCP.• Private activities not subject to a development or building permit. This may include the following examples:<ul style="list-style-type: none">Agricultural uses such as row, field and tree cropsLand grubbing and clearingWeed abatementConstruction of certain accessory structures

2.2.3.2 Treatment of Unlisted Species and Federal “No Surprises” Assurances

All unlisted species addressed by the West Mojave Plan would be “covered” by the Section 10(a) permit, and added to the Section 2081 permit should they be listed in the future. In this manner, it is the intent of this Plan to obviate the need for listing these species in the future. To provide an incentive for implementing conservation strategies, including programs for unlisted species, USFWS offers federal “no surprises” assurances to parties seeking incidental take permits.

The USFWS adopted its “no surprises” policy to allow permittees to remain secure regarding the agreed upon cost of conservation and mitigation set forth in the Section 10(a) permit. If the status of a species addressed by an HCP unexpectedly worsens, the primary obligation for implementing additional conservation measures would be the responsibility of the Federal government or non-federal landowners who have not yet developed an HCP.

“No surprises” assurances can be issued for unlisted species. Providing that the HCP is being properly implemented and the species was adequately covered by the conservation plan, the protections provided by the assurances would apply – even in the event the unlisted species is later listed. USFWS may ask a permittee to voluntarily address a problem, but it cannot demand such assistance. In the event such assistance is not forthcoming, USFWS may address the problem with its own funds.

These assurances can be issued only to incidental take permittees. They do not apply to federal lands, nor can they be issued to federal agencies, such as the BLM. Should conditions

change, federal agencies can be required to take additional actions to protect a species.

Although the 2081 permit can only authorize the take of species listed by the State of California, provisional language may be included in the permit to allow take to be authorized should the unlisted species become listed during the life of the permit. At such time, the permit could be amended and the species added to the permit.

In the event that a species not covered in the Plan is subsequently proposed to be listed as threatened, rare, or endangered under FESA or CESA, USFWS and CDFG shall provide at least sixty (60) days notice to the permittees and meet with them prior to taking action on the listing proposal to ascertain whether this Plan and the environmental documentation for it shall be deemed to be adequate and appropriate documentation to support an application for a takings permit. USFWS and CDFG and the permittees shall deem the Plan and accompanying environmental documentation adequate for the species so long as the species' habitat is adequately protected in the conservation areas, and the Plan is being properly implemented. In that event, the application for revised incidental take permits to cover the additional species shall be treated by USFWS and CDFG as a Draft HCP that has been prepared in compliance with applicable state and federal laws, and shall treat the environmental assessment as an adequate environmental document under CEQA and NEPA to support the issuance of incidental take permits. If the finding is made that the species proposed for listing is not adequately protected by the conservation areas, USFWS and CDFG shall cooperate with the permittees to identify additional conservation measures that would be necessary to amend the Plan and incidental take permit applications to include the proposed species.

2.2.3.3 Take Authorized by Incidental Take Permits

Table 2-11 indicates the take to be authorized for each covered species and the conservation measures that are intended to minimize and mitigate the take. Take for all listed species other than desert tortoise is specified as either acres of habitat or number and location of known occurrences. Take would also be permissible for new occurrences found on private land outside the Habitat Conservation Area.

The Plan would authorize take of unlisted species on private land outside the Habitat Conservation Area, subject to provisions of monitoring and adaptive management. Baseline data for many species is incomplete and an exact acreage of habitat subject to incidental take cannot be calculated.

A few of the unlisted species would not be exempt from additional biological surveys outside HCAs. These are bats and the burrowing owl under specified conditions, and two plant species in specified areas (Little San Bernardino Mountains gilia, triple-ribbed milkvetch). Incidental take for these plants and animals is limited, and additional take is dependent on survey results in the future.

Take of Desert Tortoises: All lands developed within tortoise DWMAs and in tortoise survey areas outside of tortoise DWMAs would constitute authorized loss of habitat (i.e. take),

whether occupied or not. Development of No Survey areas would be tracked, but authorized development would not constitute loss of habitat (i.e. take).

**Table 2-11
Authorized Take Of Species**

SPECIES	AUTHORIZED TAKE	HABITAT CONSERVED
Alkali mariposa lily	Take allowed within Lancaster city limits and on private lands outside of conserved populations. Lancaster: 17,051 acres Los Angeles and Kern counties: Unknown portion of 23,810 acres. Isolated sites: Green Springs (Kern Co.), Playas 28-32 and Turner Springs (S. B. Co.)	Los Angeles and Kern counties: 23,810 acres from interim conservation areas plus 3,629 acres in Habitat Conservation Area. Isolated sites: Paradise Springs, Box S Springs, Cushenbury Springs, and Rabbit Springs. The Plan recognizes the significant conservation now present at Edwards AFB, which encompasses the majority of the range within the West Mojave.
Barstow woolly sunflower	Take would be allowed within the Barstow city limits and on private lands throughout the range. Very low amount of take possible within utility corridors. Lands within the HCA subject to 1% cap on allowable ground disturbance.	North Edwards Conservation Area totals 14,337 acres. New ACEC within the Fremont-Kramer DWMA totals about 36,211 acres.
Bats California leaf-nosed bat, long-legged myotis, spotted bat, pallid bat, Western mastiff bat, Townsend's big-eared bat	Take of bats and their roosting habitat limited to sites harboring ten or fewer bats for California leaf-nosed bat and Townsend's big-eared bat and 25 or fewer bats of all other species. Incidental take permits would not cover the loss of significant roosts. Specific procedures must be followed for surveys and to allow for safe exit of bats.	Nine significant roosts on BLM and NPS lands. The Plan recognizes conservation of nine significant roosts on military lands. New discoveries of significant roosts conserved on case-by-case basis.
Bendire's Thrasher	3,973 acres: 776 acres in San Bernardino County, 411 acres in Twentynine Palms, 2,785 acres in Yucca Valley.	All habitat on public lands on Coolgardie Mesa, northern Lucerne Valley and southern Kelso Valley (28,046 acres). All habitat within Joshua Tree National Park (106,710 acres).
Bighorn sheep	Take allowed as incremental loss of habitat in all classifications. No loss of animals allowed.	Habitat is conserved by specific management prescriptions.
Brown-crested flycatcher	No take anticipated.	All riparian habitat in the Mojave River if groundwater criteria are met. All riparian habitat at Mojave Narrows Regional Park, Cushenbury Spring and Big Morongo Canyon ACEC. All riparian potential habitat at Big Rock Creek HCA.
Burrowing owl	Take (eviction from burrows) allowed within city limits and in County urban areas. No direct take (killing) of any owls.	Acquisition of occupied habitat in Antelope Valley, along Mojave River, and possibly Brisbane Valley. Conservation must match take on an annual basis.

SPECIES	AUTHORIZED TAKE	HABITAT CONSERVED
Carbonate endemic plants Cushenbury buckwheat, Cushenbury milkvetch, Cushenbury oxytheca, Parish's daisy, Shockley's rockcress	Take of the species would be allowed outside the ACEC boundaries and west of Highway 18. Take of Parish's Daisy would be allowed in Yucca Valley city limits.	New ACEC east of Highway 18. Grazing exclosures constructed in Rattlesnake Canyon cattle allotment. Compliance with interagency Carbonate Habitat Management Strategy.
Charlotte's phacelia	Take allowed on private and public lands outside ACECs, Wilderness and El Paso Mountains. No substantial take anticipated; take limited to 50 acres.	Managed in El Paso Mountains by route designation. Protected within Sand Canyon and Short Canyon ACECs. Protected within Owens Peak Wilderness. Protected within Red Rock Canyon State Park.
Crucifixion thorn	Take allowed on private land within its range, as long as it does not degrade the conservation areas. Only two private land point occurrences are known.	All known occurrences on public land. Point occurrences near Pisgah Crater and crucifixion woodland south of Fort Irwin.
Desert cymopterus	Take allowed on private land outside DWMA's and North Edwards Conservation Area. Take limited to 50 acres.	Avoidance of all occurrences on public land in DWMA's. All lands within North Edwards Conservation Area, subject to 1% AGD.
Desert tortoise	1% Allowable Ground Disturbance in the Tortoise DWMA; this take statement addresses loss of habitat, and it would be necessary to keep track of how many tortoises are actually affected to determine the take of animals. 100% of all tortoises and habitat from the Tortoise Survey Area, including Biological Transition Areas and Special Review Areas. Take is not anticipated for the No Survey Area.	
Ferruginous hawk	No take of individuals allowed. Take of foraging habitat allowed throughout the planning area.	Plan calls for raptor-safe power lines, addressing the major threat to this species.
Flax-like monardella	No take anticipated, but allowed on private lands outside Middle Knob proposed ACEC.	Middle Knob ACEC; require avoidance of all occurrences.
Golden eagle	No take of individuals allowed. Unavoidable take of active nest sites in non-nesting season. Take of foraging habitat allowed throughout planning area.	All known nest sites except those on transmission line towers. Plan calls for raptor-safe power lines.
Gray vireo	Take allowed on private lands throughout the range. Known sites south of Phelan subject to take.	Conserved within Big Rock Creek Conservation Area, Carbonate Endemic Plants Conservation Area, Joshua Tree National Park. Potential habitat conserved within Bighorn and San Gorgonio

SPECIES	AUTHORIZED TAKE	HABITAT CONSERVED
		Wilderness. Los Angeles County would allow conservation and take on a case-by-case basis within Antelope Valley Significant Ecological Area.
Inyo California towhee	Take allowed on private land at the edge of the towhee's range, such as at Crow Canyon. Less than 2% of the occupied habitat is on private land. Two water diversions may continue, subject to determination of valid existing rights.	All occupied habitat on public (BLM) lands.
Kelso Creek monkeyflower	Incidental take coverage not requested for private lands within Kelso Valley. Minimal take may occur from rural development.	Public lands in Kelso Valley would be conserved. Avoidance of populations required. Grazing management to direct cattle away from occupied habitat.
Kern buckwheat	Take only allowed incidental to restoration projects for this species. Very minimal.	Middle Knob ACEC; avoidance of all known occurrences required. Restore specific sites.
Lane Mountain milkvetch	No take on public lands. Take on private lands would be prohibited unless economic use of the parcel is precluded.	All known occupied habitat on public land outside Fort Irwin expansion. Acquisition of private land with occupied habitat.
Least Bell's vireo	No take anticipated.	All nesting habitat in Mojave River if groundwater criteria area met. All nesting habitat at Big Morongo ACEC.
LeConte's Thrasher	Take allowed within all city limits and in all County areas outside the tortoise DWMA and other HCAs. Development on county lands outside the DWMA is estimated as 5% of the private lands. Within the HCAs, a 1% limitation on new ground disturbance would limit the acreage of take.	Over 1.5 million acres of occupied habitat conserved within the DWMA and other HCAs.
Little San Bernardino Mountains gilia	Take allowed on private land in San Bernardino County near Yucca Valley and the community of Joshua Tree, not exceeding 50 acres.	The single known occurrence within Bighorn Wilderness. All occurrences within Joshua Tree National Park. Nearly all known occurrences along secondary drainages outside Park between Joshua Tree and Twentynine Palms.
Long-eared owl	No take of individuals, but take of foraging habitat allowed throughout planning area.	All habitat within the Argus Mountains and Big Morongo Canyon ACEC. All riparian habitat at Big Rock Creek. All known nest sites in other areas.
Mohave ground squirrel	Habitats and resident squirrels outside the MGS CA could be taken; Within the CA, take of habitat and resident squirrels would be authorized on up to 1 percent of the land surface, or 17,235 acres.	
Mojave monkeyflower	Take allowed on private land throughout the range. Acreage not determined.	Brisbane Valley = 10,633 acres, all BLM. Eastern Conservation Area = 36,424 acres,

SPECIES	AUTHORIZED TAKE	HABITAT CONSERVED
		including 9,831 acres (27%) private, 25,997 acres (71%) BLM, and 596 acres (2%) State land.
Mojave fringe-toed lizard	Take allowed at the fragmented populations in the Mojave Valley, along portions of the Mojave River, at El Mirage and Rasor Open Areas and within Twenty-nine Palms city limits.	Occupied habitat conserved at Sheephole Wilderness and adjacent National Park Service and BLM lands. All known habitat and supporting ecosystem process lands at Big Rock Creek and Saddleback Butte State Park. Occupied habitat on public land conservation area along Mojave River between Barstow and Rasor Open Area. Private land within Mojave River wash. Habitat within Pisgah Crater ACEC.
Mojave River vole	Take allowed for flood control maintenance activities described in existing biological opinion.	All potential habitat in Mojave River outside flood control maintenance areas if groundwater criteria are met.
Mojave tarplant	50 acres of take allowed for new populations found on private land throughout the range. Little development pressure now exists near known occurrences and it is unlikely that large new populations would be found on private land.	Short Canyon ACEC and Cross Mountain. Potential habitat at Red Rock Canyon State Park.
Nine-mile Canyon phacelia	50 acres of take allowed.	All public land occurrences.
Panamint alligator lizard	No take anticipated, but take allowed on private lands within the range, which are minimal.	Conserved within Argus Mountains Wilderness, Great Falls Basin ACEC, Indian Joe Canyon Ecological Reserve.
Parish's alkali grass	No take anticipated. If acquisition of Rabbit Springs is unsuccessful, take allowed on private land as long as 90% of the existing population is conserved.	All known occupied habitat would be conserved, assuming acquisition at Rabbit Springs is successful.
Parish's phacelia	Take allowed on private land within the range of this species but not exceeding 50 acres. About 149 acres of the occupied habitat is found on private land.	Within the Parish's Phacelia Conservation Area are 386 acres (43%) of private and 512 acres (57%) of public land. Occupied habitat on private land proposed for acquisition.
Parish's popcorn flower	No take anticipated. If acquisition of Rabbit Springs is unsuccessful, take allowed on private land as long as 90% of the existing population is conserved.	All known occupied habitat would be conserved, assuming acquisition at Rabbit Springs is successful.
Prairie falcon	No take of individuals unless permitted for falconry by CDFG. Unavoidable take of active nest sites only in non-nesting season. Take of foraging habitat allowed throughout planning area.	All known occupied nest sites.
Red Rock poppy	No take anticipated. 50 acres of take authorized only for newly discovered occurrences on private land.	All known occurrences protected by State Park management and route designation in the El Paso Mountains.

SPECIES	AUTHORIZED TAKE	HABITAT CONSERVED
Red Rock tarplant	No take anticipated. 50 acres of take authorized only for newly discovered occurrences on private land.	All known occurrences protected by State Park management route designation in the El Paso Mountains.
Reveal's buckwheat	No take anticipated, but allowed on private lands outside Middle Knob proposed ACEC.	Establish Middle Knob ACEC; require avoidance of all occurrences.
Salt Springs checkerbloom	No take anticipated. If acquisition of Rabbit Springs is unsuccessful, take allowed on private land as long as 90% of the existing population is conserved.	All known occupied habitat would be conserved, assuming acquisition at Rabbit Springs is successful.
San Diego horned lizard	Take allowed outside the two major conservation areas.	Big Rock Creek Conservation Area and Carbonate Endemic Plants Conservation Area. Other occupied habitat conserved within Bighorn Wilderness, San Gorgonio Wilderness, and Joshua Tree National Park.
Short-Joint beavertail cactus	Take allowed on private land outside the conservation area boundaries. An estimated 5% of the San Bernardino and Los Angeles County lands would be developed with rural residences over the term of the incidental take permit.	Big Rock Creek Conservation Area. Los Angeles County would review development proposals within the Significant Ecological Areas and provide conservation measures on a case-by-case basis.
Southwestern pond turtle	Take allowed outside the conserved habitat. This is expected to consist of small tributaries of Amargosa Creek near Palmdale. Take allowed for flood control maintenance activities in portions of Mojave River.	All habitat at Mojave Narrows Regional Park outside flood control maintenance areas, all habitat at Afton Canyon ACEC, Camp Cady Ecological Reserve. Los Angeles County would review proposals within the Significant Ecological Areas (San Andreas Rift Zone) and provide conservation on a case-by-case basis.
Southwestern willow flycatcher	Take allowed by existing biological opinion for portions of the Mojave River.	Migratory stopover habitat conserved at nearly all riparian areas in West Mojave, e.g. east Sierra canyons. All potential habitat at Big Morongo Canyon ACEC. All potential habitat in Mojave River outside flood control maintenance areas if groundwater criteria are met.
Summer tanager	Take allowed (but not expected) at Yucca Valley golf course, Ridgecrest golf course.	All riparian habitat in the Mojave River if groundwater criteria are met. All habitat at Mojave Narrows Regional Park. All habitat at Big Morongo Canyon and Whitewater Canyon ACECs. All riparian habitat at Big Rock Creek HCA. All habitat at Cushenbury Springs and Camp Cady.
Vermillion flycatcher	Take allowed (but not expected) at Yucca Valley golf course, Ridgecrest golf course, Cerro Coso College.	All riparian habitat in the Mojave River if groundwater criteria are met. All habitat at Mojave Narrows Regional Park. All habitat at Big Morongo Canyon and Whitewater Canyon ACECs. All riparian habitat at Big Rock Creek HCA. Wetlands

SPECIES	AUTHORIZED TAKE	HABITAT CONSERVED
		regulations would protect habitat in Leona Valley.
Western snowy plover	Take of habitat allowed on private lands throughout the planning area. Development pressure on the playa edge-nesting habitat is minimal and sometimes compatible, such as at the former Saltdale site. No known occurrences proposed for incidental take.	Public lands nesting habitat at Searles Lake and Harper Dry Lake ACEC. Private land nesting habitat conserved at Searles Lake according to agreement with CDFG. Other private land nesting areas protected during nesting season.
Western yellow-billed cuckoo	No take anticipated.	All riparian habitat in Mojave River if groundwater criteria are met. Migratory stopover habitat in east Sierra canyons. Riparian potential habitat on public lands in Kelso Valley.
White-margined beardtongue	Take would be allowed for maintenance of existing facilities within the BLM utility corridor and on private land within its range. Limited to 50 acres of occupied and potential habitat.	All known occurrences in washes south of Cady Mountains. Known occurrences within the proposed Pisgah Crater ACEC.
Yellow-breasted chat	No take anticipated.	All habitat at Cushenbury Springs, Mojave Narrows Regional Park, Big Morongo Canyon and Afton Canyon ACECs, Camp Cady. Potential habitat at Big Rock Creek HCA.
Yellow warbler	No take anticipated.	All habitat in east Sierra canyons. All habitat at Big Morongo Canyon, Whitewater Canyon, Sand Canyon, and Afton Canyon ACECs. All habitat at Camp Cady and Mojave Narrows Regional Park. All riparian habitat in the Mojave River if groundwater criteria are met. All riparian habitat at Big Rock Creek CA.
Yellow-eared pocket mouse	Private lands throughout the range. Development expected to be minimal.	Sand Canyon, Jawbone-Butterbredt ACECs. Potential habitat within Short Canyon ACEC, Owens Peak and Kiavah Wilderness, Kelso Valley Monkeyflower Conservation Area.

2.2.3.4 Military Lands

Lands managed by the Department of Defense provide important conservation benefits for many “covered” species. The current management of these lands has been considered in the development of the boundaries and management of the HCA. However, the Department of Defense cannot commit management of its lands in perpetuity to conservation purposes because the mission of the installation could change at any time and thereby alter the degree of conservation that may occur within an area. Therefore, the primary burden of ensuring the conservation of species would fall on the public lands and other areas that are managed for this purpose. If the mission of an installation changes in a manner that would reduce the level of

species conservation, the West Mojave participating agencies would evaluate whether these changes would require a change in management within the HCA to ensure the survival and recovery of the affected species.

