

Summary
of
Desert Tortoise Recovery Actions
Western Mojave Recovery Unit

November, 2002

Prepared for:
Desert Managers Group
222 East Main Street
Suite 215
Barstow, CA 92311



DESERT
MANAGERS GROUP

Prepared by:
Redlands Institute
University of Redlands
1200 East Colton Avenue
Duke Hall, Room 211
Redlands, CA 92373

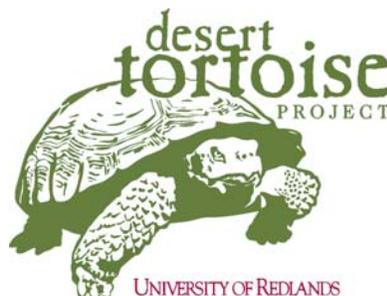


Table of Contents

1. Introduction.....	5
2. Recovery Action Summary.....	6-55
Appendix A: Contact Information.....	58-62
Appendix B: Glossary.....	64-65

List of Figures

Figure 1. Desert Tortoise Recovery Units in the Mojave Desert

Figure 2. Western Mojave Recovery Unit

Recovery Task Summary – Redlands Institute Desert Tortoise Project

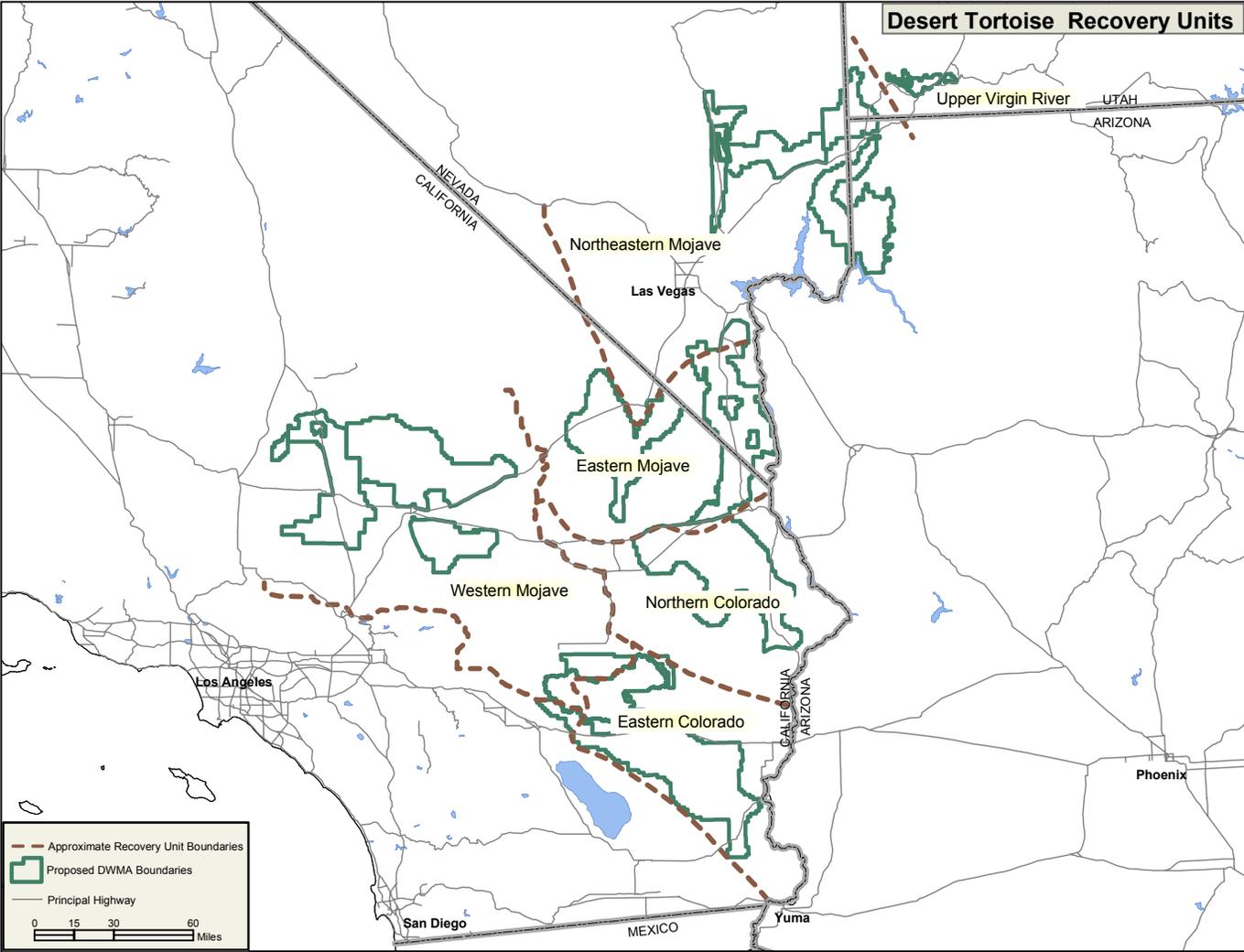


Figure 1. Desert Tortoise Recovery Units in the Mojave Desert

Recovery Task Summary – Redlands Institute Desert Tortoise Project

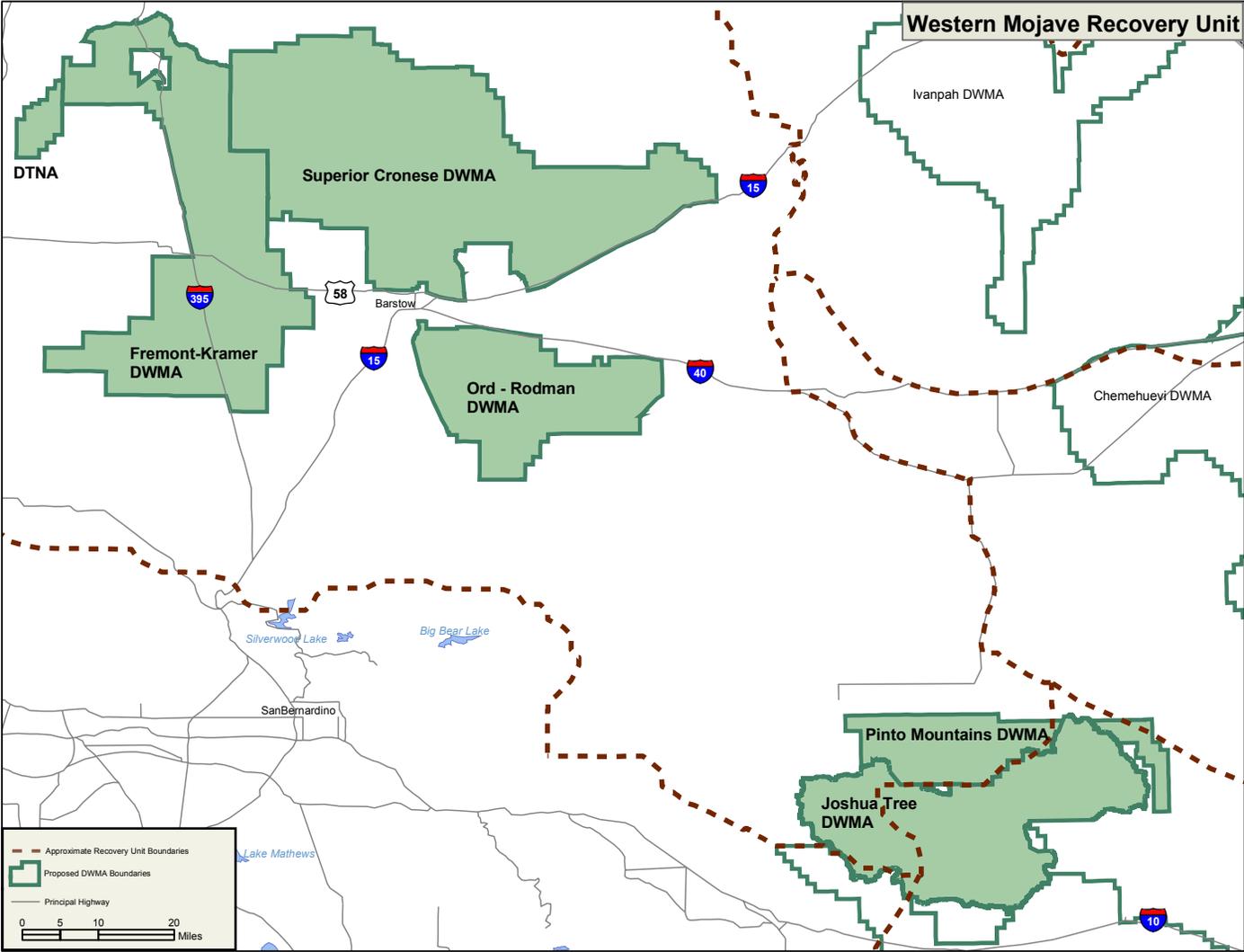


Figure 2. Western Mojave Recovery Unit

Introduction

The following report provides a summary of completed and ongoing recovery, monitoring, and research actions for the desert tortoise, *Gopherus agassizii* in the Western Mojave Recovery Unit. Information is summarized by each of the recovery actions identified in the Desert Tortoise Recovery Plan (USFWS, 1994). Information was obtained from surveys conducted in July 2002 of the land and resource agencies and entities responsible for desert tortoise recovery and management. The information provided within this document was taken directly from the survey responses. Where no answer was provided the corresponding cell was left blank. No attempt has been made to independently verify the accuracy and completeness of the information provided on the surveys. Contact information has been provided for the individuals who completed the questionnaire to aid in the evaluation of the information contained herein.

The information in this report will be used by the Desert Manager Group (DMG) and the Desert Tortoise Management Oversight Group (MOG) to plan and manage an effective and coordinated recovery program for the desert tortoise. The report will be updated annually. Copies of these reports can be obtained from the DMG website at www.dmg.gov/documents.

Comments on the report are welcome and should be sent to:

Phil Medica, Desert Tortoise Coordinator
U.S. Fish and Wildlife Service
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
702-515-5245
phil_medica@fws.gov

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards AFB	DTPC	DTPC-DTNA
Recovery Action				
<p>Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit</p>	<ul style="list-style-type: none"> • In 1976, the Desert Tortoise Natural Area (DTNA) was created as a wildlife preserve, primarily for protection of desert tortoise habitat; it included about 26,000 acres including private inholdings. In 1980 the DTNA was designated an area of critical environmental concern (ACEC). An adjacent area in Fremont Valley of 23,000 acres was designated as the West Rand ACEC primarily for protection of desert tortoise habitat. • In the California Desert Conservation Area Plan of 1980 (see Map 5), desert tortoise crucial habitat was designated for an area of about 700,00 acres of which about 500,000 is in the Fremont-Kramer DWMA vicinity. • In October 1992, the State Director signed the California Statewide Desert Tortoise Management Policy (Statewide Policy) designating a management area of desert tortoise Category I and II habitat including the DTNA and Fremont Valley and extending southward through the Kramer Hills. • In April 1993, the CDCA Plan was amended to include the designations specified in the Statewide Policy. • The West Mojave Plan is currently in development. The plan proposes a Desert Wildlife Management Area of about 494,000 acres (308,900 ac. of public lands). The proposed Fremont-Kramer Desert Wildlife Management Area (DWMA) will be a BLM ACEC and lands will be designated BLM Category I. The Final Plan and EIS are to be released in November 2002. 	<p>NA for Edwards AFB</p>		<p>NA</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer																					
Agency	California BLM	Edwards AFB	DTPC	DTPC-DTNA																		
Recovery Action																						
<p>Secure habitat within desert wildlife management areas</p>	<p>· About 12,000 acres of habitat in the proposed Fremont-Kramer DWMA ACEC have been acquired through purchase using Land and Water Conservation Funds. · About 1,300 acres of habitat in the proposed Fremont-Kramer DWMA ACEC have been acquired through purchase or donation using compensation funds. · About 30,000 acres of habitat in the proposed Fremont-Kramer DWMA ACEC have been acquired through exchange as part of the West Mojave Land Tenure Adjustment Program. · Under the Statewide Tortoise Policy (Guideline 26), “No Category I habitat will be transferred out of public ownership.”</p>	<p>· Desert tortoise critical habitat on the PIRA of Edwards AFB is fenced with 4-strand barb wire to limit access and is patrolled by Security Forces to ensure that the base remains secure and habitat degradation is eliminated from unauthorized use by off base personnel. · Edwards AFB has closed 42 pitfalls (prospect pits, mine shafts, wells, irrigation pipes) in critical habitat in 2000 and 2001 that had the potential of being hazardous to tortoises.</p>	<p>1999: Acquired 20 acres of habitat at the southwest boundary of the Fremont Kramer Critical Habitat Unit.</p>	<p>DTPC Acquisitions Within the DTNA</p> <table border="1"> <thead> <tr> <th>YEAR</th> <th>ACRES</th> </tr> </thead> <tbody> <tr> <td>1994</td> <td>12.13</td> </tr> <tr> <td>1995</td> <td>36.19</td> </tr> <tr> <td>1996</td> <td>16</td> </tr> <tr> <td>1997</td> <td>18.83</td> </tr> <tr> <td>1999</td> <td>2.41</td> </tr> <tr> <td>2001</td> <td>65</td> </tr> <tr> <td>2002</td> <td>25</td> </tr> <tr> <td colspan="2" style="text-align: right;">TOTAL ACRES 175.56</td> </tr> </tbody> </table>	YEAR	ACRES	1994	12.13	1995	36.19	1996	16	1997	18.83	1999	2.41	2001	65	2002	25	TOTAL ACRES 175.56	
YEAR	ACRES																					
1994	12.13																					
1995	36.19																					
1996	16																					
1997	18.83																					
1999	2.41																					
2001	65																					
2002	25																					
TOTAL ACRES 175.56																						