2.2.4 Species Conservation Measures

Alternative A proposes ecosystem-scale conservation with the establishment of four very large DWMA and additional lands for the Mohave Ground Squirrel Conservation Area. The tortoise and Mohave ground squirrel are “umbrella species”, a term used to describe protection of many other species under the “umbrella” of conservation for important wide-ranging species. The size of the DWMA and Mohave ground squirrel conservation lands insures adequate protection for selected plant communities, and for common and unique elements of the desert flora and fauna. The focus on conservation of threatened and endangered species sometimes neglects the importance of maintaining viable populations of the common species, which function in the ecosystem as food plants, prey, pollinators, seed dispersers, or regulators of population size. Protection of species at all levels (trophic levels) of the food pyramid or web recognizes the interdependency of species that is the basis of ecology, and makes conservation of selected rare and endangered species easier, since ecosystem components are kept intact.

Several narrow endemic plant species are found within the DWMA and Mohave Ground Squirrel Conservation Area. These include Mojave monkeyflower, Barstow woolly sunflower, desert cymopterus and Lane Mountain milkvetch. Other plants found as local disjuncts (occurring at locations outside their primary range) are protected within the DWMA, including Parish’s phacelia, white-margined beardtongue, and crucifixion thorn. The desert tortoise and Mohave ground squirrel habitat umbrella effect thus is intended to preserve several diverse and unique elements of the western Mojave Desert flora. An additional protection measure for these species is take limitation of 50 acres. The take limitation could be revised based on results of monitoring and on adaptive management.

The large conservation land base also protects unique and declining wildlife, particularly the LeConte’s thrasher, Bendire’s thrasher, Mojave fringe-toed lizard, many species of bats, and the golden eagle and prairie falcon.

Despite the benefits of large conservation areas, HCPs must also provide for the protection of special sites that support unusual communities or restricted-range species. Alternative A establishes several smaller conservation areas to insure that locally important sites are conserved. In addition, linkages to the National Forests, National Parks, and other conserved landscapes outside the plan boundaries are also important to maintain ecosystem integrity within both jurisdictions.

Protective management prescriptions are an integral component of the West Mojave Plan’s habitat conservation strategy. A prescription could include “take avoidance” measures intended to minimize the impacts of a new development, as well as proactive management programs to be undertaken by land management agencies (for example, raven control at head starting sites).

Management prescriptions identified below are intended to *minimize* direct and indirect impacts associated with authorized development and land uses, and *mitigate* the impact by establishing conservation areas, collecting compensation fees and managing those areas for species recovery and conservation. Minimization measures are those actions that reduce the level of impact onsite, while mitigation measures are those actions that provide for species conservation offsite.

Minimization measures are those that occur at the construction site or in association with an authorized land use, and are generally referred to as *take avoidance measures*. For site development, minimization measures have included take avoidance measures, such as awareness programs, clearance surveys, site delineation, fence installation, reduced speed limits, and onsite biological monitoring. For authorized land uses, such as a dual sport event, minimization measures have included awareness programs, route delineation, seasonal restrictions, regulated speed limits, and monitoring. The intent of these measures is to minimize the onsite impact associated with the authorized activity.

Mitigation measures are those that occur in appropriate habitats offsite to offset the loss or degradation of habitat resulting from the authorized activity. Proactive management programs are considered one form of mitigation. Mitigation measures have included offsite habitat acquisition and management of those lands for the conservation of the affected species.

2.2.4.1 Species Conservation Measures Applicable Throughout the HCA

Agriculture: (HCA-34) The conversion of habitat to those agricultural uses that are allowed by the local agency without issuance of a discretionary permit is exempt from payment of the compensation fee described above. If conversion would result in take of species listed by the state or federal government, then appropriate permits must be obtained from the CDFG and/or the USFWS. The Plan would not cover this activity.

Fire Management: Current management and implementation of future adaptive management actions are considered sufficient. “Current Management” includes the following:

- Wildland fire management should be allowed in all management areas.
- Fire suppression should be a mix of aerial attack with fire retardant, crews using hand tools to create firebreaks, and mobile attack engines limited to public roads and designated open routes.
- Use of earth-moving equipment or vehicle travel off public roads and designated open routes should not be allowed except in critical situations where needed to protect life and property.
- Incoming fire crews unfamiliar with habitat protection should receive an awareness program to minimize impacts.

- Post-suppression mitigation should include rehabilitation of firebreaks and other ground disturbances using methods compatible with management goals.
- Emergency route designation may be required to direct vehicle use to identified routes and minimize impacts, such as vehicle-induced erosion, to the recovering habitat.

Highways: (HCA-35) In general, there would be no new paved highways in DWMAs, except for the projects listed in Table 2-12. Additional proposals for paved roads would not be covered by the West Mojave Plan, and would be subject to separate consultations.

Land Acquisition Within the HCA: (HCA-36) The primary goals for land acquisition are to maintain existing public lands insofar as possible in an unfragmented state, to acquire private lands for conservation purposes in the HCA, and to manage those areas for species recovery. Insofar as possible, the Implementation Team would consider the following variables in determining priority acquisitions of private land within the HCA:

- Does the parcel have higher than average tortoise densities?
- Would acquisition lead to more manageable parcels of land in public ownership (for example, by eliminating checkerboard ownership patterns)?
- Would acquisition facilitate other programs, particularly motorized vehicle access by the public, law enforcement, fencing, signing, raven and feral dog management?
- Would acquisition provide conservation for more than one species?

The land acquisition process would seek to maintain the stability of local tax bases. Acquisitions would be from willing sellers only. With prior approval by the Implementation Team, conservation easements may be used as an alternative to land acquisition.

**Table 2-12
Caltrans Highway Improvements Within the HCA**

Highway	County	Acres Disturbed in HCA
SR 190	Inyo	0
US 395	Inyo	1 (Rehabilitate roadway)
US 395	Kern	0
SR 14	Kern	0 (within existing R/W)
SR 138	Los Angeles	1
SR 178	San Bernardino	0
US 395	San Bernardino	6
US 395/SR 58 Junction	San Bernardino	1466 acres of new R/W
SR 58	San Bernardino	258
I-15	San Bernardino	69
I-40	San Bernardino	3
I-40 Rest Area	San Bernardino	5
SR 247	San Bernardino	24
SR 62	San Bernardino	0

Acquisition of private lands within the HCA must be followed immediately by meaningful land management actions (e.g., route designation, biological monitoring and implementation) that satisfy pertinent laws and promote the conservation and recovery of the target species.

Mining Exploration Access: (HCA-37) Use of earth-moving equipment or vehicle travel off public roads and designated open routes would not be allowed except under a BLM-approved Plan of Operations for exploration activities conducted in accordance with the General Mining Law of 1872. The operations would meet the requirements of all applicable federal, State of California, and county laws and regulations, including applicable regulations set forth in 43 CFR 3809.1-3.

(HCA-38) Exploration drilling and the development of access routes to drill sites are considered temporary disturbances. If the access route is closed within one hundred twenty (120) days of commencement of surface-disturbing activities, all such activities are appropriately monitored to minimize impacts as they occur, and any surface disturbance at the drillsite is reclaimed, these activities would not be counted against the one percent AGD for the HCA.

Native Plant Harvesting: (HCA-39) Native plant harvesting would not be allowed within the HCA. The term “plant harvesting” does not include plant salvage from ground disturbing activities, seed or propagule collection, eradicating non-native weeds or research. Outside of the HCA, plant harvesting would be regulated in accordance with the California Desert Native Plant Protection Act.

Recreation: (HCA-40) No vehicle speed events would be allowed in the portion of the

HCA that lies within the DWMA's and the MGS Conservation Area.

(HCA-41) BLM would continue to implement the existing biological opinion on dual sport events, subject to the following guidelines:

- Dual sport events would be allowed seasonally *in DWMA's* (including the Rand Mountains). Dual sport events would be allowed from **1 November to 1 March** while **most** tortoises are hibernating. Existing education materials would be supplemented to indicate that very young tortoises may be encountered during the fall and winter, at the time of the event, and should be avoided.
- Dual Sport events in those portions of the *MGS Conservation Area outside of the DWMA* would be allowed in the period of **September through February** only. The prescriptions given in the biological opinion for tortoises would apply.
- Subject to the requirements of the biological opinion, dual sport events *outside of DWMA's and the MGS Conservation Area* would be allowed **year-round**. Within the Carbonate Endemic Plants and Pisgah Crater Research Natural Area ACECs, specific stipulations, to be developed at the time of event application, would apply.
- BLM would revise its educational materials provided to dual sports participants to indicate that (1) both adult, and particularly hatchling, tortoises may be active at Thanksgiving and (2) riders should watch for and avoid such animals.

(HCA-42) Minimum impact recreation (e.g., hiking, equestrian uses, birdwatching, photography, etc.) would be allowed within the HCA.

Wildlife Water Sources: (HCA-43) Existing springs, seeps, and artificial water sources (guzzlers, drinkers, tanks) would remain in place. Water sources at natural springs and seeps shall not be diverted and native riparian vegetation shall not be removed to create artificial water sources for wildlife. The BLM, USFWS, CDFG and non-profit organizations, such as Quail Unlimited, would be allowed access to the waters for maintenance and for removal of invasive vegetation, subject to existing restrictions (e.g. vehicle travel in wilderness areas). Retention of livestock water sources would be at the discretion of the grazing allottee.

2.2.4.2 Desert Tortoise

2.2.4.2.1 Take-Avoidance Measures

Commercial Activities: (DT-1) Commercial activities, such as commercial filming that result in ground disturbance or adverse effects are allowed in the DWMA's but only if take avoidance measures applicable to temporary construction impacts are applied.

(DT-2) On public lands, BLM's current management is considered appropriate for future filming activities. In addition the following measures would apply:

- The BLM would develop a brochure, to be provided to the proponent (likely location manager), showing DWMA's and higher density areas within DWMA's that should be avoided insofar as possible
- Where filming activities may occur equally well on alternative sites, the BLM would first direct proponents to lands outside DWMA's. Within DWMA's, BLM would direct proponents to lower density areas
- Preplanning, including measures given above, would rely on BLM biologist's expertise to help the location manager choose sites where the fewest and least significant impacts would occur

(DT-3) On private lands, the CEQA Lead Agency would continue to ensure that filming activities do not constitute a significant impact to species covered by the Plan. The following measures would apply:

- Cities and counties would report take of tortoises annually, including loss or damage to habitat, to the Implementation Team for reporting purposes and adaptive management.
- Special filming activities that require pyrotechnics, cross-country travel, and habitat loss would be referred by the lead agency to the Implementation Team for review and recommendation prior to permit issuance.

Domestic and Feral Dogs: (DT-4) Dogs off leash that are accompanied by and under the control of their owners would be allowed except where prohibited (e.g. construction sites in DWMA's).

(DT-5) Within two years of Plan adoption, the Implementation Team, BLM, county animal control, and other applicable entities would develop a Feral Dog Management Plan (FDMP). The FDMP would, among other things, determine control measures and identify an implementation schedule. If feral dogs continue to be a significant threat to tortoises and other covered species, the earliest phase(s) of the FDMP would be implemented within three years of Plan adoption.

Highway Construction and Maintenance: (DT-6) Proponents wishing to construct new roads or railroads are encouraged to locate them outside of DWMA's. Proponents should implement designs and maintenance procedures that are consistent with the existing terms and conditions identified in various biological opinions for roads; locations of such roads should consider reserve design relative to the DWMA's and other factors.

(DT-7) Maintenance operators must be aware of tortoises and avoid them. Seasonal restrictions may be appropriate (November 1 through February 1 may be the best time for these activities). Any such activities should consider tortoise densities in the area and adjacent management areas. If the Implementation Team judges that these or other measures are not avoiding take of tortoises, a biological monitor may be necessary.

(DT-8) As far as possible, roadbeds should not be lowered and berms should not exceed 12 inches or a slope of 30 degrees. Helendale Road, Fossil Bed Road, Camp Rock Road, and Copper City Road were identified as particular problems. Consider alternatives to grading, such as chain drag. Berms are likely barriers to vehicle straying into adjacent habitats, and should not necessarily be identified for complete removal.

(DT-9) Invasive weeds should not be used in landscaping within or adjacent to DWMA's (e.g., non-native species should not be used in re-seeding programs).

Hunting and Shooting: Hunting would be allowed in all areas as regulated by current legislation.

(DT-10) The shooting or discharge of firearms would generally be permitted on public lands except in specified areas (e.g. off highway vehicle open areas), as long as State and local laws permit such activity. On public lands within DWMA's, the only firearms discharges allowed would be during hunting season in pursuit of game, and target practice using retrievable targets only (such as paper targets). These activities are regulated in order to minimize conflicts and resource impacts.

Utility Construction and Maintenance: The CDCA Plan's network of designated utility corridors and use restrictions is consistent with Alternative A's tortoise conservation strategy.

(DT-11) The Implementation Team would review new linear utility projects within the HCA at the time they are proposed. The Implementation Team would consider the following guidelines during its review:

- Insofar as possible, new utility right-of-ways in BLM-designated, active and contingent corridors would be situated as closely together as practical given engineering specifications, human safety, and other limiting factors.
- If there is an option to use one or the other corridor, Corridor W is preferred over Corridor H in the Ord-Rodman DWMA.

- If at all possible, future utilities should be located in an alternative corridor rather than Corridor Q, or as given above, be situated to minimize the width of impact between existing and new utilities.
- Within existing corridors, areas that are already disturbed should be used rather than disturb new areas within the two- to three-mile wide corridor.
- Pipelines within DWMAAs should be revegetated. Narrowing the construction right of way is suggested in all management areas.
- The following guidelines are recommended for revegetation in DWMAAs: Revegetation is the means by which (a) soil surfaces are stabilized (wind and water erosion control); (b) future vehicle use is minimized or eliminated in areas to be revegetated; (c) future vehicle use is minimized or eliminated for travel from the right-of-way into adjacent, undisturbed areas (minimize impacts associated with increased or new access); (d) the spread of exotic weeds is curtailed; and ultimately (e) habitat for the target species (desert tortoise in this case) is restored (see success criteria discussion given in Section 3.4.2).
- A standardized revegetation plan would be developed by the Implementation Team or its appointee and applied equitably throughout DWMAAs. The revegetation plan should clearly state goals; methods based on the best available scientific information; and success criteria that are realistic for desert restoration. A technical advisory team of regulatory personnel, restoration experts, knowledgeable utilities personnel, and others should be assembled to devise and write the revegetation plan.
- Maintenance of existing utilities would be allowed, and impacts to tortoises and their habitats must be avoided. Maintenance crews must remain on existing access roads except for the point location of maintenance-related disturbance. Take of tortoises during maintenance activities is not authorized under this Plan. Such take must be authorized on a case-by-case basis.
- In DWMAAs, non-emergency maintenance of utility right-of-ways resulting in ground disturbance should occur between November 1 and March 1. Juvenile tortoises may be active during this time and must be avoided. If maintenance during this period is infeasible and is required between March 2 and October 31 in DWMAAs, a biological monitor must be present, or, the proponent must provide an assessment that clearly shows that tortoises would not be affected.
- The Implementation Team would facilitate issuance of applicable salvage permits, of as long duration as possible, to participating utility companies to enable them to remove raven nests from transmission lines and other facilities.

2.2.4.2.2 Survey and Disposition Protocols

Background: Before commencing new ground disturbing activities, tortoise surveys must be conducted. Two survey techniques are utilized: (a) *presence-absence surveys* to USFWS protocol (1992) and (b) *clearance surveys*, where tortoises are removed from a site immediately prior to construction.

In the past, project proponents were required to conduct both surveys in all areas. The long-term intent of Alternative A is to reform the survey requirement based on existing and new survey data so that surveys would not need to be conducted in areas outside of DWMA's where the available data indicate that tortoises have been extirpated or would not normally occur (e.g. urbanizing areas, habitats above 5,000 feet elevation, playas, etc.).

To this end, a total of 1,412 data points were collected from focused desert tortoise surveys submitted to local cities and counties between 1990 and 2002. The purpose of this review was to make a tortoise presence or absence determination for areas outside of DWMA's. "Presence" is generally characterized as lands with evidence of tortoise use or residency, including animals, droppings, burrows, tracks, eggs, etc.; carcasses are noted, but may not constitute occupied tortoise habitat. Based upon this review, tortoise Survey Areas or No Survey Areas have been identified.

Henceforth, survey requirements would be subject to the following guidelines.

Inside DWMA's: (DT-12) Both presence-absence and clearance surveys must be conducted prior to the commencement of any new ground disturbing activities for which a discretionary permit must be obtained from a local jurisdiction or agency, except where No Survey Areas are identified.

Outside DWMA's: (DT-13) Only clearance surveys would be required, and only within designated Survey Areas (Map 2-9). No surveys would be required in No Survey Areas.

- Survey Areas. Survey Areas comprise lands where there is some likelihood that tortoises occur. Within Survey Areas, tortoise clearance surveys would be conducted prior to any new ground disturbance for which a discretionary permit was required. Surveys should follow USFWS protocol (1992) as modified herein. The Implementation Team would prepare a standard data sheet to record how many, if any, tortoises are moved from harms way. The Implementation Team should use these data to determine the actual harassment and mortality take of tortoises authorized by the Plan. The Implementation Team would also reassess these data annually, and modify Survey and No Survey Areas accordingly.

It would still be appropriate to perform presence-absence surveys for projects in Survey Areas located outside DWMA's where there may be several alternative sites or alignments. This would make data available to choose the site that best meets the project proponent's needs while minimizing impacts to tortoises and habitat.

- No Survey Areas. Neither presence-absence nor clearance surveys would be required. A hotline number would be provided by the local jurisdiction so that the Implementation

Team can be contacted if a tortoise is found on the site at the time of ground disturbance.

Best Management Practices (BMP) for Construction Projects: (DT-14) Ground disturbing construction projects authorized by the West Mojave Plan must be conducted in accordance with the “Best Management Practices” (see Appendix I). BMPs would be implemented in DWMA and in Survey Areas outside DWMA (including BTAs) when:

- Tortoise sign is found during the clearance survey; or
- The Authorized Biologist determines that there is a reasonable likelihood that a tortoise may enter into the construction site, use area, or other zone of impact.

Projects subject to BMPs may include, but are not limited to, the following: construction of pipelines, utility lines, fiber optic cables, wind energy development, solar energy development, flood control facilities, new mine sites, expansion of existing mine sites into tortoise habitat, cross country mineral exploration, discretionary commercial, industrial, or residential development (excluding single-family residences outside of DWMA), new road construction, widening or realignment of existing roads, and mineral exploration which involves vegetation disturbance. BMPs normally would not apply to authorized recreation events (e.g., Dual Sport), most maintenance activities along existing linear corridors (unless such activities result in additional loss or degradation of tortoise habitat), and filming activities on lands administered by the BLM (which are covered by a separate set of take avoidance measures).

The Implementation Team should determine the best application of the BMPs, consider them as guidelines, and modify them as necessary. In DWMA, application of the BMPs should be determined by the Implementation Team on a case-by-case basis, and rely on the results of the newly completed presence-absence survey. In Survey Areas outside DWMA, a standardized set of BMPs should be developed and distributed by local jurisdictions over the counter when the discretionary permit is issued.

Linear construction projects (e.g., pipelines, transmission lines, fiber optic cables, etc.) may disturb ground both inside and outside DWMA. The BMPs that are applicable to any particular portion of such a project are determined by the location of the disturbed ground. Thus, DWMA BMPs apply to the portion of the project that lies within the DWMA, but not elsewhere.

The BMPs identify tasks to be performed by authorized biologists and environmental monitors. The recommended experience level for each of these and a summary of many of their responsibilities is presented in Table 2-13. The Implementation Team or pertinent regulatory agency must approve all environmental contractors prior to the performance of the activities listed below.

[Click here for Map 2-9](#)

**Table 2-13
General Experience Level and Responsibilities for Authorized Biologists and
Environmental Monitors Overseeing Ground-Disturbing Construction Activities in
DWMAs in the West Mojave Plan Area**

TITLE	GENERAL EXPERIENCE LEVEL	GENERAL RESPONSIBILITIES
Authorized Biologist	<ol style="list-style-type: none"> 1. Approved by the pertinent regulatory agencies. 2. Have BA, BS, MA, MS, etc. in biological sciences and/or previously handled tortoises during authorized projects; or 3. Sixty (60) days in the field working under the supervision of an Authorized Biologist, assisting in locating and processing (without necessarily handling) desert tortoises in occupied habitat. 4. The Authorized Biologist would be considered qualified for that position if previously approved by the USFWS to monitor construction in tortoise habitat under Section 7. 	<ol style="list-style-type: none"> 1. Authorized to perform all BMPs that require tortoise surveying or handling. 2. Have authority to temporarily stop any construction activity likely to harm a tortoise, or which is in violation of pertinent BMPs. 3. Function as the Field Contact Representative (See measures 7, 8, and 39 in Appendix I). 4. Be responsible for quality control and primary author of monitoring reports (with assistance from environmental monitors, as needed).
Environmental Monitor	<ol style="list-style-type: none"> 1. Approved by the pertinent regulatory agencies. 2. Ranges from □no experience□ to less experience or education than cited above for Authorized Biologist 	<p><u>May:</u></p> <ol style="list-style-type: none"> 1. Handle tortoises only in emergency situations; 2. Perform clearance surveys only in the presence of an Authorized Biologist; 3. Perform monitoring activities in the absence of an Authorized Biologist, and maintain constant communication should a tortoise need to be handled; 4. Administer a tortoise awareness program if an Authorized Biologist is not available; and, 5. Have authority to temporarily stop any construction activity likely to harm a tortoise, or which is in violation of pertinent BMPs. <p><u>May Not:</u></p> <ol style="list-style-type: none"> 1. Routinely handle tortoises in non-emergency situations; 2. Perform clearance surveys in the absence of an Authorized Biologist; 3. Monitor in high-density tortoise concentration areas where tortoises are more than likely to be moved from harms way; 4. Perform Zone of Influence Surveys, unless in immediate contact with the Authorized Biologist; should remain on the subject property being surveyed.

Handling Guidelines: (DT-15) The following handling guidelines apply as indicated:

- In all areas, (a) injured, recently dead, ill and dying tortoises would be collected and disposed in accordance with the June 2001 disposition protocol (*Salvaging Injured, Recently Dead, Ill, And Dying Wild, Free-roaming Desert Tortoises (Gopherus agassizii)*) developed by Dr. Kristin Berry (“Berry Salvage Protocol”); and (b) It is suggested that tortoises be handled by authorized biologists as given in the Desert Tortoise Council’s (1999) protocol, *Guidelines for Handling Tortoises During Construction Projects*.
- Within DWMA’s, Tortoises should be moved from the immediate area of impact to adjacent suitable habitat (or burrow). In general, tortoises should be moved no further than 1,000 feet from the impact area. The potential for these animals to wander back into harm’s way should be taken into account, and the distance given above modified by the Authorized Biologist, as necessary. Temporary or permanent fences may be needed to prevent tortoise immigration into the impact area.
- Within tortoise Biological Transition Areas, (a) If only a small portion of a given site is to be developed then tortoises should be moved to portions of the site that are not going to be developed (a tortoise proof fence may be required to keep tortoises out of the impact area); (b) Tortoises may be moved onto BLM lands if such lands are within 1/2 mile of the impact area; and (c) If options (a) and (b) are not available, then animals could be moved to the edge of the adjacent DWMA.
- Within designated Tortoise Survey Areas, (a) If only a small portion of a given site is to be developed then tortoises should be moved to portions of the site that are not to be developed; (b) Tortoises may be moved onto BLM lands if such lands are within (1/2) mile of the impact area; (c) If options (a) and (b) are not available, then tortoises can be moved into the edge of a DWMA that occur within one mile of the site; and (d) If options (a), (b) and (c) are not available then, with input from the Implementation Team, tortoises should be made available for research, educational purposes, captive breeding, zoo placement, adoption through recognized organizations (e.g. California Turtle and Tortoise Club), moved to areas within SRAs referred to above or, if clinically ill, dealt with in a manner consistent with the Berry Salvage Protocol.
- If the Implementation Team determines that the above scenarios are not accommodating all wild tortoises removed from impact zones where there is permanent loss of habitat, then it should consider establishing translocation sites into which animals can be placed. The Mojave Monkeyflower Conservation Area in southern Brisbane Valley and public lands adjacent to Joshua Tree National Park are potential translocation sites. These areas may accommodate displaced tortoises from the western and eastern portions of the planning area, respectively.
- Within No Survey Areas, (a) Develop telephone tech support for the general public to deal with free-roaming tortoises; and (b) with input from the Implementation Team, free

roaming tortoises should be made available for research, education, captive breeding, zoo placement, adoption through recognized organizations (e.g. California Turtle and Tortoise Club) or, if clinically ill, treated in a manner consistent with the Berry Salvage Protocol.

2.2.4.2.3 Proactive Tortoise Management Programs

Disease: (DT-16) The disease management program’s focus would include but not be limited to the following: (1) Infectious diseases including URTD (*Mycoplasma agassizii*, *Mycoplasma cheloniae*, etc.), herpesvirus, shell diseases (cutaneous dyskeratosis, necrosing, fungal disease, etc) and others; and (2) Presumed noninfectious diseases including heavy metal and other elemental toxicants.

Issues relative to disease would be considered at the level of the interagency desert tortoise Management Oversight Group (MOG). Disease research is encouraged, and coordination between the Implementation Team and the appropriate MOG contact should be maintained. Any breakthrough relative to disease management should be incorporated into the West Mojave Plan through adaptive management provisions.

(DT-17) A potential disease management program that could be implemented by the participating agencies is presented in Table 2-14. Primary reliance, however, would rest upon measures implemented by the MOG. Implementation of the program suggested by Table 2-14 would occur only after all other tortoise management programs established by this Plan have been funded and implemented.

**Table 2-14
Suggested Tortoise Disease Management Strategy**

Management	Vector Control	-- Install boundary fencing at urban/desert interface and along critical habitat boundary -- Develop a biologically based quarantine management protocol -- Define criteria that trigger quarantine management -- Implement quarantine in those areas where this trigger has already been met -- Delineate potential boundaries for quarantine fencing (could be effectively combined with dog management) -- Implement head starting or appropriate re-introduction protocols in critical habitat areas with few to none remaining diseased tortoises to protect reintroduced tortoises from contact with infected tortoises.
	Education	-- Address relocation issues, user issues (stress importance of curtailing incompatible human activities) and captive issues (including deliberate and accidental releases)
	Emergency Trust Fund	Establish a trust fund, in the amount of at least \$100,000, to be spent only in an emergency situation where immediate actions were required to deal with a disease epidemic. Would be available to implement emergency measures identified through research and endorsed by USFWS, CDFG, MOG and the Implementation Team. Funds would not be available for general research.

	Maintain Genetic Diversity	<ul style="list-style-type: none"> -- Develop an Assurance Colony protocol to ensure that the heterogeneity of the West Mojave Recovery Unit is maintained -- Establish criteria that trigger implementation of the protocol -- Establish captive Assurance Colonies to protect the few remaining animals in critical areas
	Promote Tortoise Health	<ul style="list-style-type: none"> -- Improve habitat conditions -- Ensure adequate nutrition by improving quality of forage in critical habitat (reduce weed dispersal by reducing motorized vehicle route density; reduce biomass of non-native plants by reducing/eliminating ground disturbance) -- Eliminate sources of excess nitrogen (sludge, biosolids) from critical habitat vicinity -- Eliminate sources of windborne toxicants (sludge, biosolids) from critical habitat vicinity -- Field trials of experimental interventions (water, feed supplementation)
Monitoring		<ul style="list-style-type: none"> -- Monitor dust emissions from mining sites, agricultural fields, road edges, disturbed playas for toxic elements such as: As, Cd, Cr, Hg, Pb, Zn, Cu, Mo, Se, etc -- Monitor tortoise health status -- Necropsy all ill, dying and recently deceased tortoises as per salvage protocols
Research		<ul style="list-style-type: none"> -- Epidemiological studies of URTD, herpes virus and other diseases. -- Studies to determine phylogeny of the West Mojave Recovery Unit tortoises -- Studies to investigate relationship between toxicants, depression of immune system and disease -- Head-starting/demography studies -- Disease transmission studies -- Develop a scientifically-based ELISA test for herpesvirus

Fencing: Tortoise mortality along highways remains a significant, persisting threat. This threat can be minimized by the construction of fencing adjacent to highways that is designed to preclude access to highways by tortoises.

(DT-18) Unless new information reveals a better order of priority, the following roads, which are all bounded by proposed DWMAs, would be fenced on both sides in the following order: (i) Highway 395 between Kramer Junction and Shadow Mountain Road; (ii) Highway 395 between Kramer Junction and 20 Mule Team Road; and (iii) the remaining portions of Highway 58 between Kramer Junction and Hinkley.

Generally, both sides of the road would have tortoise fencing.

Placement of tortoise fences along paved roadways would be coordinated among the Implementation Team, Caltrans, BLM, county road departments and others to ensure that access is provided to those motorized routes designated by BLM as “open” that intersect with roads to be fenced. The Implementation Team would ensure that the latest, state-of-the-art gate designs are used at designated portals.

(DT-19) Other potential problem roads, some of which are identified in the tortoise Recovery Plan, include *paved roads* (National Trails Highway between Helendale and Lenwood; Highway 247 between Barstow and Lucerne Valley; Fort Irwin and Irwin roads; Shadow Mountain Road; Red Rock-Randsburg Road; and Garlock Road) and *dirt roads* (Camp Rock Road; Copper City Road; Fossil Bed Road; and unpaved portions of Helendale Road); there may be others. The Implementation Team would monitor tortoise mortality along these and other roads and identify measures such as fencing, culverts, signs, or speed regulators to reduce or avoid unacceptable mortality levels.

(DT-20) Within DWMA, when roads are fenced to preclude entry by desert tortoises, culverts of appropriate design and spacing to allow desert tortoises to pass under the road would be installed to avoid habitat fragmentation and to allow continued gene transfer from one side of the road to the other.

(DT-21) The Implementation Team, working with Caltrans, BLM, county road departments and others would ensure that fences and culverts are appropriately monitored, and that fence integrity and unobstructed culverts are maintained throughout the life of this Plan.

Immediate fencing is preferable, and would have demonstrable results. The Implementation Team would coordinate with Caltrans and others to fence identified easements as major construction projects occur. If an opportunity exists to fence a road but culverts cannot be installed at the time of fencing, the fencing should proceed because reducing mortality of desert tortoises is a more immediate need than promoting genetic interchange. Culverts would be constructed at the time of widening.

(DT-22) The Implementation Team would initiate a working group with the Silver Lakes Association to determine if fencing or public education is the best means to eliminate impacts on the Fremont-Kramer DWMA created by off highway vehicle use originating in that community. Once an approach is agreed upon, the efficacy of the solution should be monitored and adaptive management employed if impacts are not being curtailed. The Implementation Team may require fencing of other areas as deemed necessary to address threats.

(DT-23) DWMA boundaries should be signed or otherwise designated to identify boundaries and facilitate enforcement. Signs are critical to law enforcement, enabling officers to deal with an informed public who knows about designated uses and applicable prohibitions. The Implementation Team would ensure that boundary signs are appropriately worded and spaced to maximize their usefulness. An appropriate number of signs (to be determined) should be strategically placed between the two OHV open areas (Stoddard Valley and Johnson Valley) and the adjacent, Ord-Rodman DWMA. Strategic signing is important to direct motorized vehicle users to proper areas to ride, such as open areas and designated vehicle routes, and to indicate conservation areas, as appropriate. A quick field check should determine if boundary is adequately signed.

(DT-24) Additional law enforcement (ranger patrols) and educational outreach (recreation technicians) would be used in concert with fencing and signs to inform the public of

appropriate and inappropriate activities in conservation areas.

(DT-25) A standard fence would be placed along pertinent portions of the western boundary of the Johnson Valley Open Area to prevent OHV use in the Ord-Rodman DWMA to the west and to minimize use in the Cinnamon Hills.

Headstarting: (DT-26) Implement a headstarting program in areas where tortoises have apparently been extirpated or numbers significantly reduced. These could include but are not limited to areas west and south of Fremont Peak (although the Hamburger Hill region northwest of Fremont Peak should be avoided), Fremont Valley, and the Desert Tortoise Research Natural Area. Goals for the headstarting program follow:

- Headstarting would be less experimental and more applicable.
- The short-term goal for headstarting is to minimize predation on tortoise nests and introduce new tortoises onto landscapes that can support them.
- The long-term goal for headstarting is to reintroduce tortoises into DWMA's where they have apparently been extirpated to attain the Recovery Plan goal of a minimum density of 10 adult female tortoises per square mile.
- In unprotected landscapes, it is better to use the short-term program for immediate introduction of a relatively large number of hatchling tortoises into the wild. The short-term method is preferred to meet the stated goals.
- The Implementation Team would ensure that predation by ravens and other predators does not compromise the integrity, function, and success of the headstarting program funded and implemented by this HCP.

The initial headstarting site would be located immediately adjacent to the BLM's Fremont Peak permanent study plot, where tortoise declines have been documented. This site is particularly well suited because (1) there are data that document tortoise densities and declines in the immediate area; (2) sheep grazing was eliminated from the area in 1991, and no other prevalent human impacts are known at this time; and (3) the site is sufficiently far from Highway 395 to minimize the impact of that road on young, dispersing tortoises, and Highway 395 should be fenced by the time the animals are attaining sufficient sizes to move that far.

Landfills: (DT-27) With the exception of the Barstow Landfill expansion, the planning of which has already been initiated, counties and cities would ensure that no new landfills are constructed inside DWMA's or within five miles of them.

Law Enforcement: (DT-28) Subject to available funding, a minimum of eight (8) Law Enforcement Rangers and eight (8) maintenance workers would be assigned to the DWMA's.

- Rangers should be dedicated full time to natural resource enforcement work within the

DWMAs

- Maintenance workers should be dedicated full time to the implementation of this Plan.
- Rangers and maintenance workers would be based in the communities closest to the DWMAs in order to reduce travel time and facilitate relationships within those communities.
- Avoid diverting rangers from other duties; new personnel are recommended.
- Law Enforcement Rangers should work closely with the Implementation Team to facilitate Plan implementation, enforcement, and adaptive management

(DT-29) The following guidelines are suggested as a guide to law enforcement activities in DWMAs. Insofar as possible, BLM rangers and recreational technicians would prioritize their natural resource patrol activities using the following guidelines. Increased presence in following regions (in decreasing order of priority) is currently preferable:

- Higher density tortoise areas that coincide with higher density human use areas (higher priority), which would result in more enforcement where illegal activities (poaching, vandalism, and pet release) are likely to affect relatively more tortoises (west of Silver Lakes to Kramer Hills, northeastern Iron Mountains, north of Hinkley, and Coyote Corner south of Fort Irwin)
- In DWMAs adjacent to Johnson Valley, Stoddard Valley, and El Mirage BLM open areas, which would provide for increased education of open area users, minimized cross-country travel in DWMAs, and better fence and sign maintenance.
- Higher density tortoise areas that coincide with lower density human use areas
- Higher density human use areas in lower density tortoise areas, which would provide relatively more benefit to habitats than to tortoises, due to depressed population levels (Rand Mountains and Fremont Valley)
- Elsewhere within DWMAs not meeting the variables given above (lower priority)

These guidelines would be modified as needed to address changing patterns in human use and tortoise occurrence, but would make law enforcement more efficacious for the first few years, when it would most likely be needed to educate the public on new management prescriptions.

On private lands, land use enforcement would be by the land use agencies, which work on complaint basis. BLM law enforcement rangers would refer problems to these agencies if seen in the field. Code enforcement agencies (rather than law enforcement) would deal with, for example, illegal grading, and illegal dumping.

Ravens: The following action items would be implemented throughout the western Mojave Desert. Where headstarting is implemented, ensure that predation by ravens and other predators does not compromise the integrity, function, and success of the program.

The following *habitat alteration* measures should be implemented:

(DT-30) Reduce the population density of ravens and number of birds that may take

tortoises by reducing the availability to ravens of solid wastes at sanitary landfills. Reduce raven access to organic wastes at landfills: (i) ensure effective cover of waste multiple times each day (either < six (6) inches cover or complete cover of garbage with tarps temporarily), (ii) erect coyote-proof fencing, (iii) render raven-proof all sources of standing water at the landfill, and (iv) keep truck cleaning areas and temporary storage facilities clean and free from organic wastes and standing water.

(DT-31) Reduce the availability to ravens of organic wastes outside of landfills. Take the following steps: (i) Encourage the use of self-closing trash bins at transfer stations and roadside rest stops, and behind restaurants, gas stations, and grocery stores; use raven-proof garbage drums at houses and other facilities; and avoid use of plastic bags for street-side pick up in residential areas; (ii) Encourage livestock operators to reduce availability of cattle feed, carcasses, afterbirths, and insects at feedlots and dairy farms; (iii) Use public education and other means to reduce the number of citizens who purposely feed ravens or who inadvertently do so by leaving pet food out where ravens can easily access it; and (iv) clean up illegal dump sites that contain organic wastes. These educational efforts should include, but not be limited to, business and agriculture.

(DT-32) Reduce the availability of carcasses of road-killed animals along highways in tortoise habitat. As some ravens derive most of their food from road kills, erect barrier fences (1/2 to 1/4 inch mesh hardware cloth; Boarman and Sazaki 1996) along roads and highways specified in the fencing table to prevent animals from getting killed on roads. Recommendations may be modified as more information and evaluation becomes available.

(DT-33) Reduce the population density of ravens and number of birds that may take tortoises by reducing the availability of water to ravens while being mindful of the needs of other species.

(DT-34) Reduce the impact ravens have on tortoise populations at specific locations by removing raven nests. Remove raven nests (i) in specific areas where raven predation is high and tortoise populations are targeted for special management, and (ii) do so during the egg-laying phase of the raven's breeding cycle. Any nestlings found should be euthanized using standard humane measures.

(DT-35) Avoid constructing new nesting structures and reduce the number of existing nesting structures in areas where natural or anthropogenic substrates are lacking. Reduce availability of nesting sites by observing the following. (i) Within and adjacent to DWMA's, prevent the construction of new structures (e.g., power towers, telephones, billboards, cell phone towers, open warehouses or shade towers, etc.) where alternative natural nesting substrates (e.g., Joshua trees, cliffs) do not already exist within approximately 2 miles. (ii) If they must be built, design such structures in such a way as to prevent ravens from building nests on them. (ii) Remove unnecessary towers, abandoned buildings, vehicles, etc., within tortoise management areas that may serve as nesting substrates unless natural structures are in abundance.