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards AFB	DTPC	DTPC-DTNA
Recovery Action				
<p>Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists</p>	<p>· The proposed Fremont-Kramer DWMA ACEC is near but substantially separated from the proposed Ord-Rodman DWMA ACEC by Interstate Highway 15 and the National Trails Highway (Highway 66). · The proposed Fremont-Kramer DWMA ACEC is contiguous with the proposed Superior-Cronese DWMA ACEC.</p>	<p>· Edwards AFB Integrated Natural Resources Management Plan (INRMP) (AFFTC 2001) identifies areas where corridors could be connected between areas of low and high density tortoise populations based on surveys completed from 1991-1994. · Future programmed projects to include various ways to connect functional habitat (revegetation, close roads, etc).</p>		<p>DTPC Acquisitions Within the DTNA Buffer Zone YEAR ACRES 1996 121.04 1996 conservation easements 238.12 2002 closed 171.32 2002 escrow 667.33 TOTAL ACRES 1197.77</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Number (or miles) of roads closed or rehabilitated</p>	<ul style="list-style-type: none"> · In 1977, all routes in the Desert Tortoise Natural Area were closed except to private land inholders. · In the 65,000-acre Rand Mountains-Fremont Valley Planning Area (including the West Rand ACEC which is entirely critical habitat), route designations were implemented reducing route access by 83 percent. At various times, including the present, the West Rand ACEC of 23,000 acres was entirely closed to vehicle entry. Non-compliance with route closures has been high. · In early 2002, interim route designations were made on all BLM lands in the Fremont-Kramer Critical Habitat Unit. Vehicle travel in this area is restricted to designated open routes. Washes in this area are open for travel only to the extent that a wash is designated as a route. These closures will remain in effect until completion of the West Mojave Plan. · In early 2001, 9,400 acres in the Helendale/Silver Lakes area was closed to vehicle entry on an interim basis to protect tortoise habitat. · In the late 1990's, 125 closed routes were rehabilitated in the Rand Mountains-Fremont Valley Planning Area. In 2001-2, an additional 20 closed routes were rehabilitated. 	<ul style="list-style-type: none"> · Edwards AFB is updating its road closure plan for a funded road closure project to be implemented in FY03 following base coordination. · Edwards AFB is planning additional road closure projects in FY05 and 09. 		<p>NA</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>All competitive and organized events on designated roads</p>	<ul style="list-style-type: none"> · Both the El Mirage OHV Open Area and the Spangler Hills OHV Open Area are contiguous with the proposed Fremont-Kramer DWMA ACEC. The Jawbone-Butterbread OHV Open Area also includes some tortoise habitat, but it is not near the proposed DWMA. · Under the Statewide Tortoise Policy (Guideline 11), “Competitive vehicle events in tortoise habitat will be allowed only within existing off-highway vehicle open (play) areas or on specific courses identified in the CDCA Plan.” · Organized dual-sport motorcycle trail rides are sometimes authorized under a programmatic biological opinion in tortoise habitat throughout the CDCA. All trail rides are on established routes. 	<ul style="list-style-type: none"> · The current mission at Edwards AFB does not allow such events to occur in critical habitat. Events such as Return to Muroc (timing races) and model airplane flying do occur on the dry lakebeds and designated roads are used to access the site. ORV events do occur in designated ORV areas using designated access roads within developed areas of Main Base. 		<p>NA</p>
<p>Prohibit habitat destructive military maneuvers</p>	<ul style="list-style-type: none"> · Habitat destructive military maneuvers have not been authorized in the proposed Fremont-Kramer DWMA ACEC. However, maneuvers could be considered subject to the 1 percent limit on new surface disturbance in the DWMA. With this limitation, it is unlikely that maneuvers would be allowed. 	<ul style="list-style-type: none"> · The current mission at Edwards AFB does not allow military maneuvers to destroy habitat. 		<p>NA</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation</p>	<ul style="list-style-type: none"> · All proposals are currently considered on a case-by-case basis. · Under the Statewide Tortoise Policy (Guideline 20), “Surface disturbing activities in Category I habitats will be restricted to those which cannot be relocated elsewhere.” · Under the Statewide Tortoise Policy (Guideline 21), “Surface disturbance to soil and vegetation will be minimized through mitigation measures in Category I and II habitats.” · Under the Statewide Tortoise Policy (Guideline 24), “Facilities and activities that concentrate visitors will be discouraged in and adjacent to Category I and II habitats.” · BLM policy prohibits landfills on public lands. 	<ul style="list-style-type: none"> · Clearing of land for agricultural purposes does not occur on Edwards AFB. · Clearing of land must go through the AF environmental impact analysis process (EIAP) prior to approval. 		15

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Acres of grazing allotments (sheep and cattle) closed or bought out for conservation</p>	<ul style="list-style-type: none"> · Under the biological opinion on sheep grazing (1991), sheep grazing cannot occur (and has not occurred) in the critical habitat portions of the Cantil Common, Monolith Cantil, Lava Mountain, Gravel Hills, Stoddard Mountain, Buckhorn Canyon, and Shadow Mountains Sheep Allotments. All are in or overlap the proposed Superior-Cronese DWMA ACEC. · The Pilot Knob Cattle Allotment is currently ungrazed with a conservation permittee. In addition, under interim restrictions, the allotment cannot be grazed. The allotment is in the proposed Fremont-Kramer DWMA ACEC. · Sheep grazing occurs in tortoise habitat outside of critical habitat in the Cantil Common, Spangler Hills, Shadow Mountain, and Stoddard Mountain Sheep Allotments and the Rudnick Common and Hansen Common Sheep/Cattle Allotments. · Under interim restrictions, cattle grazing may not occur in tortoise habitat in the Lacy-Cactus-McCloud, Tunawee Common, and Hansen Common Allotments. · Under interim restrictions, cattle grazing cannot occur in tortoise habitat in the Rudnick Common Walker Pass Allotments from March 1 to June 15 and September 7 to November. 	<ul style="list-style-type: none"> · There are no grazing allotments on Edwards AFB. 		<p>NA</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
Number of wild horses and burros removed	<ul style="list-style-type: none"> · Between 1989-2002, 51 burros were removed from the Kramer Herd Area, which is near but outside of the Fremont-Kramer DWMA ACEC but in the Western Mojave Recovery Unit. The target population of 0 for the Herd Area has been achieved. · In 2002, there are no wild horses or burros in or near the proposed Fremont-Kramer DWMA ACEC. 	<ul style="list-style-type: none"> · Edwards AFB removed last 31 burros in 1988. 		NA
Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit	<ul style="list-style-type: none"> · Under the CDCA Plan, harvesting of vegetation and biological specimens is allowed only by permit. 	<ul style="list-style-type: none"> · Edwards AFB does not allow harvesting of vegetation or growing of agricultural crops. · Permits are required for collection of biological specimens. 		NA
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	<ul style="list-style-type: none"> · In 2000 and 2002, illegal dumps were cleaned up at Crevasse (Los Angeles) Fair View Valley Old Mine (San Bernardino County) within the Western Mojave Recovery Unit. 	<ul style="list-style-type: none"> · No illegal dumps have been reported or cleaned up in critical habitat on Edwards AFB. 		NA

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects</p>	<p>· Under the Statewide Tortoise Policy (Guideline 31), “All tortoise relocations will be conducted under experimental controls until adequate information is available to ensure that tortoises can be effectively and humanely relocated. Only wild tortoises will be considered for relocation.” [Local relocations to move tortoises out of harm’s way from a project is not considered a relocation for these purposes.]</p>	<p>· Edwards AFB educates personnel on the deposition of captive and displaced tortoises. · Edwards AFB may relocate tortoises short distances under the terms and conditions of its biological opinions. · Edwards AFB has an approved desert tortoise adoption program that began in 1994. The program was established to prevent captive desert tortoises from being returned to the wild, to prevent taking of wild tortoises and means of tracking captive tortoises. Tortoises are placed with base families and as these families move on, new families assume the responsibility of taking care of the captive tortoises. This also ensures that sick tortoises are not released to the desert.</p>	<p>DTPC has staffed a Naturalist position at the DTNA during the peak visitor season every spring since 1989. The Naturalist provides interpretive and educational services to DTNA visitors, monitors visitors and intervenes when needed. The Naturalist routinely intercepts releases of tortoises and other turtles, and provides educational materials and contact information for the safe deposition/placement of captive tortoises.</p>	