(DT-36) The following *lethal actions* against individual ravens should be implemented:

L1: Remove ravens that are known to prey on tortoises. Selectively shoot individual ravens in areas of high tortoise predation. Ravens would be shot by rifle or shotgun if they show a likelihood of preying on tortoises (e.g., tortoise shells showing evidence consistent with raven predation found beneath or within approximately 1 mile a nest or perch). Ravens would be trapped and humanely euthanized where shooting is not possible (e.g., on powerlines or in residential areas) or unsuccessful. Young ravens found in nests of removed adults would be euthanized humanely if they can be captured safely. Poisoning with DRC-1339 or other appropriate agent may be used against targeted ravens in these limited areas if it is shown by results of the research proposals discussed below to be safe for other animals. Poisoned carcasses would be removed if they can be located.

L2: Facilitate recovery of critically threatened tortoise populations by removing ravens from specific areas where tortoise mortality from several sources is high, raven predation is known to occur, and the tortoise population has a chance of benefiting from raven removal. Remove all ravens foraging within specific areas (e.g., Desert Tortoise Research Natural Area, DWMAs, pilot headstarting sites, etc.) of historically high tortoise mortality and raven predation, particularly where demographic analyses indicate that juvenile survivorship has been unusually low. Ravens would be shot by rifle or shotgun if they are found foraging, hunting, roosting, or nesting within 0.5 miles of the specific targeted area. Where shooting is not possible (e.g., on powerlines or in recreation and residential areas), ravens would be poisoned (if shown by the research programs recommended below to be safe) or trapped and humanely euthanized. Young ravens found in nests of removed adults would be euthanized humanely if they can be captured safely.

(DT-37) The following raven *research measures* should be implemented.

R1: Determine behavior and ecology of ravens as they pertain to predation on tortoises. Data would be collected by direct observations, radio tracking, diet analysis, wing tagging, and non-invasive behavioral manipulations.

R2: Conduct regional surveys of the California deserts to locate and map ravens and their nests and communal roosts. Inventories would include private and public lands. Project proponents and other interested parties would contribute funds to a coordinated surveying program that would concentrate both on specific sites and broad regional patterns.

R3: Methods would be developed, tested, and implemented to determine effectiveness of and need for raven removal efforts for enhancing recruitment rates of juvenile desert tortoises into adult age-classes.

R4: Determine efficacy and cost of shooting as a method of eliminating raven predation and increasing tortoise survival. Data have already been collected and partially analyzed.

R5: Determine if eating hard-boiled eggs may adversely impact animals other than ravens laced with the avicide DRC-1339.

R6: An experiment should be conducted concerning methyl anthranilate (a non-toxic, grape-flavored food additive, but it is disliked by several species of birds) to determine if: (i) ravens are repelled by the chemical; (ii) it can be applied efficiently at landfills and other raven concentration sites, and on sources of water used by ravens (e.g., septage ponds, stock tanks, etc.); (iii) its repeated application prevents ravens from using the resource (e.g., garbage, water, etc.), and (iv) if methiocarb (Avery et al. 1993, Conover 1984), carbachol (Avery and Decker 1994, Nicolaus et al. 1989) or other compounds work better than methyl anthranilate.

R7: Determine if: (i) raven dependence on human-provided perches and nest sites aids hunting, nesting, and overall survival; (ii) modifying raven perches, roost sites, and nest sites on a localized basis is an effective way of reducing raven predation on tortoises; and (iii) removal of raven nests early in the breeding cycle would prevent ravens from renesting in that season.

R8: Determine: (i) if live trapping is a cost effective means of catching ravens, (ii) the relative effectiveness of different live trapping techniques, (iii) where ravens can be relocated practically and legally, and (iv) if relocated ravens would return to the capture site or other desert tortoise habitat.

R9: Develop a demographic model of raven populations to predict the effect various management alternatives might have on raven populations.

R10: Determine the extent ravens use commercial and municipal compost piles, then develop and test modifications to composting practices to make them inaccessible to ravens if a problem exists. Develop and test other methods to prevent ravens from accessing food and waste items.

R11: Determine whether availability to ravens of anthropogenic sources of water could be reduced by modifying sewage and septage containment practices in three possible ways: (i) covering the water, (ii) altering the edge of the pond with vertical walls, (iii) placing monofilament line or screening over the entire pond or (iv) adding methyl anthranilate, or other harmless taste aversive chemicals to standing water sources. Emphasis should be placed on the reduction of water availability during the spring, when ravens are nesting, and summer, when water demands for ravens are high but natural sources are low.

Implement the following *adaptive management* actions.

(DT-38) Establish two work groups to oversee management direction, review information, coordinate with other agencies/groups, solicit funding for implementation of specific management measures, and distribute information/data. The work groups would meet annually or as needed to discuss raven management actions. One work group would be an Interagency Task Force to coordinate implementation of the program. This group would identify specific areas where lethal removal would be implemented using the criteria outlined above. The other would be a technical and policy oversight team to evaluate the progress of the Plan, interpretation of data, and recommend changes in the overall program based on scientific data. This group would help to determine what thresholds of predation and recruitment are necessary to trigger implementation of a cessation of lethal actions. There would be data sharing between adjacent bioregional plans and resource management plans. The goals of the work groups would be to (i) increase efficiency, effectiveness, and scientific validity of raven management in the California deserts, and (ii) ensure that future phases are developed and implemented in accordance with results of research and monitoring outlined above.

(DT-39) Monitor both raven status and effectiveness of management actions at reducing predation rates on juvenile tortoises.

Weed Abatement: (DT-40) The Implementation Team would cooperate with known weed abatement specialists and organizations (including the Kern County Weed Management Agency, the Mojave Desert Resource Conservation District, and the California Exotic Pest Plant Council) to fund, coordinate, encourage, implement, and facilitate weed abatement/management programs that contribute to the conservation of plant or animal species covered by the Plan. Goals to guide weed abatement are provided in the BLM action plan *Partners Against Weeds* (BLM 1996).

Other Measures: (DT-41) The Implementation Team would require a study that would sample quail guzzlers in the West Mojave, in all four DWMA's, to determine if there is a tortoise mortality problem. If the tortoise mortality level is considered unacceptable, then a study would be designed to determine the best method of eliminating tortoise entrapment while not impairing the function of the guzzler.

2.2.4.3 Mohave Ground Squirrel

2.2.4.3.1 Take-Avoidance Measures

Applicable Tortoise Measures: (MGS-1) The following take-avoidance measures discussed above for application within the DWMA's would also be applied within the MGS Conservation Area: Commercial Activities, Hunting and Shooting, and Utility Construction and Maintenance.

General Construction and Maintenance: (MGS-2) Measures identified for DWMA's and Tortoise Survey Areas and No Survey Areas apply where those areas overlap the Mohave Ground Squirrel Conservation Area, including tortoise survey requirements.

2.2.4.3.2 Pre-Construction Surveys

(MGS-3) CDFG would not require Cumulative Human Impact Evaluation Forms (CHIEFs) to be completed, nor would trapping of Mohave ground squirrels be required.

2.2.4.3.3 Proactive MGS Management Programs

Research and Monitoring Program: (MGS-4) A monitoring strategy would be designed and implemented by the Implementing Team, in coordination with the MGS Technical Advisory Group, to ensure that the management program for this species is accomplishing its objectives.

Kern County Study Area: (MGS-5) Trapping studies should be undertaken in the northern portion of the Antelope Valley in Kern County, on the 23 sections of public land located within a region generally bounded by the Tehachapi Mountains to the northwest, an unpaved road accessing Little Oak Creek Canyon to the west, the Los Angeles aqueduct to the southeast, and the Tehachapi - Willow Springs Road to the northeast. Upon the recommendation of the Mohave Ground Squirrel Technical Advisory Group (based on their review of the survey results) and through the adaptive management provisions of the West Mojave Plan, the MGS Conservation Area boundary could be adjusted to include this area, if justified.

Military Coordination Group. (MGS-6) A group should be established to coordinate with, and assist if requested, staff of the China Lake Naval Air Weapons Station, the National Training Center at Fort Irwin, and Edwards Air Force Base in devising and implementing MGS conservation programs on those installations. The Implementation Team should meet annually with representatives of these installations and the Mohave Ground Squirrel Technical Advisory Group to discuss management needs for MGS conservation.

2.2.4.4 Mojave River Bioregion

Incidental take permit coverage could be provided to ten species that are dependent on conservation of riparian habitat in the Mojave River bioregion. These are:

- Southwestern pond turtle
- Brown-crested flycatcher
- Least Bell's vireo
- Southwestern willow flycatcher
- Summer tanager
- Vermilion flycatcher
- Yellow-breasted chat
- Yellow warbler
- Western yellow-billed cuckoo
- Mojave River vole

Groundwater Criterion. (MR-1) Existing wetland and riparian habitat laws and regulations are sufficient to provide conservation of the riparian vegetation. However, the water supply to the river is not assured. Alternative A proposes a criterion for incidental take permit coverage of the riparian species. This would entail the maintenance of groundwater levels in accordance with the Mojave Basin Adjudication (Physical Solution/Stipulated Judgment & Interlocutory) of April 1993.

Incidental take permit coverage would be provided for the ten Mojave River - dependent species if certain groundwater criteria are met. In order to maintain the riparian habitat for the covered species within the Mojave River bioregion, groundwater must be maintained at the levels indicated in Table 2-15, derived from the Mojave Basin Adjudication

**Table 2-15
Mojave River Groundwater Levels**

Zone	Well Number	Maximum Depth Below Ground
Victorville/Alto	H1-1	Seven feet
Victorville/Alto	H1-2	Seven feet
Lower Narrows/Transition	H2-1	Ten feet
Harvard/Eastern Baja Riparian Forest Habitat	H3-1	Seven feet
Harvard/Eastern Baja Surface Water Habitat	H3-2	1705 msl (Plus one foot)

Note: Wells are monitored quarterly. Depths are the minimum groundwater levels necessary to support riparian growth, hence must be maintained at all seasons, especially during the warm-weather growing season.

In the event that all groundwater depth criteria are met for four consecutive quarters, incidental take permit coverage would be provided. Subsequent to this, in the event that a criterion is not met for two consecutive quarters, coverage would be revoked.

Maintenance activities of the San Bernardino County Flood Control District in selected areas of the Mojave River have received a non-jeopardy Biological Opinion from FWS for potential impacts to the least Bell's vireo and southwestern willow flycatcher. This permitted allowance for take, conservation and restoration of riparian habitat in the Mojave River would remain in effect.

Some of these riparian species are found in smaller numbers elsewhere in the West Mojave. At these other locations, current management is adequate for conservation or specific management measures are prescribed for the riparian species.

Small construction projects and invasive species removal: Riparian habitat containing the nine riparian birds in the Mojave River may be altered by habitat enhancing projects, including removal of invasive species such as Russian olive and tamarisk or by construction of trails, including the Mojave Greenway Trail. These projects would minimize effects to these

migratory birds by taking place in the fall and winter, when the birds are not present.

2.2.4.5 Bats

(Bat-1) Protect all significant roosts by installing gates over mine entrances and restricting human access.

- This, the primary conservation strategy for bats, would be dependent on adaptive management, which would apply to newly discovered significant roosts.
- Although Alternative A recognizes the conservation measures proposed for military installations (which have the majority of the known significant roosts), incidental take permit coverage is not dependent on military protection.
- Conservation for bats is limited to significant roosts and procedures for take avoidance at non-significant sites. All maternity and hibernation roosts containing more than ten Townsend's big-eared bat or California leaf-nosed bats or 25 bats of the other six species are considered significant roosts.

(Bat-2) BLM, in cooperation with the National Park Service, would establish a bat management area in the Pinto Mountains.

- Systematically survey mines and other potential roosting sites within the management area and provide gates or other measures to allow bat passage and prevent human entry at adits where significant roosts are found.
- Notify claim holders on BLM lands containing significant roosts.

(Bat-3) Riparian habitat would be protected within five miles of known or newly discovered maternity roosts for Townsend's big-eared bat. Water diversions and woodcutting would be prohibited. Grazing, if present, would be monitored to assure no undue degradation of the riparian habitat.

(Bat-4) Desert wash vegetation within three miles of known or newly discovered maternity and hibernation roosts of California leaf-nosed bats would be protected. Motorized vehicle use of washes in these locations would be assessed on a case-by-case basis to determine if vehicles harm the desert wash vegetation. If substantial damage from vehicle use is determined to be present, alternative access routes would be developed and the wash routes would be closed or limited.

(Bat-5) BLM would continue fencing around (but not over) open abandoned mine shafts to provide bats access to roosts and to reduce hazards to the public.

(Bat-6) Applicants seeking discretionary permits for projects which would disturb natural caves, cliff faces, mine shafts, abandoned buildings or bridges would be required, as a condition of those permits, to conduct surveys to determine use of these features by bats.

- An initial survey would determine if any features that might support significant roosts are present. If additional surveys were warranted, a qualified bat biologist would be retained.
- Surveys at locations where significant roosts are likely should be conducted both in winter and in summer to determine if bats utilize a potential roost for hibernation or for maternity colonies. Surveys that indicate a roost is used during one of the seasons should be repeated during the other season to determine if bats use the roost for both functions.
- Colonial bats may move between roosts, or abandon roosts if disturbed. If the disturbance is eliminated, the bats may return. Therefore, a roost with substantial deposits of bat guano is assumed to be a significant roost, even if bats are not present. “Substantial deposits” would be determined by a qualified biologist and verified by CDFG.

(Bat-7) Prior to disturbance or removal of a non-significant roost, a project sponsor would provide for safe eviction of any bats present by a qualified biologist in consultation with CDFG. Safe procedures include:

- Eviction during the appropriate season. No eviction should occur during maternity or hibernation seasons for the species.
- Temporary closure of the roost after the evening exit flight, then entering the roost and capturing any remaining bats.
- Repetition of this procedure for at least two nights to insure that all bats have been removed safely.

2.2.4.6 Other Mammals

2.2.4.6.1 Bighorn Sheep

The conservation plan for bighorn sheep recognizes the accomplishments and planned management of habitat in the Integrated Natural Resource Management Plans for the National Training Center at Fort Irwin, the China Lake Naval Air Weapons Station, and the Twentynine Palms Marine Corps Air Ground Combat Center. The re-introduction of bighorn at China Lake NAWS and Twentynine Palms MCAGCC holds high potential to augment and increase herd size. Incidental take permits issued under the West Mojave Plan, however, do not depend on military conservation. Incidental take permits cannot be issued by the State for this fully protected species.

Few direct threats now exist to western Mojave Desert bighorn. The primary conservation needs are maintenance of water sources, maintenance of open space linkages between mountain ranges, and prevention of barriers to movement. In addition, domestic sheep can transmit disease to bighorn, so sheep grazing must not overlap bighorn range.

The conservation strategy would enact the following measures:

- (Mam-1) Natural water sources in permanent habitat would be protected and diversions at bighorn springs would be prohibited.
- (Mam-2) Helicopter overflights near lambing areas would be minimized, at least seasonally (January 1 to June 30).
- (Mam-3) BLM would manage sheep grazing allotments to comply with the "nine-mile rule", which is the standard for separation of domestic sheep and bighorn.
- (Mam-4) Removal of burros in the Argus Mountains would continue because of damage to springs.
- (Mam-5) Mitigation measures for mining proposals within occupied bighorn habitat in the San Bernardino Mountains and the San Gabriel Mountains would include funds to monitor potentially impacted sheep herds or to provide additional water sources.
- (Mam-6) The responsible agencies would provide methods for crossing new freeways, aqueducts and canals that otherwise would impede movement of bighorn between seasonal and permanent occupied habitat.
- (Mam-7) BLM and the counties would require fencing of proposed heap leach pads if in occupied bighorn habitat or proven linkages.

2.2.4.6.2 Yellow-Eared Pocket Mouse

(Mam-8) The management plans for the Jawbone-Butterbredt and Sand Canyon ACECs would be amended to incorporate protection of the yellow-eared pocket mouse as a goal of each plan. Recommendations for monitoring, adaptive management, and acquisition priorities (see sections 2.2.8 and 2.2.9) would be incorporated into the plans.

(Mam-9) Overlap with the Kelso Valley Monkeyflower Conservation Area in the Kelso Valley would provide protection for the pocket mouse on public lands at those locations. Land acquisition within the Kelso Valley would be directed to areas where multispecies benefits are most effective. Funds used to purchase lands for the Kelso Creek monkeyflower would also benefit the yellow-eared pocket mouse.

(Mam-10) Grazing by cattle, which degrades the habitat to some extent, would be monitored to prevent excessive loss of topsoil and depletion of shrubs, which are utilized by the yellow-eared pocket mouse for food. Compliance with the BLM regional rangeland health standards is the standard for conservation of yellow-eared pocket mouse habitat on public lands.

(Mam-11) Incidental take for ground-disturbing projects on private lands within the range would be limited to 100 acres until such time as acquisition proceeds, to insure that take does not exceed conservation.

2.2.4.7 Raptors

Raptors addressed by the Plan include burrowing owl, ferruginous hawk, golden eagle, long-eared owl, and prairie falcon. The primary threat to birds of prey within the western Mojave Desert is disturbance at nest sites. An additional threat to the larger species is electrocution from electrical distribution lines. The raptor conservation strategy is designed to address these two threats. Proactive measures to protect regions with concentrations of nest sites include designation of lands as ACECs or Key Raptor Areas and continued acquisition of private lands within designated wilderness.

2.2.4.7.1 Generally Applicable Raptor Prescriptions

(Rap-1) All construction of new electric utility lines throughout the planning area must be raptor-safe. A variety of methods are available, including increasing spacing of conductors, different placement of conductors on crossbars, insulation of certain conducting links, and installation of artificial perches or perch guards. Approved raptor-safe designs contained with the industry and scientist joint publication *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (Avian Power Line Interaction Committee 1996) would be required for all new electrical distribution lines in the entire planning area. Re-permitting of rights-of-way for existing lines would require raptor safe designs at specific sites where electrocutions are known to be a problem or where large raptors are known to concentrate (e.g. Key Raptor Areas, ferruginous hawk wintering areas).

(Rap-2) Development projects, including new mines, must stay 1/4 mile away from occupied golden eagle, long-eared owl and prairie falcon nests unless the line-of-sight from the edge of development is obscured. No construction within the sight line and within 1/4 mile of nest sites would be allowed during the nesting season.

(Rap-3) For new mines near golden eagle and prairie falcon nests, blasting must be avoided within 410 feet of occupied aeries and peak noise levels must not exceed 140 decibels at the aerie. No more than three blasts should take place on a given day nor more than ninety blasts during the nesting season.

(Rap-4) BLM would establish a new Key Raptor Area encompassing the Argus Mountains.

2.2.4.7.2 Burrowing Owl

The burrowing owl conservation strategy consists of: specified survey requirements; education; take minimization measures to prevent owls from being killed in their burrows; land acquisition; a research program; and take limits. Because incidental take cannot be predicted with certainty, the take would be limited until future surveys and monitoring provide better definition of permanent conservation areas.

Survey requirements: (Rap-5) Within the western Mojave Desert, the burrowing owl is found most often in urban settings or at the urban fringe. These locations correspond with incidental take areas for the desert tortoise and most, if not all, other species. For lands where no desert tortoise clearance survey is required, the jurisdictions would provide applicants for discretionary permits with an educational brochure.

(Rap-6) For lands where desert tortoise surveys are required, a concurrent abbreviated survey for the burrowing owl would also be conducted.

(Rap-7) Within the DWMA's survey utilizing the four-visit CDFG protocol would be conducted.

(Rap-8) If the clearance survey or protocol survey within a DWMA shows burrowing owl to be present, the applicant would be required to institute the minimization measures of eviction and burrow closure.

Education: (Rap-9) All jurisdictions would provide applicants for discretionary permits with an informational brochure with an illustration of a burrowing owl, a description of its burrows and how they can be recognized, and a summary of the bird's life history. If at any time prior to grading the applicant becomes aware of burrowing owls on the site, he would be instructed to call a number where a biologist can respond quickly by instituting the minimization measures. This would be a staff member of the Implementation Team or the CDFG.

Take Minimization: (Rap-10) Burrowing owls can be excluded from a site by eviction, followed by collapse and filling of the burrows. The expectation for evictions is that incidental take (killing of the owls) would be avoided and that the owls would re-establish in a suitable location nearby of their own accord. Procedures are in place where a one-way door is placed in front of all occupied burrows and monitored daily. When the owls are known to have left, the burrows are filled. This procedure can only take place during the non-nesting season. During the nesting season, which extends from approximately February 15 to August 31, the owls must be allowed to complete incubation and rearing of the fledglings. The exact status of nesting owls is determined on a case-by-case basis. Evictions can take place if burrow searches show that a single owl is using the burrow, rather than a nesting pair or a female with eggs or young.

In some cases burrowing owls can be relocated into artificial nest sites. This procedure has been employed along farm drainages, flood control channels, and in areas where sufficient open space remains to provide for foraging and a nest site that is not frequently disturbed by

human intrusion or by pets. Relocations into artificial nest sites would not be required, but would be encouraged in cases where minimal habitat requirements are met and where the applicant and the CDFG staff agree on sharing of costs and on the relocation site.

Land Acquisition: (Rap-11) Because the burrowing owl is a grassland species, acquisition of habitat would focus on conserving remnant grasslands where they are found in the western Mojave Desert. This raptor is also very well adapted to inhabiting edges of agricultural operations, especially near water, so these limited areas would also be prioritized for acquisition. Acquisition would take place only where other species benefits are evident or where the lands provide essential linkages for the Plan. Three areas within the West Mojave Plan meet these criteria. These are in the Antelope Valley adjoining the California Poppy State Park, along the borders of the Mojave River between Victorville and Barstow, and, to a limited extent, in the Brisbane Valley. The recommended linkage between Liebre Ridge and the Poppy Preserve contains small areas of native grasslands and wildflower fields, and is known to support burrowing owls. This area would be the top priority for acquisition to compensate for loss of burrowing owl habitat.

Research Program: (Rap-12) The Implementation Team would track all new sightings and new nest locations of burrowing owls as they are detected in the future. Burrowing owls conserved within DWMAs or other HCAs would be counted as habitat conserved, with 13 acres counted for each nesting pair. Baseline acreage of habitat conserved would be established within two years of the Plan's adoption and would be used as a reference for the amount of incidental take to be allowed. Detection of occupied habitat in new locations may result in shifting of the acquisition priorities. The first priority for determining presence or absence of burrowing owls would be in the Liebre Ridge-Poppy Preserve linkage, followed by sites along the Mojave River.

Limitations on Take: (Rap-13) For the incidental take permit to remain in effect, conservation of habitat by acquisition must match the take of habitat where nesting owls are evicted or relocated. Mitigation fees and other funds would direct acquisition to sites where burrowing owls are known. Take of habitat would be calculated by parcel size being developed or as 13 acres for each evicted owl (single owls or nesting pairs), whichever is smaller. Successful relocation of owls would not count as take of habitat. Take would be limited as follows:

- The baseline acreage of conserved burrowing owl habitat would be established in the first two years
- Take of occupied habitat, including nest sites, would not exceed the baseline acreage at any time
- Acquisition of occupied habitat would add to the baseline conservation acreage
- Prior to the establishment of the baseline conservation acreage, take would be allowed only within city limits.

2.2.4.7.3 Ferruginous Hawk

(Rap-14) Existing electrical transmission and distribution lines located near regular ferruginous hawk wintering areas would be retrofitted to meet current design standards which prevent electrocution. Retrofitting applies to problem poles identified through monitoring and to voluntary proactive programs of the utility companies.

2.2.4.7.4 Golden Eagle

(Rap-15) Take would be allowed for removal of golden eagle nests on transmission lines or in places where direct conflicts exist with resource extraction or recovery, such as mining, in accordance with existing federal law. Nest removal or relocation must take place outside the nesting season and be otherwise permitted by the USFWS.

The CDFG cannot currently issue incidental take permits for golden eagle, which is a fully protected species under the California Fish and Game Code. If new legislation removes the fully protected designation, the golden eagle would become automatically covered by incidental take permits under CESA, without amendment to the Plan, assuming the conservation measures are in place.

(Rap-16) New mines located where mineral deposits preclude adherence to the restrictions above would initiate a nest relocation effort in cooperation with the wildlife agencies.

(Rap-17) BLM would continue to purchase inholdings within designated Wilderness.

(HCA3) BLM would establish the Middle Knob ACEC, which would offer additional protection for eagle nests at that location. Provisions of the management plan for the Middle Knob ACEC that provide better conservation for the golden eagle include: 1) a prohibition on the expansion of wind energy projects on public lands, and 2) designation of motorized vehicle routes as open or closed. The plan would also incorporate the monitoring and adaptive provisions of the West Mojave Plan.

2.2.4.7.5 Long-eared Owl

The Plan would establish the Big Rock Creek Conservation Area (see HCA-3). The conservation of this riparian habitat protects suitable nesting and communal roost sites for the long-eared owl.

2.2.4.7.6 Prairie Falcon

(Rap-19) Vehicle access would be restricted at selected locations. BLM would enforce seasonal road closures where practical and necessary to protect nesting falcons (e.g. Robber's Roost, El Paso Mountains, Owl Canyon). Prior to limiting vehicle access, a site-specific evaluation would be made to determine if nest locations are within the line-of-sight of vehicles and if seasonal closures are necessary.

(HCA-3) BLM would establish the Middle Knob ACEC, which would offer additional protection for prairie falcon nests at that location (see HCA-3). Provisions of the management plan for the Middle Knob ACEC that would provide better conservation for prairie falcon include: 1) a prohibition on the expansion of wind energy projects on public lands, and 2) designation of vehicle routes as open or closed. The plan would also incorporate the monitoring and adaptive provisions of the West Mojave Plan.

(Rap-20) BLM would amend the ACEC management plans for Jawbone-Butterbrecht, Rainbow Basin and Great Falls Basin to specify protection of nesting prairie falcons as a goal of the ACECs. The plans would also incorporate the monitoring and adaptive provisions of the West Mojave Plan.

2.2.4.8 Other Birds

2.2.4.8.1 Bendire's Thrasher

A monitoring and census study was performed in 2001 on all Bendire's thrasher habitat within the western Mojave Desert, which was compiled in 1986 and 1987 through extensive surveys by BLM. Of the six identified habitats, Bendire's thrashers were located on only two in 2001. This species has been removed from the list for which incidental take coverage is requested until additional studies are able to demonstrate specific private lands in need of conservation. The conservation strategy for Bendire's thrasher is based on conservation of habitat on public lands where thrashers were seen in 2001 or were abundant in the mid 1980s and conditions appear unchanged.

(B-1) Establish a four-unit conservation area for the Bendire's thrasher. These units would be located in Joshua Tree National Park, northern Lucerne Valley, Coolgardie Mesa, and the southern Kelso Valley. Public lands within this BLM managed conservation area, which total 28,046 acres, would be designated as an ACEC and the multiple use class would be changed to Class L. No change in management is needed within Joshua Tree National Park, where 106,710 acres are designated as habitat. The management of the BLM lands is detailed below.

(B-2) The Kelso Valley Conservation Area (7,678 acres) is within the existing Jawbone-Butterbrecht ACEC. BLM would amend the ACEC management plan to include protections and monitoring specifically addressing the Bendire's thrasher (Appendix D). Public lands would be consolidated in the Kelso Valley through land exchanges, if the private landowners are willing. The existing route designation for the Jawbone-Butterbrecht ACEC would remain in place.

(B-3) BLM would retain lands within the Town of Apple Valley sphere of influence. This applies only to lands within the North Lucerne Valley portion of the Bendire's Thrasher Conservation Area. Motorized vehicle route designation for northern Lucerne Valley would integrate protection for the Bendire's thrasher.

(B-4) The conservation area on Coolgardie Mesa (13,354 acres) is entirely within the Superior-Cronese DWMA and the Mohave Ground Squirrel Conservation Area. It is contiguous with the Lane Mountain Milkvetch Conservation Area (Map 2-10). Private lands would be purchased on Coolgardie Mesa from willing sellers, and because this region contains several protected species, these lands would receive a high priority for acquisition. Route designation would reduce the number of open routes to benefit this vehicle-sensitive species.

2.2.4.8.2 Gray Vireo

The gray vireo's range within the western Mojave Desert lies along the boundaries of the Angeles and San Bernardino National Forests. It approximates the range of the short-joint beavertail cactus and the San Diego horned lizard. Most of the known occupied habitat is on private land, while a large acreage of potential or suitable habitat is found on public lands.

BLM would establish a new ACEC for protection of the carbonate endemic plants (see HCA-3). This area also serves to protect potential habitat for the gray vireo.

(B-5) BLM would amend the management plan for the Juniper Flats ACEC to incorporate protection of the gray vireo as a goal of the plan. Monitoring and adaptive management provisions of the West Mojave Plan would be added to the management plan for Juniper Flats.

(B-6) Alternative A proposes the establishment of a Big Rock Creek Conservation Area (see HCA-3). Known occupied habitat for the gray vireo is found within this area. Acquisition funds would be directed toward willing sellers of land within the Big Rock Creek Conservation Area. Additional lands within existing Significant Ecological Areas would be conserved by the zoning limitations and development review process established by Los Angeles County. The SEA boundaries may change in the future, providing additional protection to this species.

(B-8) San Bernardino County would review land division and development proposals in the Oak Hills area to insure minimization of impacts to gray vireo habitat.

(B-9) BLM would remove scattered parcels within existing SEAs containing suitable and occupied habitat from the LTA Program disposal zone and change the multiple use class from Unclassified to M. BLM would implement these same measures for parcels outside the SEAs in the San Gabriel Mountains foothills. These lands may be leased or transferred to the jurisdiction of the Los Angeles County Regional Parks Department in the future.

[Click here for Map 2-10](#)

2.2.4.8.3 Inyo California Towhee

The BLM manages approximately one third of the occupied habitat for this endemic bird, with the remainder managed by China Lake NAWS. A small acreage of occupied habitat is found on private lands and on lands managed by CDFG. Management on military lands is compatible with conservation, but incidental take permits and the Biological Opinion on BLM proposals is not dependent on actions of the military.

Several habitat improvements were implemented by the BLM during 2001 and 2002. BLM would continue its habitat improvement program by taking the following additional protective measures:

- (B-10) Enhance habitat by excluding burros at Peach Spring. Because Peach Spring is within the Argus Mountains Wilderness, fencing of the area would only be undertaken if the burro removal program were shown to be ineffective. Monitoring at this site would determine what actions are necessary.
- (B-11) Remove salt cedar and *Phragmites* at designated springs and replant with native willows. Springs where towhees have been sighted and the invasive plants are present on BLM lands are in Great Falls Basin (Arrastre Spring, Twin Springs, Site #2, Site #3), Mumford Canyon (No Name Spring), Bruce Canyon (Dripping Spring, Rock Spring), Sidehill Spring, Austin Spring, Nadeau Spring, and Bainter Spring. *Phragmites* is also present at two spring sites where towhees were recorded in Indian Joe Canyon and one in Water Canyon (Side Canyon B) on State lands. Several other spring sites with these invasive plants are present on Navy lands.
- (B-12) Continue removal of feral burros from the Argus Mountains with a goal of zero.
- (B-13) Install signs indicating the China Lake NAWS boundary at Benko Spring and Ruby Spring (in cooperation with China Lake NAWS)
- (B-14) Determine legality and effect of water diversions at Alpha Spring and Bainter Spring and cease diversion if necessary, subject to valid existing rights. Secure water rights at all other springs in Argus Mountains.

2.2.4.8.4 LeConte's Thrasher

The conservation strategy for the LeConte's thrasher recognizes that the establishment of the DWMA's and other conservation areas provides sufficient habitat protection for this bird with few additional measures. Since LeConte's thrasher is sensitive to vehicle disturbance during the nesting season (February - June), the motorized vehicle route designation process within the DWMA's is an important management component to protect this species. Acquisition of lands within the conservation areas would facilitate public land management.

2.2.4.8.5 Western Snowy Plover

Because the current occupied nesting habitat for snowy plover is not well known, much of the conservation for this species would be a result of adaptive management. The known important nesting sites on Searles Lake are protected through an agreement between IMC Chemical Corporation, BLM, Lahontan Regional Water Quality Control Board and CDFG.

Biological surveys of several playas in the western Mojave Desert in 2001 did not detect this species. The following conservation measures apply to Harper Dry Lake and any newly detected nesting areas.

- (B-16) If nesting populations are discovered, human and vehicle disturbance would be restricted for a distance of 1/8 mile from nest sites during the nesting season (April 1 - August 1).
- (B-17) Projects in nesting habitat should allow the birds to complete the nesting season before construction begins.
- (B-18) BLM would continue working towards provision of a permanent water supply to the marshes at Harper Dry Lake ACEC.

2.2.4.9 Reptiles

2.2.4.9.1 Mojave Fringe-toed Lizard

Conservation of the Mojave fringe-toed lizard requires protection of the dune, hummock, and sand sheet habitat occupied by this species as well as of the sand sources and sand transport system. The ecological process of sand transport by flooding followed by sand sorting into smaller particle sizes and deposition onto occupied habitat by wind must be maintained where these processes are still present. In some cases, blow sand habitat along the margins of playas and lakes was formed in the Pleistocene era, and active sand transport is no longer present.

A conservation area composed of four parts is proposed for the fringe-toed lizard (see HCA-3). Three of these involve designation of ACECs on BLM managed lands, and one, Big Rock Creek, requires acquisition of private lands and cooperation by BLM, California Department of Parks and Recreation, Caltrans and Los Angeles County. BLM would retain public lands within the Mojave River wash and change the multiple use class from Unclassified to L. In addition, three other areas would be managed for compatibility with fringe-toed lizard conservation. These are the slope of Alvord Mountain and the Manix and Cronese Lakes ACECs.

The new proposed conservation area for the Mojave fringe-toed lizard is located at (1) Saddleback Butte State Park, including Big Rock Wash, Piute Butte, Alpine Butte and potential

park expansion lands; (2) Dale Lake; (3) Mojave River east of Barstow, which consists of several separate parcels of public land; and (4) Pisgah Crater.

Specific conservation actions are listed below:

- (R-1) Prohibit flood control structures that would impede sand transport at Big Rock Creek, Sheep Creek, and the Mojave River.
- (R-2) Aggregate mining in these drainages would be regulated to assure continued passage of sand downstream during flood flows.
- (R-3) Widen the bridge over Big Rock Creek when Highway 138 is improved to allow better sand and water flow and enhance the wildlife corridor between the desert and the San Gabriel Mountains. The existing double channel divided by fill material should be converted into a single long and high span.
- (R-4) Acquire occupied habitat adjacent to the northeast and west edges of Saddleback Butte State Park. BLM would retain scattered parcels within the Big Rock Creek blow-sand ecosystem.
- (R-5) Suggest that the boundaries of the Big Rock Creek Significant Ecological Area in Los Angeles County be changed to the consultant's recommendations for the new Antelope Valley Significant Ecological Area.
- (R-6) Acquire specific lands on the slope of Alvord Mountain. Designate routes in this area, part of the Coyote subregion, as closed within the occupied habitat.
- (R-7) Amend the Cronese Basin and Manix ACEC Plans to include protection of the Mojave fringe-toed lizard as a primary goal.
- Designate the Pisgah Crater Research Natural Area as an ACEC (see HCA-3, Map 2-11).
- Designate a new conservation area near Dale Lake consisting of public lands within Joshua Tree National Park, the Sheephole Wilderness, and BLM managed lands adjacent to the Wilderness (see HCA-3).
- (R-8) Designate vehicle use on the conserved public lands with occupied habitat as closed.
- (R-9) Restrict the construction of windbreaks upwind of occupied habitat.

[Click here for Map 2-11](#)

2.2.4.9.2 Panamint Alligator Lizard

Conservation of the Panamint alligator lizard parallels that of the Inyo California towhee because of the overlap in range and habitat preferences. No substantiated records of this species exist for the West Mojave Plan area, but it is known from the China Lake NAWS in the canyons of the Argus Mountains, and it very likely to occur within the Great Falls Basin ACEC, the Argus Mountains Wilderness, the Indian Joe Canyon Ecological Reserve (CDFG), and potentially on private lands in Homewood Canyon. Incidental take would be allowed on the private lands.

The BLM would continue the removal of feral burros from the Argus Mountains with a goal of zero. In addition, the following new conservation actions would be adopted for the Panamint alligator lizard:

- (B-10) Enhance habitat by excluding burros at Peach Spring. Because Peach Spring is within the Argus Mountains Wilderness, fencing of the area would only be undertaken if the burro removal program were shown to be ineffective. Monitoring at this site would determine what actions are necessary.
- (B-11) Remove salt cedar and *Phragmites* at designated springs and replant with native willows. Springs where towhees have been sighted and the invasive plants are present on BLM lands are in Great Falls Basin (Arrastre Spring, Twin Springs, Site #2, Site #3), Mumford Canyon (No Name Spring), Bruce Canyon (Dripping Spring, Rock Spring), Sidehill Spring, Austin Spring, Nadeau Spring, and Bainter Spring. *Phragmites* is also present at two spring sites in Indian Joe Canyon and one in Water Canyon (Side Canyon B) on State lands. Several other spring sites with these invasive plants are present on Navy lands.
- (R-10) Amend the Great Falls Basin ACEC management plan to incorporate protection of the Panamint alligator lizard as a goal of the Plan. Include the monitoring and adaptive management provisions of the West Mojave Plan in the ACEC management plan.

2.2.4.9.3 San Diego Horned Lizard

(R-11) BLM would amend the management plans for the Juniper Flats Area of Critical Environmental Concern to incorporate protection of the San Diego horned lizard as a goal of the plan. Monitoring and adaptive management provisions of the West Mojave Plan would be added to the management plan for Juniper Flats.

BLM would establish a new ACEC for protection of the carbonate endemic plants (see HCA-3). This area also serves to protect suitable habitat for the San Diego horned lizard.

Alternative A proposes the establishment of a Big Rock Creek Conservation Area that would protect known occupied habitat for the San Diego horned lizard (see HCA-3). Acquisition funds would be directed toward willing sellers of land within the Big Rock Creek Conservation Area. Additional lands within existing Significant Ecological Areas would be conserved by the zoning limitations and development review process established by Los Angeles County. The SEA boundaries may change in the future, providing additional protection to this species.

(B-9) BLM would remove scattered parcels within existing SEAs containing suitable and occupied habitat from the LTA Program disposal zone and change the multiple use class from Unclassified to M. BLM would implement these same measures for parcels outside the SEAs in the San Gabriel Mountains foothills. These lands may be leased or transferred to the jurisdiction of the Los Angeles County Regional Parks Department in the future.

2.2.4.10 Plants

2.2.4.10.1 Southern Sierra Plants

Seven species of restricted-range plants are found within the wilderness of the southern Sierra Nevada Mountains, primarily the Owens Peak Wilderness. These species are not proposed for coverage by incidental take permits, but would be conserved by the BLM in order to prevent future CESA or FESA listings. The southern Sierra species are:

- Ertter's milkvetch
- Owens Peak lomatium
- Hall's daisy
- Muir's raillardella
- Sweet-smelling monardella
- Dedecker's clover
- Gillman's goldenbush

No current threats to these plants have been identified, although previous work on the Pacific Crest Trail damaged populations of some species. This has led to a program of modified trail maintenance and monitoring of the sites by the Ridgecrest Field Office of the BLM. The sites are remote, requiring a 7 mile one-way hike, and are not affected by cattle grazing, vehicles, or timber sales. Conservation for these plants would consist of continuing the BLM program of education of trail maintenance volunteers.