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects</p>		<p>· Edwards AFB is cooperating with the U.S. Army on a translocation project (Desert Tortoise Headstart Project) whereby hatchlings will be monitored for short-term survival. All translocation of tortoises will occur under proper authorization/permits.</p>		
<p>Prohibit uncontrolled dogs out of vehicles</p>	<p>· No restrictions are in place.</p>	<p>· Edwards AFB prohibits uncontrolled dogs out of vehicles via Air Force Instruction (AFI) 31-25, Pet Control, which requires that dogs either be leashed or under voice control. AF Security Forces enforces the requirements of the AFI.</p>		<p>Dogs are prohibited inside the DTNA. The DTPC's Naturalist monitors compliance with the no dog regulation during the peak visitation period.</p>
<p>Restrict establishment of new roads in desert wildlife management areas</p>	<p>· There are no specific restrictions on new roads.</p>	<p>· NA for Edwards AFB</p>		<p>NA</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)</p>	<ul style="list-style-type: none"> · The Desert Tortoise Natural Area of about 26,000 acres was fenced in the late 1970's-early 1980's. The fence is about 35 miles in length. The fence excludes sheep grazing and off-highway vehicle use (except for driving on roads by private land inholders). · An 18-mile fence was constructed in the late mid-1990's along the southern boundary of the Rand Mountains-Fremont Valley Planning Area to restrict vehicle access off roads (from high use areas on private lands) into tortoise critical habitat. 	<ul style="list-style-type: none"> · There are 22.7 miles of desert tortoise exclusion fence in critical habitat on the PIRA to keep tortoises from entering hazardous areas (precision bombing targets) and from crossing well-traveled paved roads. · No culverts have been specifically designed or installed for desert tortoises on Edwards AFB. 		<p>NA</p>
<p>Number of acres or list of re-vegetation projects</p>	<ul style="list-style-type: none"> · None, except for route rehab projects noted above. 	<ul style="list-style-type: none"> · Edwards AFB revegetation past efforts include 155.2 acres in critical habitat. · Edwards AFB plans 3-4 revegetation projects between FY02 and FY09. 		<p>Habitat restoration at site of old toilet block at the Interpretive Center, and ongoing work to camouflage impacts of illegal off-road vehicle activity to habitat along the entrance route into the DTNA.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Sign and fence desert wildlife management areas as needed</p>	<ul style="list-style-type: none"> · The Desert Tortoise Natural Area of about 26,000 acres was fenced in the late 1970's-early 1980's. The fence is about 35 miles in length. The fence excludes sheep grazing and off-highway vehicle use (except for driving on roads by private land inholders). · An 18-mile fence was constructed in the late mid-1990's along the southern boundary of the Rand Mountains-Fremont Valley Planning Area to restrict vehicle access off roads (from high use areas on private lands) into tortoise critical habitat. 	<ul style="list-style-type: none"> · Edwards AFB has fenced and placed signs on its entire borders using four-strand barbwire (including its designated critical habitat). · Edwards AFB installed 48 miles of four-strand barbwire fence in critical habitat. · Edwards AFB installed 22.7 miles of desert tortoise exclusion fence adjacent to three management zones on the PIRA to keep tortoises from entering hazardous bombing target areas and crossing well-traveled paved roads. 		<p>Weekly patrols of the 35 miles of perimeter fence throughout the year by DTPC personnel. Twice yearly work parties to replace lost/stolen/vandalized signs and fences.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Establish environmental education programs and facilities.</p>	<ul style="list-style-type: none"> · The Statewide tortoise Policy (1992) includes a detailed Public Education Program. It includes strategies with a total of 25 actions. Most of these have been implemented and many are on-going. · Since about 1991, the Desert Tortoise Preserve Committee (with support from BLM in the early years) has operated a portable visitor education center at the Desert Tortoise Natural Area in the spring. · The California Desert Information Center was constructed in Barstow in the early 1980's. Information on tortoises conservation is provided at the Center. · Numerous brochures and booklets have been prepared. Among them was Answering Questions about Desert Tortoises: A Guide for People Who Work with the Public in California by K. Berry. 	<ul style="list-style-type: none"> · Edwards AFB ongoing desert tortoise education briefing program for AF project activities and operation and maintenance activities was developed in 1991. Education briefings are presented to base personnel, new incoming personnel, and contractors throughout the year. This education briefing was also a requirement in the base's first biological opinion in 1991. Average number of personnel attending desert tortoise education briefings per month in current calendar year is about 130. · Edwards AFB environmental education program on Mojave Desert ecosystem was developed in 1996. The Environmental Education Program dealing with the Mojave Desert ecosystem has been presented to local schools (grades K-3, 4-7, 8-12) on Base and other schools in the surrounding towns. 		<p>DTPC stocks interpretive brochures and trail maintenance at the DTNA throughout the year. Naturalist provides on site educational and interpretive services to visitors. See chart below for visitation statistics. See below for document.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Establish environmental education programs and facilities.</p>		<p>In addition, environmental education briefings have been presented to various off-Base personnel during Poppy Festival, March of Dimes WalkAmerica, Salute to Youth Event and Earth Day. The education program includes information on sensitive species(especially desert tortoise), live animal demonstrations, mounted specimens and dried plant displays, lectures, questions/answers, discussion, activities, and handouts.</p> <ul style="list-style-type: none"> · Edwards AFB wildlife and nature tours and ecosystem topics are presented at Piute Ponds. Branch Pond Park, and geologic formations (yardangs). · Wildlife tours and ecosystem topics. 		