Because these plants are all on federal lands and would not be covered by incidental take permits, no requirements are imposed for monitoring or adaptive management. However, the database established and maintained by the Implementation Team would be updated to incorporate new sightings and locations would be reported to the CDFG's Natural Diversity Data Base.

2.2.4.10.2 Carbonate Endemic Plants

Carbonate endemic plants are those whose ranges are restricted to limestone and other surfaces with high carbonate content. Four federally listed species are found on the north slope of the San Bernardino Mountains, and another six species, one of which would be covered by incidental take permits, occur in this area near Lucerne Valley. Most species occur at the higher elevations on Forest Service lands, but range in lesser numbers onto the BLM and private lands north of the San Bernardino National Forest boundary.

(P-1) BLM, in cooperation with the Forest Service, USFWS, mining industry, California Native Plant Society, and other claimholders and landowners have met for over four years to develop a Carbonate Habitat Management Strategy (CHMS). This planning document would be implemented by actions in the West Mojave Plan. The CHMS includes very specific criteria for conservation, land acquisition, and mining. The strategy will receive a separate Biological Opinion applying to both federal agencies. The outlines of this plan and the BLM implementing actions are described below, except for the revegetation standards, which are contained in Appendix S.

Carbonate Plants Management Zone: The four listed species of carbonate endemic plants, as well as the unlisted Shockley's rock cress, would be conserved by applying prescribed management within a designated management zone. This area encompasses approximately 42 sections (25,400 acres) in the CDCA, including 28.5 sections (18,250 acres) of federal land and 80 acres of state land.

The management zone consists of: 1) conserved lands, where protection of the carbonate endemic plants is the mandate, 2) managed lands, which allow uses compatible with the conservation of carbonate endemics, and 3) industrial lands, where mining and other extractive uses are the dominant use.

The conservation goal is protection of the surface from mining and relinquishment of existing claims, which would offer permanent protection.

Objective 1: Within the management zone are the two first priority units of the Carbonate Endemic Plants Conservation Area: the area north of Monarch Flats and the area surrounding Round Mountain. These two locations support dense viable populations of all of the listed species. They are separated by the Blackhawk slide, which contains a continuous band of several of the carbonate endemics, although these are present in lower densities. The Blackhawk slide is considered to be an essential link between the major populations, and is the second priority for acquisition or relinquishment of claims. These three areas comprise the conserved lands for the carbonate endemics on BLM lands. Most of the conserved lands are designated critical habitat for these species.

Conserved federal lands (4,393 acres) within the management zone would be designated as the Carbonate Endemic Plants Research Natural Area ACEC (see HCA-3 and Appendix D).

Activities within the ACEC would be required to be compatible with protection of the listed carbonate endemic plants. The multiple use class for lands within the ACEC would change from M to L (HCA-9). All existing routes of travel on public land within the proposed ACEC would be designated as open, limited or closed. Access roads would be gated in several places, with access limited to non-motorized users including equestrians and hikers. Vehicle entry would be limited to research activities, permitted recreation events and emergency access, such as fire, rescue, or enforcement access. The ACEC boundaries are shown on Map 2-12.

Objective 2: Three options are presented for acquisition of private land (762 acres) and relinquishment of claims. All three methods may be implemented to achieve the objective.

- Option 1. The BLM would proceed with acquisition of the highest priority private lands. A land exchange could assist with consolidation of lands within each management classification. Public lands bordering the rail spur south of Lucerne Valley would be exchanged for private lands east of Highway 18. The lands along the railway would then be available to mining interests or industrial uses, and the acquired lands east of Highway 18 would be withdrawn from mineral entry.
- Option 2. Mining companies may acquire lands within the ACEC as mitigation for use of lands west of Highway 18. "Acquisition" can include purchase of mining claims on public lands as well as purchase of fee title to private lands. The claims or title would be conveyed to the BLM, and the acquired lands would be withdrawn from mineral entry.
- Option 3. BLM and Forest Service would prepare an application for Congressional funding in fiscal years 2004 and beyond through the Land and Water Conservation Fund. Any funds appropriated through this process would be used to purchase private fee lands within the proposed ACEC and the National Forest. Acquired lands would be unavailable for mineral entry.

Fencing along the eastern boundary of the proposed ACEC would be installed to prevent cattle from trampling the listed plants on small portions of the Rattlesnake allotment and to prevent cattle from entering Forest lands near Terrace Springs. The fencing would be constructed along the east side of Arrastre Canyon.

Within the management zone, specific reclamation standards would apply. These standards, detailed in Appendix S, would be used as guidelines for BLM and County permitting of mining plans. They would be required standards for reclamation of disturbed sites within the proposed ACEC.

Private lands within the management zone include operating mining properties and undisturbed lands containing populations of the listed species. No changes are contemplated for

[Click here for Map 2-12](#)

the operating properties. Certain lands west of Highway 18 would be available for mining and other uses without restriction upon approval of the West Mojave Plan, with Endangered species permits in place.

2.2.4.10.3 Alkali Wetland Plants

(P-2) Three target species of alkali wetland plants would be conserved with acquisition of specific springs from private willing sellers. Rabbit Springs near Lucerne Valley and Paradise Springs near Fort Irwin would be acquired to conserve this very rare plant community and the rare plant species found at these sites. Rabbit Springs is the only known site for Parish's alkali grass, Parish's popcorn flower, and Salt Springs checkerbloom. This site also has records of alkali mariposa lily. Paradise Springs has extensive numbers of alkali mariposa lily, as well as non-target species of plants, including Cooper rush, giant orchid, black sedge and hot springs fimbriatilis.

The alkali wetlands have been identified as one of the highest priorities for surveys and monitoring of unlisted species within the Plan. Additional alkali wetland sites may be considered for acquisition through adaptive management if the survey and monitoring effort detect substantial occurrences of covered species.

2.2.4.10.4 Alkali Mariposa Lily

Conservation of the alkali mariposa lily, which is found primarily on private land, is based on the goals of preserving the species within the Rosamond Lake Basin and preserving significant isolated springs, seeps, and meadows.

Objective 1. Rosamond Lake Basin: (P-3) Retain the flood discharge capability of Amargosa Creek to the extent feasible (recognizing that much of the creek is already channelized through Lancaster). Retain the capacity for sheet flow over the alkali floodplain north of Lancaster and west of EAFB.

(P-4) Acquisition of private lands north and possibly northeast of Lancaster is suggested for establishing conserved lands for the alkali mariposa lily that would meet the federal and state standards for permit coverage under an HCP. The goal is acquisition of 50% of the suitable habitat, defined as undisturbed saltbush scrub containing known occurrences. One area is known to be desirable for permanent conservation, and four additional areas are suggested for evaluation with the goal of establishing additional conserved lands. Both surveys and studies of the local hydrology are necessary within the lands to be evaluated in the interim period. The acquisition targets and methods are suggested below.

- **Designate an Alkali Mariposa Lily Conservation Area.** This would be located west of EAFB, from the military boundary to Sierra Highway, and from the Lancaster City limits on the south to the Kern County line (see HCA-3). Within Los Angeles County, the best

habitat lies between Avenue C and Avenue A. The recommended area totals approximately 3,500 acres.

- (P-5) **Designate four interim expansion units of the Alkali Mariposa Lily Conservation Area.** These would be located: 1) North of EAFB and south of Highway 58, 2) within the north part of the City of Lancaster and extending north to Rosamond and east to the agricultural lands in Los Angeles County, 3) south of EAFB and east of the agricultural lands in Los Angeles County, and 4) between the base boundary and Sierra Highway in Kern County, extending from the northwest corner of EAFB for two miles south. This location is an extension of large known populations on EAFB. Because of the disturbance and development in this area, an interim designation is recommended until the best sites for conservation are determined. Require botanical surveys within the interim conservation areas and limit development to 1% of the acreage until a permanent conservation area boundary is defined within the interim boundaries. Developments within the interim conservation areas would be required to provide compensation lands in the Alkali Mariposa Lily Conservation Areas at a ratio to be determined by the local jurisdictions. A goal of contiguity of conserved parcels and connectivity with the basins within EAFB applies to the interim conservation areas. The interim conservation areas total 47,620 acres.
- (P-6) Perform a **hydrological study** to determine the most appropriate locations for a permanent conservation area within the lands designated as interim conservation areas. The intent of this research is to maintain the flow from the tributaries to the Rosamond Lake Basin, including Amargosa Creek and Little Rock Creek. Smaller tributaries draining into Rosamond Lake from the west and north should be included. Existing information compiled by Edwards Air Force Base would provide considerable baseline data for a hydrology study outside the base boundaries.
- (P-7) Establish an **Incidental Take Area (ITA)** within the City of Lancaster. No surveys would be required in the ITA. Developments within the ITA would be required to provide compensation lands in the Alkali Mariposa Lily Conservation Area at a ratio to be determined by the City.
- (P-8) Suggest that the consultant's recommended boundaries for the Antelope Valley Significant Ecological Area in Los Angeles County be adopted.

Objective 2. Isolated alkali springs, seeps, and meadows: Acquire Paradise Spring through land exchange or purchase if private owner is willing. Conserve the smaller seeps on BLM lands adjacent to Paradise Spring. Acquire Rabbit Springs or arrange for the conservation of the alkali seep with the private landowner. (See P-2)

(P-9) Lacking willing sellers of Paradise Springs and Rabbit Springs, San Bernardino County would review any proposals for discretionary permits and require avoidance of the rare plant habitat and protection of the water sources supplying the wetland habitat. Proposals for

development, mining, or water extraction near the springs along the Helendale Fault (Box S Springs, Cushenbury Springs and Rabbit Springs) would be reviewed by San Bernardino County for compatibility with protection of the mariposa lilies and the surface water supply. Botanical surveys should be required in these areas, which may support additional rare species of alkali-adapted flora.

2.2.4.10.5 Barstow Woolly Sunflower

Conservation of Barstow woolly sunflower is based on establishment of a core reserve containing the best habitat and most of the known populations outside Edwards Air Force Base (EAFB). The current compatibility of military operations at EAFB with conservation of the Barstow woolly sunflower, as outlined in the EAFB Integrated Resource Management Plan, is recognized but is not part of the analysis of conservation and incidental take considered by Alternative A.

Outside the core reserve, other occurrences would be managed by establishment over time of a secondary reserve northwest of Kramer Junction, acquisition of isolated occurrences within the Fremont-Kramer DWMA, and by site-specific measures applied by BLM to public land users.

In addition, reduction of the existing road network within the DWMA should benefit the Barstow woolly sunflower. The main populations are within the Fremont, Kramer, and Superior subregions for route designation.

Alternative A's grazing program would allow for voluntary retirement of cattle allotments, which is expected to result in the elimination of the Pilot Knob allotment. This would protect sunflower populations near Cuddeback Lake.

Objective 1. Create a core reserve: (P-10) A core reserve would be created by deletion of the existing ACEC, which is an inappropriate size for protection of this plant, and replacing it with a conservation area within the Fremont-Kramer DWMA (see HCA-3). This conservation area would include existing CDFG mitigation lands, the existing ACEC, and additional adjacent public lands. This area totals 36,211 acres.

(P-11) BLM would exchange lands with CDFG so that a contiguous state ownership is achieved. (Ownership in the proposed conservation area is now a checkerboard pattern of state and federal holdings, with a smaller proportion of private lands.)

(P-12) The central portion would be managed by CDFG as an Ecological Reserve, while surrounding lands would consist of conserved public (BLM) lands and private parcels prioritized for acquisition from willing sellers.

Objective 2. Acquire private lands within the DWMA: (P-13) Most of the distribution of this species is conserved within the Fremont-Kramer and Superior-Cronese DWMA's proposed for the desert tortoise. The Implementation Team would identify parcels within the DWMA containing both tortoises and Barstow woolly sunflowers for first priority acquisition. Private lands would be purchased from willing sellers over time using compensation funds. Five general areas are currently identified that meet these criteria: 1) North Harper Lake, 2) Harper Lake Road, 3) Waterman Hills, 4) along the Kramer to Harper Lake transmission line, and 5) additional lands adjacent to the core reserve northeast of Kramer Junction.

Objective 3. Establish a secondary reserve: The only known occurrences outside the proposed DWMA are on private lands west of Kramer Junction. These are between Highway 58 and EAFB, and adjacent to the solar facility north of Highway 58. These two areas also support the west Mojave endemic desert cymopterus. Existing land use is vacant, but includes well fields supplying water to the U. S. Borax Company facilities. This use for wells is compatible with conservation of Barstow woolly sunflower.

(P-14) Secure a conservation easement from landowners in the area so that more permanent protection is achieved.

(P-15) Designate the area west of Kramer Junction that has known occurrences of Barstow woolly sunflower as the North Edwards Conservation Area. This location is an extension of large known populations on EAFB. Because of the existing disturbance, such as the Kern County landfill, and the scattered locations of known occurrences, the boundaries are expected to change based on monitoring and additional botanical surveys. Until permanent boundaries are established, botanical surveys would be required for new projects and the cap on disturbance and mitigation formula for conservation areas would apply. A goal of contiguity of conserved parcels and connectivity with EAFB applies to the North Edwards Conservation Area.

(P-16) The North Edwards Conservation Area totals 14,343 acres, including 1,143 (8%) acres of public (BLM) land and 13,198 (92%) acres of private land. The designation of the two BLM parcels in the Land Tenure Adjustment Project would be changed from "disposal" to "retention." This designation could revert to "disposal" when the final conservation area boundaries are determined.

Objective 4: Site-specific measures: (P-17) Prior to new construction within the utility corridors, surveys for Barstow woolly sunflower populations would be conducted. Newly located and previously known populations would be avoided to the maximum extent practicable. Utilities would narrow the width of the construction zone and utilize existing access roads to the maximum extent practicable.

(P-18) BLM would review Plans of Operation for proposed mines to achieve compatibility between mining and conservation of existing Barstow woolly sunflower sites. Existing populations would be avoided to the maximum extent practicable.

The outlying Coolgardie Mesa occurrences near Willams Well fall within the Coolgardie Mesa Conservation Area. Mineral withdrawals would be initiated for essential habitat of Lane Mountain milkvetch, which overlaps with occurrences of Barstow woolly sunflower.

2.2.4.10.6 Charlotte's Phacelia

Charlotte's phacelia is a West Mojave endemic with a very small distribution, nearly entirely within the planning area. Most of the sites (30 of 37) are under federal and state protection, within ACECs, Wilderness Areas, and Red Rock Canyon State Park.

(P-19) The conservation measures for Charlotte's phacelia are:

- Designate a network of open routes of travel in the El Paso Mountains that minimize parallel routes, hill climbs, and straying off established paths.
- Maintain regional standards of rangeland health in the East Sierra canyons.

Take of Charlotte's phacelia applies to new occurrences that may be detected in the future on private lands and to a potential small loss of plants from vehicle travel in the El Paso Mountains and grazing in the east Sierra Canyons. The limit on incidental take would be 50 acres.

2.2.4.10.7 Crucifixion Thorn

Crucifixion thorn is found within the western Mojave Desert as isolated plants or as disjunct communities of "crucifixion thorn woodland." Two occurrences of single plants are known from private land. Recent acquisition by BLM and The Wildlands Conservancy has placed the remaining occurrences into public ownership. The conservation plan relies on management of the sites where the plants are located and the designation of a new conservation area at Pisgah Crater (Map 2-11). Most known sites are within the Superior-Cronese DWMA established for protection of the desert tortoise. The occupied habitat lies within the Newberry-Rodman and Coyote subregions for route designation.

BLM would establish the Pisgah Crater area as an Area of Critical Environmental Concern (see HCA-3). The existing mining operation at Pisgah Crater would not be restricted by these proposals.

(P-20) Larger populations would be signed to notify campers that firewood harvesting is prohibited.

2.2.4.10.8 Desert Cymopterus

The West Mojave endemic desert cymopterus is found in widely separated locales of sandy soil formed by wind erosion off desert playas. The largest populations are on Edwards Air Force Base. Within the West Mojave Plan area, the plant is known from scattered occurrences west of Kramer Junction, north of Hinkley, near Cuddeback Lake, and in the Superior Valley.

(P-21) Land disturbing projects within suitable habitat (the North Edwards Conservation Area, the Fremont Kramer and Superior Cronese DWMAs) would be required to perform botanical surveys for this species, and if the plant is located, to avoid all occurrences to the maximum extent practicable. Incidental take would be limited to 50 acres.

(HCA-3) The proposed North Edwards Conservation Area would be established for protection of the desert cymopterus (see HCA-3). This location is an extension of known populations on EAFB. Because of the existing disturbance, such as the Kern County landfill, and the scattered locations of known occurrences, the boundaries are expected to change based on monitoring and additional botanical surveys. Until permanent conservation area boundaries are established, botanical surveys would be required for new projects and the cap on new allowable ground disturbance and mitigation formula for conservation areas would apply. A goal of contiguity of conserved parcels and connectivity with EAFB applies to the North Edwards Conservation Area.

(P-22) BLM would maintain rangeland health standards in the Harper Lake allotment.

2.2.4.10.9 Flax-like Monardella

Flax-like monardella is currently known only from isolated occurrences in the Middle Knob area.

(HCA-3) Avoidance of this species would be required for any public or private land ground-disturbing projects in the proposed Middle Knob Conservation Area.

2.2.4.10.10 Kern Buckwheat

Kern buckwheat is a very narrow endemic species with substrate-specific habitat requirements found only in the Middle Knob region of Kern County. Conservation requires avoidance of all occurrences on private lands and restoration and enhancement of habitat on public lands.

The major threat to the occupied habitat is vehicle intrusions. When the clay substrate is wet, deep ruts can be formed that cause long-lasting damage to the surface. Management of the habitat on public lands would involve:

- (HCA-3) Avoidance of this species would be required for any public land ground-

disturbing projects in the proposed Middle Knob Conservation Area.

- (P-24) Construction of vehicle barriers along the main access road where it adjoins occupied habitat.
- (P-25) Fencing on both sides of the road near the Sweet Ridge population. A vehicle turnaround and parking area would be restored so that traffic passes by, rather than on, the buckwheat habitat.
- Establishment of the Middle Knob Conservation Area and ACEC see (HCA-3).

Conservation measures on private lands are:

- (HCA-3) Avoidance of this species would be required for any private land ground-disturbing projects in the proposed Middle Knob Conservation Area.

Take for Kern buckwheat would be limited to very small areas that might be impacted by restoration activities.

2.2.4.10.11 Lane Mountain Milkvetch

This species is very poorly known, and should be conserved by adaptive management once a better understanding is reached of its natural history requirements and distribution.

The conservation strategy for this species is to provide occupied habitat with reserve-level management. Two conservation areas would be designated: the Coolgardie Mesa Conservation Area and the West Paradise Conservation Area (see Map 2-10). The boundaries of the conservation areas, which are in two separate blocks, include all known populations and most of the granitic substrate on which they occur outside the Fort Irwin expansion area. The areas total 14,597 acres. Conservation measures would include the following:

- (P-26) BLM would require botanical surveys prior to issuing any use permits. No permits would be issued which allow take of this species (projects would have to be relocated).
- (P-27) No grazing would be permitted within the conservation area.
- (P-28) Route designation would identify acceptable open routes of travel. Closed routes would have a high priority for obliteration. Fencing of the approved routes would be installed as necessary, with signs advising the public that the area is closed to vehicle travel because of endangered species conservation.

- (P-29) All private lands within the West Paradise Conservation Area and occupied habitat within the Coolgardie Mesa Conservation Area would be acquired, to the extent feasible and from willing sellers only.
- (P-30) Lands within the conservation areas would be withdrawn from mineral entry. Claimholders with valid existing rights will be compensated.
- (P-31) The Management Plan for the Rainbow Basin Natural Area would be revised to incorporate specific measures that protect the Lane Mountain milkvetch. (See Appendix D on ACEC changes.) These measures include closing specified routes of travel, a small mineral withdrawal, and adding protection of the Lane Mountain milkvetch as a goal of the management plan.
- (P-32) Claimholders should be notified of the presence of endangered plants. Restrictions on casual use that involves ground disturbance within the Coolgardie Mesa Conservation Area would be developed as necessary.

2.2.4.10.12 Little San Bernardino Mountains Gilia

Conservation of this relatively unknown species is based on 1) limitation of take until additional information on distribution and habitat preferences is developed, 2) restrictions on disturbance within 100' of the banks of desert washes within the range, and 3) planning for flood control without channelization of the stream courses.

(P-33) Designate a Special Review Area, which would be in two parts. The first would be between Highway 62 and the northern boundary of Joshua Tree National Park from the west edge of the City of Twentynine Palms to the community of Joshua Tree west of Park Avenue. The second Gilia area would be the same area as that prescribed for the desert tortoise, called the Copper Mountain Mesa SRA. The City of Twentynine Palms and the Town of Yucca Valley are outside the proposed special review area.

Within the SRA, applicants for discretionary development within 100' of existing stream channels would be required to protect the integrity of the stream channels. The existing hydrology should be maintained 1/4 mile away from Highway 62. Road crossings of washes should be at grade (Arizona crossings) instead of fill and culverts. San Bernardino County would require setbacks of 100' from the outer banks of washes within the species habitat and seek to avoid take of existing known populations. Flood control and conservation easements would be established on private lands containing this species. San Bernardino County Flood Control would utilize floodplain management rather than structural alternatives for flood control in washes supporting this species.

The standard for avoidance within the stream channel edges means that habitat compensation would not normally be required. Only in those cases where avoidance is proven to be infeasible, such as for reasons of public safety, would mitigation (habitat compensation) be

chosen over minimization (avoidance and establishment of easements). In that case, the compensation ratio would be 5:1.

Incidental take would generally be limited to areas greater than 100' from washes occupied by the species and not exceeding 50 acres.

(P-34) Channelization of upper Big Morongo Creek, Little Morongo Creek, and Dry Morongo Creek northwest of Highway 62 would be prohibited in order to maintain fluvial processes supporting occurrences in the Coachella Valley. Improvements (e.g. culverts) within 1/4 mile of Highway 62 in these washes would be allowed.

(P-35) BLM would pursue land exchanges to acquire known sites near JTNP. BLM would retain scattered public lands south of Joshua Tree bordering Joshua Tree National Park and change the multiple use class from Unclassified to M..

2.2.4.10.13 Mojave Monkeyflower

Conservation of Mojave monkeyflower is based on establishment of two core reserves that include the majority of the known populations. These reserves would become Areas of Critical Environmental Concern on BLM managed lands in the Brisbane Valley and west of the Newberry Mountains (see HCA-3).

Objective 1. Brisbane Valley Unit: BLM would retain 16.5 sections of public land, comprising approximately 10,633 acres, between the Mojave River and Interstate 15. This two-mile wide by seven mile long area would become one core reserve for the Mojave monkeyflower and would be designated an ACEC. Private inholdings within the conservation area would not be affected. Existing and proposed mining on these inholdings could continue under existing requirements of the local jurisdiction. Prescriptions specified in the ACEC Plan would include designation of routes of travel, retention of public lands for conservation, and mitigation and monitoring procedures. Ground disturbing activities in the conservation area would provide mitigation at a 5:1 fee amount ratio. . Sheep grazing would be discontinued in the Conservation Area (LG-25).

(P-36) The ACEC lands would be removed from the land base available for exchange in the Land Tenure Adjustment program.

(P-37) To address uncertainty about the configuration of the conservation area, a “survey incentive” area would be established on all sides of the conservation area and would include all of the mining area. Within the “survey incentive” area, the following mitigation prescriptions would apply:

1. All ground disturbing activities where the applicant does not perform a botanical survey to determine the presence or absence of the Mojave monkeyflower would be required to provide mitigation at a 2:1 fee amount ratio.

2. Applicants who perform a botanical survey and do not detect the Mojave monkeyflower would provide mitigation at the planwide fee amount ratios (1:1 for undisturbed lands).
3. If the botanical survey detects Mojave monkeyflower and the ground disturbing activities would avoid the plants, no additional mitigation would be required.
4. If the botanical survey detects Mojave monkeyflower and the plants are to be eliminated, mitigation would be provided at a 2:1 fee amount ratio. This ratio would only be applied to the acreage of occupied habitat. San Bernardino County would make a determination of what constitutes a significant population requiring this ratio, and would determine or approve the occupied acreage where the ratio is applied.
5. No Mojave monkeyflower surveys would be required on 0.5:1 compensation lands, which reflect existing disturbance. Maps of 0.5:1 and undisturbed lands would be established prior to Plan approval, and would apply to the entire range of Mojave monkeyflower.

Botanical surveys must be performed in a year of sufficient rainfall so that the Mojave monkeyflower is evident and identifiable. Surveys should include inspection of known reference sites to determine the detectability of this species. The California Native Plant Society has prepared Botanical Survey Guidelines, which have been adopted by CDFG for projects undergoing CEQA review (CDFG, 2000). Use of these guidelines is recommended.

Mining Area: (P-38) In order to accommodate the unique operations of the mining industry, a mining area has been illustrated in the southern Brisbane Valley near Oro Grande. The mining area encompasses 9,358 acres, of which 62% (5,792 acres) is private land and 38% (3,566 acres) is public land. Mineral production from this area has a substantial economic benefit to residents of the western Mojave Desert and supplies essential materials to a wide market in southern California and beyond.

In the mining area, all existing Plans of Operation and SMRA Reclamation Plans are not subject to additional mitigation. Any discretionary permit involving minor modification or variances within a Plan of Operations or Reclamation Plan which does not affect additional lands with additional disturbance outside the originally permitted area would be exempt from new mitigation for the Mojave monkeyflower. Renewals of permits at the termination of the SMRA permit are exempt from mitigation if they do not involve additional lands with additional disturbance.

At the discretion of the mining industry, a mitigation or conservation bank can be established in the mining area. After botanical surveys are completed, any landowner or group of landowners can designate a reserve containing substantial numbers of Mojave monkeyflowers within the mining area and receive credits for the conservation achieved. The terms of the

compensation for the credits would be private and determined by the affected parties. The initial assignment of credits (such as one unit of credit per acre of occupied monkeyflower habitat) and the accounting of incidental take and credits applied to different projects would be reported to and approved by the Implementation Team and the wildlife agencies.

The mining industry can submit a proposal to the Implementation Team for conservation of the Mojave monkeyflower in the mining area as a whole and obtain approval as the ultimate and final requirements for conservation of this species in the mining area. The conserved lands would meet equivalent protective standards as those in the Brisbane Valley unit or could be an addition to the Brisbane Valley unit.

Objective 2. Daggett Ridge Unit: A second unit would include known occurrences west of the Newberry Mountains Wilderness near Daggett Ridge. Within this area of 36,424 acres, 27% (9,831 acres) of the land is private, 71% (25,997 acres) is BLM, and 2% (596 acres) is state-owned. The BLM managed lands would be designated an Area of Critical Environmental Concern. These lands are within the proposed Newberry-Rodman Desert Wildlife Management Area established for the protection of the desert tortoise.

(P-39) Within this area, BLM would designate routes of travel with the goal of eliminating routes within washes, unnecessary parallel routes, and routes bisecting populations of Mojave monkeyflower. This network is contained within the Newberry-Rodman and Ord Mountains route designation subregions.

(P-40) Additional private lands would be acquired west of the Newberry Mountains as funds become available.

Objective 3. Site-specific management: The Waterman Hills occurrences are within a proposed DWMA. The 1% cap on developments within the DWMA, along with route designation and other measures to protect the desert tortoise, would also protect the Mojave monkeyflower.

(P-41) Proponents for development within one mile of the Waterman Hills occurrences would conduct surveys for Mojave monkeyflower to determine potential impacts to this species. Avoidance measures would be formulated on a case-by-case basis. Because the Waterman Hills population area contains desert tortoise, Barstow woolly sunflower, and Mojave monkeyflower, this area would receive a high priority for acquisition of private land within the Superior-Cronese DWMA.

Utility Corridor O traverses the western edge of the Brisbane Valley. Utility Corridor D, the Boulder Corridor, traverses the southeast edge of the Brisbane Valley unit and bisects the eastern part of the conservation area near Daggett Ridge.

(P-42) New utility projects, including proposals for wind energy development or communications sites, within the conservation areas would be required to perform botanical

surveys and avoid existing populations to the maximum extent practicable. If avoidance is not feasible, mitigation must be provided at the 5:1 ratio for the area of new ground disturbance within the conservation area. The Implementation Team would determine if construction monitoring is necessary for new utility projects and prescribe monitoring requirements.

2.2.4.10.14 Mojave Tarplant

The known extant populations of Mojave tarplant within the western Mojave Desert are found in remote, protected locations and face no immediate threats. This plant is relatively unknown, so there is some likelihood that new occurrences would be detected. The conservation strategy is based on maintenance of existing protections and monitoring and adaptive management.

(P-44) Maintain the cattle guards and fencing at Short Canyon.

(P-45) Revise the ACEC Plan for Short Canyon to specify protection of Mojave tarplant as a goal of the plan. In addition, monitoring measures would be added to the Plan (see M-56).

(P-46) Perform an initial (within two years of Plan adoption) census estimating numbers and acreage of occupied habitat of at Short Canyon and Owens Peak to provide a baseline.

Take is proposed only for new locations where Mojave tarplant might be detected on private lands. A cap on the level of incidental take of 50 acres would be imposed and the permit authority would cease when the cap is reached. Proposed incidental take on private lands must not eliminate more than 50% of the occupied habitat, with the remainder dedicated to conservation.

2.2.4.10.15 Ninemile Canyon Phacelia

This plant is a West Mojave endemic with a very restricted range. It is found primarily on public lands.

Take is proposed only for new locations where Ninemile Canyon phacelia might be detected on private lands. A cap on the level of incidental take of 50 acres of occupied habitat would be imposed and the permit authority would cease when the cap is reached. Proposed incidental take on private lands must not eliminate more than 50% of the occupied habitat, with the remainder dedicated to conservation.

2.2.4.10.16 Parish's Phacelia

Designate a Parish's Phacelia Conservation Area (see HCA-3). The boundaries of this region correspond to the limits of the known distribution and the land between the playas. Ownership is 386 acres (43%) of private and 512 acres (57%) of public land. Incidental take would be limited to 50 acres of occupied habitat. Within the conservation area, the following

prescriptions would apply:

- (HCA-3) The occupied habitat on private land within the conservation area (149 acres) would be acquired, assuming a willing seller.
- (P-48) San Bernardino County would insure that projects proposed on the dry lakes with occupied habitat for this species avoid and minimize take of this species to the maximum extent practicable.
- (HCA-3) Vehicle traffic would be prohibited on the playas. BLM would designate these dry lakes as closed to motor vehicle traffic and would place signs at the edge of the playas.
- (P-50) BLM would insure that new utilities using this portion of Corridors D and Q site facilities to avoid the known populations or require restoration of the playa habitat. Construction stipulations that have been effective in the past include stockpiling of the top six inches of soil in a manner where it is not subject to wind erosion, followed by respreading of this soil over the disturbed right-of-way.

2.2.4.10.17 Red Rock Poppy

Red Rock poppy is a narrow endemic plant found in the El Paso Mountains, with one reported outlier northeast of Red Mountain. The species is protected within Red Rock Canyon State Park. Within the BLM-managed lands in the El Paso Mountains, no significant threats are present. The conservation strategy for this species consists of designating a network of open routes of travel that minimize parallel routes, hill climbs, and straying off established paths.

Incidental take of Red Rock poppy would apply only to newly-detected populations found on private land. Take would be limited to 50 acres of occupied habitat.

2.2.4.10.18 Red Rock Tarplant

Like the Red Rock poppy, the Red Rock tarplant is a narrow endemic plant found in the El Paso Mountains. The species is protected within Red Rock Canyon State Park. Within the BLM-managed lands in the El Paso Mountains, no significant threats are present. The conservation strategy for this species consists of designating a network of open routes of travel that minimize parallel routes, hill climbs, and straying off established paths.

Incidental take of Red Rock tarplant would apply only to newly detected populations found on private land. Take would be limited to 50 acres of occupied habitat.

2.2.4.10.19 Reveal's Buckwheat

Botanists have reported a disjunct occurrence of Reveal's buckwheat on private land in the Jawbone Butterbrecht ACEC, and additional locations could be detected in the future.

(P-51) Conservation of this species would be by avoidance of impacts at the known location, followed by monitoring and adaptive management. If additional botanical surveys better define the distribution of this species in the Jawbone Canyon area, a site-specific conservation plan would be developed. This could include posting signs to discourage off-road vehicle travel or placement of fences to keep out livestock.

2.2.4.10.20 Short-joint Beavertail Cactus

All known occurrences of the short-joint beavertail cactus are on private land in the San Gabriel Mountains foothills between Palmdale and the Cajon Pass. Existing rural housing in the Phelan and Oak Hills areas fragments habitat within San Bernardino County.

Conservation for short-joint beavertail cactus consists of designation of the Big Rock Creek Conservation Area, where a substantial unfragmented population can be protected (see HCA-3). Additional lands within existing Significant Ecological Areas would be conserved by the zoning limitations and development review process established by Los Angeles County. The SEA boundaries may change in the future, providing additional protection to this species.

(P-52) San Bernardino County would review land division and development proposals in the Oak Hills area to insure minimization of impacts to short-joint beavertail cactus habitat.

(B-9) BLM would remove scattered parcels within existing SEAs containing suitable and occupied habitat from the LTA Program disposal zone and change the multiple use class from Unclassified to M. BLM would implement these same measures for parcels outside the SEAs in the San Gabriel Mountains foothills.

Take would be allowed on private lands in all areas away from the designated washes, outside the Significant Ecological Areas and the Big Rock Creek Conservation Area, and within the Palmdale city limits.

2.2.4.10.21 Triple-ribbed Milkvetch

Triple-ribbed milkvetch occurs in the Morongo Valley region, extending to the San Bernardino Mountains and Little San Bernardino Mountains into the Coachella Valley where it borders the boundary of the West Mojave Plan. This species is so rare that no take is anticipated, with the possible exception of improvements to Highway 62 along the grade between Desert Hot Springs and Morongo Valley.

(P-53) BLM would protect this plant by requiring avoidance of all known locations on public lands. San Bernardino County Flood Control District would limit improvements to Big Morongo Creek and Dry Morongo Creek to areas within ¼ mile of Highway 62.

(P-54) Botanical surveys would be required for ground-disturbing projects on private lands located within five miles of existing known locations for this species. Proposed projects on private land where this plant is detected would be required to avoid the occupied habitat. These parcels would be identified as priorities for acquisition.

2.2.4.10.22 White-margined Beardtongue

This species is a disjunct with a very limited range within California, all within the West Mojave. Incidental take would be limited to 50 acres of occupied and potential habitat.

(P-55) Acquire one private parcel where this plant occurs within the proposed Pisgah Crater ACEC if feasible.

Designate the Pisgah Crater area as an ACEC (see HCA-3, Map 2-11). Designate routes within the ACEC as open or closed and restore or block routes to be closed. Change the multiple use class from M to L.

2.2.5 Public Land Livestock Grazing Program

This program identifies conservation prescriptions to be implemented on public land within cattle and sheep allotments managed by the BLM in the West Mojave planning area. Where current management differs from that given in Alternative A, the alternative would prevail, and be authorized through amendments to the CDCA Plan. These prescriptions would become effective at the time the BLM's Record of Decision for the West Mojave Plan is signed ("plan adoption"). This section lists existing BLM Standards and Guidelines, terms and conditions of existing federal biological opinions, and new management prescriptions that would be implemented with plan adoption. The discussion is organized as follows:

- Regional Public Land Health Standards and Guidelines for Grazing Management
- Utilization of Key Perennial Species by Livestock
- Cattle Grazing Outside Tortoise Habitat and the MGS Conservation Area
- Cattle Grazing Within Tortoise Habitat and the MGS Conservation Area
- Cattle Grazing Within Desert Wildlife Management Areas
- Sheep Grazing Within All Allotments
- Sheep Grazing Within the MGS Conservation Area and the Mojave monkeyflower Conservation Area
- Sheep Grazing Within DWMA's
- Voluntary Relinquishment of Cattle and Sheep Allotments

2.2.5.1 Regional Public Land Health Standards and Guidelines for Grazing Management

Regional Public Land Health Standards and Guidelines regulate cattle and sheep grazing on BLM-administered lands. Standards and Guidelines are listed and described below.

BLM's grazing regulations in Part 43 CFR 4180 require that State Directors, in consultation with Resource Advisory Councils, develop Standards of Rangeland Health and Guidelines for Grazing management. The grazing regulations require that standards be in conformance with the "Fundamentals of Rangeland Health" (BLM policy developed in 1993) and that the standards and guidelines address each of the "guiding principles" as defined in the regulations. Standards and guidelines are to be incorporated into BLM's land use plans to improve ecological conditions. Improving ecological conditions is based upon attainment and maintenance of basic fundamentals for healthy systems. Standards and guidelines are defined as follows:

- A *Standard* is an expression of the level of physical and biological condition or degree of function required for healthy, sustainable rangelands.
- *Guidelines* for grazing management are the types of grazing management activities and practices determined to be appropriate to ensure that the standards can be met or significant progress can be made toward meeting standards.

Regional Standards apply to all BLM lands and programs, while the *Regional Guidelines* presented below apply only to livestock grazing. BLM staff, in consultation with the BLM's California Desert District Advisory Council, has developed the regional standards and guidelines to satisfy the requirements of BLM's strategic plan, comply with the fundamentals of rangeland health, and address each of the guiding principles as required by the grazing regulations. The development of guidelines for grazing management addresses each of the guiding principles as well.

While the definition and adoption of standards and guidelines applies specifically and only to BLM lands, the spirit of initiative is reflected throughout the West Mojave planning area in developing the strategic approach to managing species and habitats.

Required Actions on Grazing Leases: Standards and grazing management guidelines apply to grazing related portions of activity plans, terms and conditions of permits, leases, and other authorizations, and range improvement activities such as vegetation manipulation, fence construction and development of water. For lands leased for grazing uses, the grazing regulations require the authorized officer to "take appropriate action" prior to the beginning of the next grazing season when standards or guidelines are not achieved and livestock grazing has been determined to be a significant factor in the failure to achieve the standard or comply with the guideline.