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Monitor desert tortoise populations within recovery units</p>	<ul style="list-style-type: none"> · The Fremont Valley Permanent Study Plot is in the proposed Fremont-Kramer DWMA ACEC. The plot was surveyed in 1979, 1981, 1987, 1991, 1995, and 2001. · The DTNA Section 11 Permanent Study Plot is in the proposed Fremont-Kramer DWMA ACEC. The plot was surveyed in 1979, 1982, 1988, 1992, 1996, and 2002. · The DTNA Interpretive Center Study Plot is in the proposed Fremont-Kramer DWMA ACEC. The plot was surveyed in 1979, 1985, 1989, 1993, and 1997. · The Fremont Peak Permanent Study Plot is in the proposed Fremont-Kramer DWMA ACEC. The plot was surveyed in 1980, 1985, 1989, and 1993. · The Kramer Hills Valley Permanent Study Plot is in the proposed Fremont-Kramer DWMA ACEC. The plot was surveyed in 1980, 1982, 1987, 1991, and 1995. · In the 1970's the BLM conducted surveys on 47 study plots. Fifteen were selected as permanent study plots, each to be surveyed every four years. In 1995, responsibility for these surveys was transferred to the NBS and subsequently USGS. 	<ul style="list-style-type: none"> · In 2001, Edwards AFB supported desert tortoise recovery efforts by completing 113 line distance sampling transects in critical habitat. · In 2002, Edwards AFB funded 50 line distance sampling transects on base in critical habitat. 		<p>Permanent Study Plot surveys: 3 square mile Interpretive Center Permanent Study Plot surveyed in 1997 and 2002.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
<p>Initiate research necessary to monitor and guide recovery efforts</p>	<p>· In 1990, three new research (new total of four) positions were added to address tortoise conservation and management issues in the California Desert. In 1994 all four positions and funding support were transferred to NBS/USGS.</p> <p>· Research in the proposed Fremont-Kramer DWMA ACEC has centered on demographics (permanent study plot data); disease, especially URTD; physiology; effects of fire; exotic plants; effects of highways; highway fencing; predation; and vandalism. Major researchers have included Berry, Nagy, Henen, Jennings, Nicholson, Weinstein, Boarman and Sazaki, and Brooks.</p>	<p>· Beginning in FY02 through FY09, Edwards AFB has programmed 18 projects (based on availability of funds) involving long-term research and monitoring projects of desert tortoise populations, revegetation/habitat enhancement, characterization of habitat, exotic species identification and removal, evaluating species diversity over time, road closures, closure of 75 pitfalls, evaluation of carrying capacity of critical habitat and other habitats, analysis of soil and vegetation samples for presence of toxic metals, determining overall bio-diversity and ecosystem health, and implementing adaptive management practices using the base's 2001 INRMP.</p>		<p>Protective effects of fencing.</p>
<p>Activities associated with predator control</p>	<p>· In 1989, 6-10 ravens were removed by shooting from the Desert Tortoise Natural Area (in the proposed Fremont-Kramer DWMA ACEC) as part of a pilot raven control program.</p> <p>· In 1993-94, 49 ravens were removed, mostly from the Fremont-Kramer DWMA ACEC, as part of an experimental program.</p>	<p>· In 1994, Edwards AFB implemented a management plan to reduce solid waste at the Base landfill. A study was conducted to access the response of common ravens to a reduction in anthropogenic food resources.</p>		<p>Installation, maintenance and replacement of raven-proofing wire on fence posts around the DTNA perimeter every spring and fall.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Fremont-Kramer			
Agency	California BLM	Edwards	DTPC	DTPC-DTNA
Recovery Action				
Limit firearm use to hunting of big game or upland game birds from September through February	In 2001, an interim closure to all shooting except hunting and target practice at printed paper was implemented on all BLM lands in the Fremont-Kramer Critical Habitat Unit.			

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Ord - Rodman
Agency	California BLM
Recovery Action	
<p>Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit</p>	<ul style="list-style-type: none"> · In the California Desert Conservation Area Plan of 1980 (see Map 5), desert tortoise crucial habitat was designated for two areas of about 20,000 acres each in Lucerne Valley and Johnson Valley. A habitat management plan was to be prepared for each area. · In October 1992, the State Director signed the California Statewide Desert Tortoise Management Policy (Statewide Policy) designating a management area of desert tortoise Category II habitat. · In April 1993, the CDCA Plan was amended to include the designations specified in the Statewide Policy. · The West Mojave Plan is currently in development. The plan proposes to designate a Desert Wildlife Management Area of about 248,000 acres (197,000 ac. of public lands). The proposed Ord Desert Wildlife Management Area will be a BLM ACEC and lands will be designated BLM Category I. The Final Plan and EIS are to be released in November 2002.
<p>Secure habitat within desert wildlife management areas</p>	<ul style="list-style-type: none"> · About 21,500 acres of habitat in the proposed Chuckwalla DWMA ACEC have been acquired through purchase using Land and Water Conservation Funds. · Under the Statewide Tortoise Policy (Guideline 26), “No Category I habitat will be transferred out of public ownership.”
<p>Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists</p>	<ul style="list-style-type: none"> · The BLM’s proposed Ord-Rodman DWMA ACEC is separated from the proposed Pinto Mountain DWMA ACEC and the Joshua Tree DWMA to the southeast by approximately 50 miles, including the Marine Corps Air Ground Combat Center (Twentynine Palms), Johnson Valley OHV Open Area, the community of 29 Palms and State Highway 62. · The proposed Ord-Rodman DWMA ACEC is near but substantially separated from the proposed Superior-Cronese DWMA ACEC by two Interstate Highways (15 and 40). · The proposed Ord-Rodman DWMA ACEC is near but substantially separated from the proposed Fremont-Kramer DWMA ACEC by Interstate Highway 15 and the National Trails Highway (Highway 66).

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Ord - Rodman
Agency	California BLM
Recovery Action	
Number (or miles) of roads closed or rehabilitated	<ul style="list-style-type: none"> · In 1994, Congress designated wilderness areas in the CDCA, of which 60,800 acres are in the proposed Ord-Rodman DWMA ACEC. All routes are closed in wilderness. · In 1994, interim route designations were made on all lands in the Ord Pilot Study Area (a portion of the Ord-Rodman Critical Habitat Unit). These closures will remain in effect until completion of the West Mojave Plan. · In early 2002, interim route designations were made on all BLM lands in the Ord-Rodman Critical Habitat Unit outside of the Ord Pilot Study Area. Vehicle travel in this area is restricted to designated open routes. Washes in this area are open for travel only to the extent that a wash is designated as a route. These closures will remain in effect until completion of the West Mojave Plan. · 15 closed routes in the DWMA ACEC have been rehabilitated.
All competitive and organized events on designated roads	<ul style="list-style-type: none"> · Both the Johnson Valley OHV Open Area and the Stoddard Valley OHV Open Area are contiguous with the proposed Ord-Rodman DWMA ACEC. · In the recent past, BLM has authorized use of a racing corridor between the Johnson Valley OHV Open Area and the Stoddard Valley OHV Open Area. This corridor crosses the proposed Ord-Rodman DWMA ACEC. · Use of the 200-mile Johnson Valley-Parker Race Corridor has not been authorized since the 1980's. The Corridor exits the Johnson Valley OHV Open Area on the east side and does not pass through a proposed DWMA. · Under the Statewide Tortoise Policy (Guideline 11), "Competitive vehicle events in tortoise habitat will be allowed only within existing off-highway vehicle open (play) areas or on specific courses identified in the CDCA Plan." · Organized dual-sport motorcycle trail rides are sometimes authorized under a programmatic biological opinion in tortoise habitat throughout the CDCA. All trail rides are on established routes
Prohibit habitat destructive military maneuvers	<ul style="list-style-type: none"> · Habitat destructive military maneuvers have not been authorized in the proposed Ord-Rodman DWMA ACEC. However, maneuvers could be considered subject to the 1 percent limit on new surface disturbance in the DWMA. With this limitation, it is unlikely that maneuvers would be allowed.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Ord - Rodman
Agency	California BLM
Recovery Action	
<p>Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation</p>	<ul style="list-style-type: none"> · All proposals are currently considered on a case-by-case basis. · Under the Statewide Tortoise Policy (Guideline 20), “Surface disturbing activities in Category I habitats will be restricted to those which cannot be relocated elsewhere.” · Under the Statewide Tortoise Policy (Guideline 21), “Surface disturbance to soil and vegetation will be minimized through mitigation measures in Category I and II habitats.” · Under the Statewide Tortoise Policy (Guideline 24), “Facilities and activities that concentrate visitors will be discouraged in and adjacent to Category I and II habitats.” · BLM policy prohibits landfills on public lands.
<p>Acres of grazing allotments (sheep and cattle) closed or bought out for conservation</p>	<ul style="list-style-type: none"> · The proposed Ord-Rodman DWMA ACEC is entirely covered by the Ord Mountain Cattle Allotment. Under interim restrictions, cattle grazing cannot occur in about half of the allotment from March 1 to June 15 and September 7 to November 7. · The Johnson Valley Sheep allotment is near the proposed Ord-Rodman DWMA ACEC, but it has not been grazed for many years. · The Stoddard Mountain Sheep Allotment overlaps the proposed Ord-Rodman DWMA ACEC. Under the existing biological opinion on sheep grazing, the portion in critical habitat (and proposed DWMA) may not be grazed. The remainder is in an OHV Open Area. · The Rattlesnake Canyon Cattle Allotment includes some low density tortoise habitat. Under interim restrictions, grazing cannot occur in most of tortoise habitat in the allotment from March 1 to June 15 and September 7 to November 7. · The Whitewater Canyon Cattle Allotment is currently in rest due to riparian needs. Under interim restrictions, cattle grazing cannot occur in the allotment for tortoise conservation. The permittee is a conservation group.
<p>Number of wild horses and burros removed</p>	<ul style="list-style-type: none"> · There are no wild horses or burros in or near the proposed Ord-Rodman DWMA ACEC.
<p>Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit</p>	<ul style="list-style-type: none"> · Under the CDCA Plan, harvesting of vegetation and biological specimens is allowed only by permit.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Ord - Rodman
Agency	California BLM
Recovery Action	
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	· In 1996, an illegal dump was cleaned up at Greenrock (San Bernardino County) within the Western Mojave Recovery Unit.
Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects	· Under the Statewide Tortoise Policy (Guideline 31), "All tortoise relocations will be conducted under experimental controls until adequate information is available to ensure that tortoises can be effectively and humanely relocated. Only wild tortoises will be considered for relocation." [Local relocations to move tortoises out of harm's way from a project is not considered a relocation for these purposes
Prohibit uncontrolled dogs out of vehicles	· No restrictions are in place.
Restrict establishment of new roads in desert wildlife management areas	There are no specific restrictions on new roads.
Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)	· None.
Number of acres or list of re-vegetation projects	· None, except for route rehab projects noted above.
Sign and fence desert wildlife management areas as needed	· None.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Ord - Rodman
Agency	California BLM
Recovery Action	
Establish environmental education programs and facilities.	<ul style="list-style-type: none"> · The Statewide tortoise Policy (1992) includes a detailed Public Education Program. It includes strategies with a total of 25 actions. Most of these have been implemented and many are on-going. · The California Desert Information Center was constructed in Barstow in the early 1980's. Information on tortoises conservation is provided at the Center.
Monitor desert tortoise populations within recovery units	<ul style="list-style-type: none"> · The Stoddard Valley Permanent Study Plot is in the proposed Ord-Rodman DWMA ACEC. The plot was surveyed in 191979, 1981, 1987, and 1991. Surveys were suspended because the plot is on private lands.. · The Lucerne Valley Permanent Study Plot is near the proposed Ord-Rodman DWMA ACEC. The plot was surveyed in 80, 86, 90, 94. Populations are considered too low to continue surveys. · The Johnson Valley Permanent Study Plot is near the proposed Ord-Rodman DWMA ACEC. The plot was surveyed in 80, 86, 90, 94. Populations are considered too low to continue surveys. · In the 1970's the BLM conducted surveys on 47 study plots. Fifteen were selected as permanent study plots, each to be surveyed every four years. In 1995, responsibility for these surveys was transferred to the NBS and subsequently USGS.
Initiate research necessary to monitor and guide recovery efforts	<ul style="list-style-type: none"> · In 1990, three new research (new total of four) positions were added to address tortoise conservation and management issues in the California Desert. In 1994 all four positions and funding support were transferred to NBS/USGS. · Research in the proposed Ord-Rodman DWMA ACEC has centered on demographics (permanent study plot data). Major researchers have included Berry.
Activities associated with predator control	<ul style="list-style-type: none"> · No predator control activities have occurred in the proposed Ord-Rodman DWMA ACEC.
Limit firearm use to hunting of big game or upland game birds from September through February	

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Pinto Mountains
Agency	California BLM
Recovery Action	
Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit	<ul style="list-style-type: none"> · The West Mojave Plan is currently in development. The plan proposes to designate a Desert Wildlife Management Area of 117,00 acres (109,100 ac. of public lands). The proposed Pinto Desert Wildlife Management Area will be a BLM ACEC and lands will be designated BLM Category I. The DWMA will be contiguous with the Joshua Tree DWMA. The Final Plan and EIS are to be released in November 2002.
Secure habitat within desert wildlife management areas	<ul style="list-style-type: none"> · No lands have been acquired in the Proposed Pinto Mountains DWMA ACEC. · Under the Statewide Tortoise Policy (Guideline 26), “No Category I habitat will be transferred out of public ownership.”
Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists	<ul style="list-style-type: none"> · The proposed Pinto Mountains DWMA ACEC is contiguous with the Joshua Tree DWMA to the south. · The proposed Pinto Mountains DWMA ACEC is weakly connected to the proposed Ord-Rodman DWMA ACEC to the northwest across a lightly populated valley and through the Marine Corps Air Ground Combat Center (Twentynine Palms).
Number (or miles) of roads closed or rehabilitated	<ul style="list-style-type: none"> · None.
All competitive and organized events on designated roads	<ul style="list-style-type: none"> · Historically, the BLM has not authorized competitive events in the proposed Pinto Mountains DWMA ACEC. · Under the Statewide Tortoise Policy (Guideline 11), “Competitive vehicle events in tortoise habitat will be allowed only within existing off-highway vehicle open (play) areas or on specific courses identified in the CDCA Plan.” · Organized dual-sport motorcycle trail rides are sometimes authorized under a programmatic biological opinion in tortoise habitat throughout the CDCA. All trail rides are on established routes.
Prohibit habitat destructive military maneuvers	<ul style="list-style-type: none"> · Habitat destructive military maneuvers have not been authorized since 1980 in the proposed Chuckwalla DWMA ACEC. However, maneuvers could be considered subject to the 1 percent limit on new surface disturbance in the DWMA. With this limitation, it is unlikely that maneuvers would be allowed.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Pinto Mountains
Agency	California BLM
Recovery Action	
Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation	<ul style="list-style-type: none"> · All proposals are currently considered on a case-by-case basis. · Under the Statewide Tortoise Policy (Guideline 20), “Surface disturbing activities in Category I habitats will be restricted to those which cannot be relocated elsewhere.” · Under the Statewide Tortoise Policy (Guideline 21), “Surface disturbance to soil and vegetation will be minimized through mitigation measures in Category I and II habitats.” · Under the Statewide Tortoise Policy (Guideline 24), “Facilities and activities that concentrate visitors will be discouraged in and adjacent to Category I and II habitats.” · BLM policy prohibits landfills on public lands.
Acres of grazing allotments (sheep and cattle) closed or bought out for conservation	<ul style="list-style-type: none"> · There are no grazing allotments in the proposed Pinto Mountains DWMA ACEC.
Number of wild horses and burros removed	<ul style="list-style-type: none"> · There are no wild horses or burros in or near the proposed Pinto Mountains DWMA ACEC.
Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit	<ul style="list-style-type: none"> · Under the CDCA Plan, harvesting of vegetation and biological specimens is allowed only by permit.
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	<ul style="list-style-type: none"> · In 1999, illegal dumps were cleaned up at Shelton Road and Valle Vista Road (San Bernardino Valley) within the Western Mojave Recovery Unit.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Pinto Mountains
Agency	California BLM
Recovery Action	
Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects	· Under the Statewide Tortoise Policy (Guideline 31), “All tortoise relocations will be conducted under experimental controls until adequate information is available to ensure that tortoises can be effectively and humanely relocated. Only wild tortoises will be considered for relocation.” [Local relocations to move tortoises out of harm’s way from a project is not considered a relocation for these purposes.]
Prohibit uncontrolled dogs out of vehicles	· No restrictions are in place
Restrict establishment of new roads in desert wildlife management areas	· There are no specific restrictions on new roads.
Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)	· None.
Number of acres or list of re-vegetation projects	· None, except for route rehab projects noted above.
Sign and fence desert wildlife management areas as needed	· None.
Establish environmental education programs and facilities.	· The Statewide tortoise Policy (1992) includes a detailed Public Education Program. It includes strategies with a total of 25 actions. Most of these have been implemented and many are on-going.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Pinto Mountains
Agency	California BLM
Recovery Action	
Monitor desert tortoise populations within recovery units	· No monitoring has been conducted in the proposed Pinto Mountains DWMA ACEC.
Initiate research necessary to monitor and guide recovery efforts	· In 1990, three new research (new total of four) positions were added to address tortoise conservation and management issues in the California Desert. In 1994 all four positions and funding support were transferred to NBS/USGS. · No research has been conducted in the Pinto Mountains DWMA ACEC.
Activities associated with predator control	· No predator control activities have occurred in the proposed Pinto Mountains DWMA ACEC.
Limit firearm use to hunting of big game or upland game birds from September through February	