Application of Standards in Land Use Planning: Regional Standards of Public Land Health would be applied to all resources and uses of the public lands in the following manner:

- *Public Land Health Standards.* A single set of Public Land Health Standards would be applied desert-wide and to all resources and uses. Standards have their foundation in the physical and biological laws of nature. These laws are consistent regardless of the resource or use.
- *Assessment of Public Land Health.* The health of public lands and resources would be assessed using the Standards as the measurement of desired function.
- *Assessment Scale.* The health of public lands would be assessed on a landscape/watershed scale. While it may be useful and necessary to examine certain environmental components on a smaller scale, or at various scales, it is intended that overall Public Land Health be made at a landscape or watershed scale.
- *Health Determination.* Since Standards are a statement of goals for physical and biological function, determinations would be based strictly on the result of resource assessments and be independent of the uses on the public land.
- *Resource Objectives.* Resource management objectives are decisions made in consideration of resource values and capabilities and use needs through land use and activity plans. Public Land Health would be used to determine if resource management objectives are being met. In some cases, particularly where intensive land uses are allowed, resource management objectives could be met while the Public Land Health determination may indicate non-conformance with the Standards.
- *Causal factors.* Where public land health assessments indicate that resource management objectives are not being met, a determination would be made as to the causal factors.
- *Action/Adaptive Management.* Where public land health does not conform to resource management objectives, appropriate action - including changes to land use or activity plans - would be initiated using existing regulatory authorities for each authorized activity. In the case of livestock grazing the regulations require that the authorized officer “take appropriate action” prior to the beginning of the next grazing season when standards or guidelines are not achieved and livestock grazing has been determined to be a significant factor in the failure to achieve the standard or comply with the guideline.

Application of Standards in NEPA Analysis: Analyses of resources and issues guided by Standards would help NEPA review of projects. Consideration of standards should improve identification and analyses of:

- Relevant resource conditions and ecosystem functions
- Actions in terms of affects on resources and ecosystem functions
- The relationship of biological and physical resources and functions
- The most important resources and functions

- Project design and mitigation
- Cumulative effects
- Short-term and long-term affects
- Project compliance

Goals and Objectives of Standards and Guidelines: Table 2-16 presents the goals and objectives of standards and guidelines.

**Table 2-16
Goals and Objectives of Standards and Guidelines**

GOALS AND OBJECTIVES	
Goals	Develop Standards that would meet or exceed the National policy for: <ul style="list-style-type: none"> • Watersheds • Ecological processes • Water quality • Habitats Develop Guidelines to meet National policy and the grazing regulations.
Objectives	Implement Standards as directed by National policy and grazing regulations. Implement Guidelines to conform grazing activities to achieve Standards.

Objective A -- Implement Standards: Manage all activities under the following Regional Standards of Public Land Health.

Soils. Soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, geology, landform, and past uses. Adequate infiltration and permeability of soils allow accumulation of soil moisture necessary for optimal plant growth and vigor, and provide a stable watershed, as indicated by:

- Canopy and ground cover are appropriate for the site;
- There is diversity of plant species with a variety of root depths;
- Litter and soil organic matter are present at suitable sites;
- Microbiotic soil crusts are maintained and in place;
- Evidence of wind or water erosion does not exceed natural rates for the site; and
- Hydrologic and nutrient functions maintained by permeability of soil and water infiltration are appropriate for precipitation.

Native Species. Healthy, productive and diverse habitats for native species, including special status species (Federal T&E, Federally proposed, Federal candidates, BLM sensitive, or California State T&E, and CDD UPAs) are maintained in places of natural occurrence. As indicated by:

- Photosynthetic and ecological processes continue at levels suitable for the site, season, and precipitation regimes;
- Plant vigor, nutrient cycle, and energy flow are maintaining desirable plants and ensuring

reproduction and recruitment;

- Plant communities are producing sufficient litter;
- Age class distribution of plants and animals are sufficient to overcome mortality fluctuations;
- Distribution and cover of plant species and their habitats allow for reproduction and recovery from localized catastrophic events;
- Alien and noxious plants and wildlife do not exceed acceptable levels;
- Appropriate natural disturbances are evident; and
- Populations and their habitats are sufficiently distributed and healthy to prevent the need for listing special status species.

Riparian/Wetland and Stream Function. Wetland systems associated with subsurface, running, and standing water function properly and have the ability to recover from major disturbances. Hydrologic conditions are maintained. As indicated by:

- Vegetative cover would adequately protect banks, and dissipate energy during peak water flows;
- Dominant vegetation is an appropriate mixture of vigorous riparian species;
- Recruitment of preferred species is adequate to sustain the plant community;
- Stable soils store and release water slowly;
- Plant species present indicate soil moisture characteristics are being maintained;
- There is minimal cover of invader/shallow-rooted species, and they are not displacing deep-rooted native species;
- Maintain shading of stream courses and water sources for riparian dependent species;
- Stream is in balance with water and sediment being supplied by the watershed;
- Stream channel size and meander is appropriate for soils, geology, and landscape; and
- Adequate organic matter (litter and standing dead plant material) is present to protect the site and to replenish soil nutrients through decomposition.

*Water Quality.*² Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the California State Standards, as indicated by:

- The following do not exceed the applicable requirements: chemical constituents, water

²Management Objective: For water bodies, the primary objective is to maintain the existing quality and beneficial uses of water, protect them where they are threatened (and livestock grazing activities are a contributing factor), and restore them where they are currently degraded (and livestock grazing activities are contributing factor). This objective is of even higher priority in the following situations:

- i. Where beneficial uses of water bodies have been listed as threatened or impaired pursuant to Section 303(d) of the Federal Clean Water Act;
- ii. Where aquatic habitat is present or has been present for Federal threatened or endangered, candidate, and other special status species dependent on water resources; and,
- iii. In designated water resource sensitive areas such as riparian and wetland areas.

temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen;

- Achievement of the Standards for riparian, wetlands, and water bodies;
- Aquatic organisms and plants (e.g., macro invertebrates, fish, algae, and plants) indicate support for beneficial uses; and
- Monitoring results or other data that show water quality is meeting the Standard.

Objective B – Conform Grazing Activities: Manage grazing activities with the following regional guidelines.

1. Facilities shall be located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland functions.
2. The development of springs and seeps or other projects affecting water and associated resources would be designed to protect the ecological functions and processes of those sites.
3. Grazing activities at an existing range improvement that conflict with achieving proper functioning conditions (PFC) and resource objectives for wetland systems (lentic, lotic, springs, adits, and seeps) shall be modified so PFC and resource objectives can be met, and incompatible projects shall be modified to bring into compliance. The BLM would consult, cooperate, and coordinate with affected interest and livestock producers(s) prior to authorizing modification of existing projects and initiation of new projects. New range improvement facilities shall be located away from wetland systems if they conflict with achieving or maintaining PFC and resource objectives.
4. Supplements shall be located a sufficient distance away from wetland systems so they do not conflict with maintaining riparian wetland functions.
5. Management practices shall maintain or promote perennial stream channel morphology (e.g., gradient, width/depth ration, channel roughness, and sinuosity) and functions that are appropriate to climate and landform.
6. Grazing management practices shall meet State and Federal water quality Standards. Where impoundments (stock ponds) and having a sustained discharge yield of less than 200 gallons per day to surface or groundwater are excepted from meeting State drinking water Standards per SWRCB Resolution Number 88-63.
7. In the California Desert Conservation Area all wildfires in grazing allotments shall be suppressed. However, to restore degraded habitats infested with invasive weeds (e.g., tamarisk) prescribed burning may be utilized as a tool for restoration. Prescribed burns may be used as a management tool where fire is a natural part of the regime.
8. In years when weather results in extraordinary conditions seed germination, seedling

establishment and native plant species growth shall be allowed by modifying grazing use.

9. Grazing on designated ephemeral rangeland shall be allowed only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.
10. During prolonged drought, range stocking shall be reduced to achieve resource objectives and /or prescribed perennial forage utilization. Livestock utilization of key perennial species on year-long allotments shall be checked about March 1 when the Palmer Severity Drought Index/Standardized Precipitation Index indicate dry conditions are expected to continue.
11. Through the assessment process or monitoring efforts, the extent of invasive and/or exotic plants and animals shall be recorded and evaluated for future control measures. Methods and prescriptions shall be implemented, and an evaluation would be completed to ascertain future control measures.
12. Restore, maintain or enhance habitats to assist in the recovery of federally listed threatened and endangered species. Restore, maintain or enhance habitats of special status species including federally proposed, Federal candidates, BLM sensitive, or California State T&E to promote their conservation.
13. Grazing activities shall support biological diversity across the landscape and native species and micro biotic crusts are to be maintained.
14. Experimental research efforts shall be encouraged to provide answers to grazing management and related resource concerns through cooperative and collaborative efforts with outside agencies, groups, and entities.

Utilization of Key Perennial Species by Livestock: The following prescription would be adopted to govern utilization of key perennial species by livestock:

- (LG-1) Based on Holechek's (et al., 1998) work or the best scientific information available, livestock utilization level of key perennial species in the Mojave Desert range type would not exceed 40 percent on ranges that are grazed during the dormant season and are meeting Standards. Rangelands that are grazed during the active growing season and are meeting Standards shall not exceed 25 percent utilization of key species. The utilization range between 25 and 40 percent is for those forage species with a proper use factor that would allow consumption up to and between 25 and 40 percent otherwise lower use limits would prevail. Until modified with current information, utilization of the following general range types as shown in Table 2-17 shall be prescribed for grazing use.

Table 2-17
Proposed Plan Grazing Guidelines for Range Types

RANGE TYPE	PERCENT OF USE OF KEY PERENNIAL SPECIES	
	POOR – FAIR RANGE CONDITION OR GROWING SEASON	GOOD – EXCELLENT RANGE CONDITION OR DORMANT SEASON
Mojave/Sonoran Desert Scrub	25	40
Salt Desert Shrub land	25	35
Semi desert Grass and Shrub land	30	40
Sagebrush Grassland	30	40
Mountain Shrub land	30	40
Pinyon-Juniper Woodland	30	40

Rangeland in good condition or grazed during the dormant season can withstand the higher utilization level. Rangelands in poor condition or grazed during the active growth season would receive lower utilization levels.

Monitoring of grazing allotments resource conditions would be routinely assessed to determine if Public Land Health Standards are being met. In those areas not meeting one of more Standards, monitoring processes would be established where none exist to monitor indicators of health until the Standard or resource objective has been attained. Livestock trail networks, grazed plants, livestock facilities, and animal waste are expected impacts in all grazing allotments and would be considered during analysis of the assessment and monitoring process. Activity plans for other uses or resources that overlap an allotment could have prescribed resource objectives that may further constrain grazing activities (e.g., ACEC). In an area where a Standard has not been met, the results from monitoring changes to grazing management required to meet Standards would be reviewed annually. During the final phase of the assessment process, the Range Determination includes the schedule for the next assessment of resource conditions. To attain Standards and resource objectives, the best science would be used to determine appropriate grazing management actions. Cooperative funding and assistance from other agencies, individuals, and groups would be sought to collect prescribed monitoring data for indicators of each Standard.

2.2.5.2 Cattle Grazing Outside Tortoise Habitat and the MGS Conservation Area

The following prescriptions would be implemented for all cattle allotments managed by the BLM in the planning area that are not located within either desert tortoise habitat or the Mohave Ground Squirrel Conservation Area. Affected cattle allotments include Double Mountain, Oak Creek, Round Mountain, and Whitewater Canyon³.

- (LG-2) Health assessments would be completed within three years of plan adoption for Double Mountain, Oak Creek, and Round Mountain (which assumes that the Whitewater Canyon allotment would no longer be available for grazing).
- (LG-3) Within six months after completing a Health Assessment for a specific area (i.e., grazing allotment, watershed, etc.), the BLM would use field and office information to make a determination, which would serve as baseline information to develop corrective

³ The Whitewater Canyon Allotment occurs in both the West Mojave planning area and the Coachella Valley Management Plan area. The BLM has addressed this allotment in the Coachella Valley Plan, which identifies voluntary relinquishment to benefit arroyo toad, triple-ribbed milkvetch, and riparian species. No new management prescriptions identified herein would apply to this allotment.

management strategies. Where a determination indicates that standards are not being achieved, new terms and conditions would be identified to achieve standards and conform to guidelines. Although not reiterated below, this same regulatory process would be required following specified time frames given for the health assessments that follow.

The West Mojave Plan's cattle grazing program affects public lands only; it does not address the grazing of cattle on private land.

2.2.5.3 Cattle Grazing Within Tortoise Habitat and the MGS Conservation Area

The livestock grazing management prescriptions listed below would be implemented for all cattle allotments managed by the BLM in the planning area that occur in desert tortoise habitat and within the Mohave Ground Squirrel Conservation Area. Affected cattle allotments include: Cady Mountain, Cronese Lake, Darwin, Hansen Common, Harper Lake, Lacey-Cactus-McCloud, Olancha Common, Ord Mountain, Pilot Knob, Rattlesnake Canyon, Rudnick Common, Tunawee Common, and Walker Pass Common.

Unless otherwise noted, all protective measures identified in Section 2.2.5.3 would be implemented in desert tortoise habitat and the MGS Conservation Area.

2.2.5.3.1 Management under Existing Federal Biological Opinions

In June 2002, the USFWS issued a biological opinion for the CDCA Plan, entitled *Biological Opinion for the California Desert Conservation Area Plan [Desert Tortoise] (1-8-01-F-16)*. The following reasonable and prudent measures, and terms and conditions to implement them, are applicable to the West Mojave planning area.

The USFWS determined that the following *reasonable and prudent measures* are necessary and appropriate to minimize take of the desert tortoise during activities related to grazing:

- The Bureau shall issue annual authorizations for livestock grazing only if the permittee is in full compliance with the terms and conditions of the previous biological opinions on grazing, as modified by the BLM's proposed action.

The BLM must comply with or ensure that any permittee complies with the following *terms and conditions*, which implement the reasonable and prudent measures described above and outline reporting and monitoring requirements. These terms and conditions are non-discretionary:

- The BLM shall prepare an annual report to be delivered to the USFWS by April 15 that addresses the previous grazing year ending February 28. The report shall provide, for each allotment in desert tortoise habitat, a brief summary of: the level of utilization of perennial plants; the actual amount of grazing use (*i.e.*, animal units months); trend data on plant communities in grazed areas; management actions and grazing decisions taken

to adjust grazing use; management actions taken to address conflicts with the desert tortoise; the results of construction and replacement of range facilities; and the circumstances regarding any desert tortoises known to have been injured and killed due to livestock grazing. In addition, any public land health determinations made for grazing allotments shall be attached to the annual report.

- In the cattle allotments in the West Mojave Recovery Unit, if the measures contained in the previously issued biological opinion (1-8-94-F-17), as modified by the proposed action described in this biological opinion, have not been fully implemented, the BLM shall bring the allotment into legal compliance within one month. Alternatively, the BLM shall suspend the permit and remove grazing from the affected area until the allotment is in compliance.
- If an allotment fails to meet the public land health standards based on current livestock use in habitat of the desert tortoise, the BLM shall remove grazing from the affected areas until the public land health standards are met. This grazing decision shall be reviewed by the USFWS through, at a minimum, informal consultation.

The second term and condition references the March 1994 opinion entitled, *Biological Opinion for Cattle Grazing on 25 Allotments in the Mojave Desert, Riverside and San Bernardino Counties, California (1-8-94-F-17)*.

2.2.5.3.2 New Management Prescriptions

The following prescriptions comprise new management that would be implemented through plan adoption.

- (LG-4) The Lacey-Cactus-McCloud allotment boundary would be modified to exclude those portions that occur on China Lake NAWS.
- (LG-4a) The horse designation on the Darwin allotment would be changed to cattle and the allotment would become part of the Lacey-Cactus-McCloud allotment.
- (LG-5) All cattle carcasses would be removed and disposed of in an appropriate manner (i.e., not buried) within two days of being found. Cross-country vehicle travel to remove cattle carcasses must have prior approval from the BLM.
- (LG-6) In all cattle allotments occurring in tortoise habitat outside of DWMA's, ephemeral authorization would only be granted when ephemeral production exceeds 230 pounds per acre.
- (LG-7) All existing cattle guards in desert tortoise habitat would be modified within three years of plan adoption to prevent entrapment of desert tortoises. New cattle guards would be designed and installed to prevent entrapment.

- (LG-8) Any hazards to desert tortoises that may be created, such as auger holes and trenches, would be eliminated before the rancher, contractor, or work crew leaves the site.

2.2.5.3.3 Health Assessments

(LG-9) Health assessments would be completed within two years of plan adoption for the following cattle allotments: Cady Mountain, Hansen Common, Lacey-Cactus-McCloud, Olanca Common, Rattlesnake Canyon, Rudnick Common, Tunawee Common, and Walker Pass Common.

2.2.5.4 Cattle Grazing Within DWMA's

The livestock grazing management prescriptions listed below would be implemented for all cattle allotments managed by the BLM in the planning area that are located within tortoise DWMA's. Unless otherwise noted, all prescriptions identified in Sections 2.2.5.3 and 2.2.5.4 would also be implemented in DWMA's. Affected cattle allotments include Cronese Lake, Harper Lake, Ord Mountain, Pilot Knob and Valley Well.

2.2.5.4.1 New Management Prescriptions

The following prescriptions comprise new management that would be implemented through plan adoption.

- (LG-10) No ephemeral authorizations would occur in DWMA's. As such, the Pilot Knob Allotment would no longer be available for cattle grazing.
- (LG-11) Issuance of temporary non-renewable (TNR) grazing permits would be prohibited in DWMA's for all lands below an elevation of 4,500 feet.
- (LG-12) Cattle would be evenly dispersed throughout pastures, and herding would be limited to shipping, animal husbandry practices, or removal of animals from Exclusion Areas.
- (LG-13) For a grazing allotment partially within a DWMA, when ephemeral forage production⁴ is less than 230 pounds per acre, cattle would be substantially removed from portions of the allotment within the DWMA referred to as "Designated Exclusion Areas" (see Map 2-13) from March 15 to June 15.

⁴ The *ephemeral production threshold* should not be confused with *ephemeral authorization*. The 230-pound *ephemeral production threshold* is intended to avoid competition between cattle and tortoises in years of poor rainfall and plant growth. *Ephemeral authorization* is different, in that it allows the lessee to increase the stocking rate during years when ephemeral plant growth is abundant. Whereas, ephemeral authorization would allow more cattle to be grazed (only outside DWMA's), the ephemeral production threshold would trigger the removal of cattle from Exclusion Areas (only inside DWMA's).

- (LG-14) Cattle may remain past March 15 in expectation of ephemeral forage production over 230 pounds per acre. If this level of forage is not attained when weather conditions (e.g., warming of the soil) are appropriate, cattle must leave Designated Exclusion Areas until such time as 230 pounds per acre ephemeral forage is achieved or June 15, whichever is earlier. This determination would be made based on the evaluation and judgment of the BLM authorized officer. If cattle must be removed, the operator would be given two weeks to remove them from the DWMA.
- (LG-15) Cattle must be substantially removed from the Designated Exclusion Areas by March 15 and remain out until such time as 230 pounds per acre ephemeral forage is achieved or June 15, whichever is earlier.
- (LG-16) The term “substantially removed” recognized that a few individual cattle might wander into the Designated Exclusion Areas despite the operator’s best efforts and regardless of management facilities (e.g., fences, water sources) that are in place.
- (LG-17) The grazing strategy would be developed within a year and implemented within two years of plan adoption. The strategy would be a written plan detailing the area of removal, natural cattle movements, existing and potential improvements, and other constraints of cattle management.

2.2.5.4.2 Health Assessments

(LG-18) Health assessments would be completed within one year of plan adoption for the following allotments: Cronese Lake, Harper Lake, and Ord Mountain allotments⁵.

(LG-19) Conduct a study of tortoise nutritional ecology in relation to livestock grazing, comparable to studies performed in the Ivanpah Valley during the later 1990s. If appropriate, modify grazing program in response to study findings.

⁵ Pilot Knob, which is an ephemeral cattle allotment, is excluded from this list based on the assumption that it would no longer be available for grazing because ephemeral authorizations would no longer occur in DWMA.

[Click here for Map 2-13](#)