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Superior - Cronese	
Agency	California BLM	DTPC
Recovery Action		
<p>Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit</p>	<p>· In the California Desert Conservation Area Plan of 1980 (see Map 5), desert tortoise crucial habitat was designated for an area of about 700,000 acres; about 200,00 acres is northwest of Barstow in the Superior-Cronese DWMA vicinity. · In October 1992, the State Director signed the California Statewide Desert Tortoise Management Policy (Statewide Policy) designating a management area of desert tortoise Category I and Category II including almost all lands south of Ft. Irwin and the Mojave B Range and north of Interstate 15/Highway 58. · In April 1993, the CDCA Plan was amended to include the designations specified in the Statewide Policy. · The West Mojave Plan is currently in development. The plan will propose to designate a Desert Wildlife Management Area of about 620,900 acres (401,600 ac. of public lands). The proposed Superior-Cronese Desert Wildlife Management Area (DWMA) will be a BLM ACEC and lands will be designated BLM Category I. The Final Plan and EIS are to be released in November 2002.</p>	<p>NA</p>
<p>Secure habitat within desert wildlife management areas</p>	<p>· About 16,300 acres of habitat in the proposed Superior-Cronese DWMA ACEC have been acquired through purchase using Land and Water Conservation Funds. · About 4,500 acres of habitat in the proposed Superior-Cronese DWMA ACEC have been acquired through purchase or donation using compensation funds. · About 30,000 acres of habitat in the proposed Superior-Cronese DWMA ACEC have been acquired through exchange as part of the West Mojave Land Tenure Adjustment Program. · Under the Statewide Tortoise Policy (Guideline 26), “No Category I habitat will be transferred out of public ownership.”</p>	<p>YEAR ACRES 1995 1360 (base property for Pilot Knob grazing allotment)</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Superior - Cronese	
Agency	California BLM	DTPC
Recovery Action		
<p>Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists</p>	<ul style="list-style-type: none"> · The proposed Superior-Cronese DWMA ACEC is near but substantially separated from the proposed Ord-Rodman DWMA ACEC by two Interstate Highways (15 and 40). · The proposed Superior-Cronese DWMA ACEC is contiguous with the proposed Fremont-Kramer DWMA ACEC. 	<p>NA</p>
<p>Number (or miles) of roads closed or rehabilitated</p>	<ul style="list-style-type: none"> · In 1994, Congress designated wilderness areas in the CDCA, of which 53,700 acres are in the proposed Superior-Cronese DWMA ACEC. All routes are closed in wilderness. · In early 2002, interim route designations were made on all BLM lands in the Superior-Cronese Critical Habitat Unit. Vehicle travel in this area is restricted to designated open routes. Washes in this area are open for travel only to the extent that a wash is designated as a route. These closures will remain in effect until completion of the West Mojave Plan. · 30 closed routes in the western portion of the proposed DWMA ACEC have been rehabilitated. 	<p>Two miles of road rehabilitated on the Pilot Knob allotment.</p>
<p>All competitive and organized events on designated roads</p>	<ul style="list-style-type: none"> · The Crucero OHV Open Area is near (across Interstate Highway 15) but not contiguous with the Superior-Cronese DWMA ACEC. · The 250-mile Barstow-Vegas Racing Corridor begins in the proposed Superior-Cronese DWMA ACEC and continues out the east side. No race has been held since 1989. Parts of the course are now in the Mojave National Preserve or wilderness, and no races can be authorized. · Under the Statewide Tortoise Policy (Guideline 11), “Competitive vehicle events in tortoise habitat will be allowed only within existing off-highway vehicle open (play) areas or on specific courses identified in the CDCA Plan.” · Organized dual-sport motorcycle trail rides are sometimes authorized under a programmatic biological opinion in tortoise habitat throughout the CDCA. All trail rides are on established routes 	<p>NA</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Superior - Cronese	
Agency	California BLM	DTPC
Recovery Action		
Prohibit habitat destructive military maneuvers	<ul style="list-style-type: none"> · There is currently a tank and heavy vehicle corridor for access to Ft. Irwin from the railroad along Interstate 40. Other cross-country travel between the Marine Corps Air Ground Combat Center (Twentynine Palms) and Ft. Irwin may be proposed. Maneuvers or travel across the DWMA could be considered subject to the 1 percent limit on new surface disturbance in the DWMA. 	NA
Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation	<ul style="list-style-type: none"> · All proposals are currently considered on a case-by-case basis. · Under the Statewide Tortoise Policy (Guideline 20), “Surface disturbing activities in Category I habitats will be restricted to those which cannot be relocated elsewhere.” · Under the Statewide Tortoise Policy (Guideline 21), “Surface disturbance to soil and vegetation will be minimized through mitigation measures in Category I and II habitats.” · Under the Statewide Tortoise Policy (Guideline 24), “Facilities and activities that concentrate visitors will be discouraged in and adjacent to Category I and II habitats.” · BLM policy prohibits landfills on public lands. 	NA
Acres of grazing allotments (sheep and cattle) closed or bought out for conservation	<ul style="list-style-type: none"> · Under the biological opinion on sheep grazing (1991), sheep grazing cannot occur (and has not occurred) in the Gravel Hills, Superior Valley, and Goldstone Sheep Allotments. All three are in the proposed Superior-Cronese DWMA ACEC. · The Harper Dry Lake and Cronese Lake Cattle Allotments are each about 50 percent within critical habitat. Under interim restrictions, grazing cannot occur (approximately) in critical habitat from March 1 to June 15 and September 7 to November 7. · The Cady Mountain Cattle Allotment includes tortoise habitat and is near the proposed Superior-Cronese DWMA ACEC and the proposed Ord-Rodman DWMA ACEC. Under interim restrictions, grazing cannot occur in a large portion of the best tortoise habitat from March 1 to June 15 and September 7 to November 7. 	42,000 acres of grazing lease acquired. With the encouragement of the BLM’s State Director, in 1995, DTPC and the Wildlands conservancy bought out the lessee of the Pilot Knob cattle grazing allotment. DTPC purchased the rancher’s land holdings, the rancher’s share of the range improvements, specific water rights and the grazing lease.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Superior - Cronese	
Agency	California BLM	DTPC
Recovery Action		
Number of wild horses and burros removed	· Between 1981-2001, 4,514 burros and 1 horse were removed from the Slate Range Herd Area, which has a small overlap (<5% of the Herd Area) with the proposed Superior-Cronese DWMA ACEC. The target population of 0 for the Herd Area has not yet been achieved; the estimated population is 70.	NA
Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit	· Under the CDCA Plan, harvesting of vegetation and biological specimens is allowed only by permit.	NA
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	· None	Approximately 3 tons of trash removed from the Pilot Knob grazing allotment, to-date.
Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects	· Under the Statewide Tortoise Policy (Guideline 31), "All tortoise relocations will be conducted under experimental controls until adequate information is available to ensure that tortoises can be effectively and humanely relocated. Only wild tortoises will be considered for relocation." [Local relocations to move tortoises out of harm's way from a project is not considered a relocation for these purposes.]	Staffed a resident host/interpreter at Blackwater Well in spring 1996, 1998, 1999 and 2000 to provide educational materials to reduce release or take of tortoises on the Pilot Knob allotment.
Prohibit uncontrolled dogs out of vehicles	· No restrictions are in place.	NA
Restrict establishment of new roads in desert wildlife management areas	· There are no specific restrictions on new roads.	NA

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Superior - Cronese	
Agency	California BLM	DTPC
Recovery Action		
Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)	· None.	DTPC installed 8 miles of tortoise fencing along Harper Lake Road (1998-2000). DTPC commissioned and had designed a specific tortoise culvert (spring 2002) to be installed under Harper Lake Road in fall 2002.
Number of acres or list of re-vegetation projects	· None, except for route rehab projects noted above.	NA
Sign and fence desert wildlife management areas as needed	None.	NA
Establish environmental education programs and facilities.	· The Statewide tortoise Policy (1992) includes a detailed Public Education Program. It includes strategies with a total of 25 actions. Most of these have been implemented and many are on-going. · The California Desert Information Center was constructed in Barstow in the early 1980's. Information on tortoises conservation is provided at the Center.	Staffed a resident host/interpreter at Blackwater Well in spring 1996, 1998, 1999 and 2000 to provide educational materials to enhance tortoise recovery on the Pilot Knob allotment. Installed a multimedia interactive kiosk (Mojave Desert Discovery Center) at the California Welcome Center, Barstow to provide desert environmental education to the general public.
Monitor desert tortoise populations within recovery units	· In the 1970's the BLM conducted surveys on 47 study plots. Fifteen were selected as permanent study plots, each to be surveyed every four years. No plots are in the proposed Superior-Cronese DWMA ACEC.	NA

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Superior - Cronese	
Agency	California BLM	DTPC
Recovery Action		
<p>Initiate research necessary to monitor and guide recovery efforts</p>	<ul style="list-style-type: none"> · In 1990, three new research (new total of four) positions were added to address tortoise conservation and management issues in the California Desert. In 1994 all four positions and funding support were transferred to NBS/USGS. · Research in the proposed Superior-Cronese DWMA ACEC has centered on demographics and disease, especially URTD. Major researchers have included Berry. 	<p>NA</p>
<p>Activities associated with predator control</p>	<ul style="list-style-type: none"> · No predator control activities have occurred in the proposed Superior-Cronese DWMA ACEC. 	<p>Turned off some of the waters on the Pilot Knob grazing allotment in conformance with the FWS rangewide biological opinion on grazing which requires that waters be turned off when cattle are absent.</p>
<p>Limit firearm use to hunting of big game or upland game birds from September through February</p>	<p>In early 2001, an interim closure to all shooting except hunting and target practice at printed paper was implemented on all BLM lands in the Superior-Cronese Critical Habitat Unit.</p>	

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit		NA	NA	NA	NA
Secure habitat within desert wildlife management areas	· Upcoming mitigation projects include the I-15 Victorville to Barstow expansion, we are giving 618 acres to F&G which I believe is in the Fremont-Kramer Unit, you may want to check with Becky Jones to be 100% sure. We have bought the land from the County of San Bernardino and will be giving it to F&G soon.	NA	Over 12,000 acres acquired and managed by the Department. Additional lands have gone to the Desert Tortoise Preserve Committee though mitigation requirements by the Department.	NA	MCLB Barstow has a project programmed to install 4 strand barb wire and chain link fencing around the Rifle Range to impede and discourage unauthorized access to such areas. This would also lessen the potential impact to the DT and its habitat.
Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists		NA	Working on consolidation of Department-owned lands.	NA	NA

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
Number (or miles) of roads closed or rehabilitated		NA	None. Will be conducted on DFG lands as needed.	NA (no DWMA is affected by USMC activities)	MCLB Barstow is planning to fence the RR, which will control 2 utility access roads. This will only allow the utility companies access to the habitat areas, (approx 7.5miles).

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
All competitive and organized events on designated roads		NA	Review proposed events and follow-up reports and make recommendations to BLM.	NA (no DWMA is affected by USMC activities)	These type of events are not allowed on MCLB Barstow property.
Prohibit habitat destructive military maneuvers			Review INRMPs for military bases and make recommendations; also member of “Desert Tortoise Blue Ribbon Panel” for Fort Irwin.	NA (no DWMA is affected by USMC activities)	MCLB Barstow's INRMP does not allow military maneuvers on MCLB Barstow.
Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation		NA	Make comments on BLM project reviews and prohibit this type of activity on DFG-owned lands.	NA (no DWMA is affected by USMC activities)	Clearing vegetation on MCLB is prohibited.
Acres of grazing allotments (sheep and cattle) closed or bought out for conservation		NA	NA	NA (no grazing allotments exist on USMC managed properties)	NA

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
Number of wild horses and burros removed		Zero	NA	NA (no known wild horses and burros on USMC managed properties)	NA
Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit		It is a violation of Army and NTC Regulations to allow this type of activity.	California Codes prohibit collection of desert vegetation except by permit.	Although no land managed by USMC is located within a DWMA, these activities are prohibited by "Combat Center Order 5090.1C, Environmental Protection".	MCLB Barstow doesn't allow harvesting of vegetation, except by permit.
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	NA	NA	NA	NA (no illegal dumps known on USMC managed properties)	Illegal dumping occurs along the utility corridors, future fencing will eliminate this action.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
<p>Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects</p>		<p>No captive animals are placed on Fort Irwin lands.</p>	<p>Wardens have stopped people from collecting tortoise from the wild. Those found collecting tortoise were cited. Working on press releases to let people know not to release captive tortoise into the wild.</p>	<p>Although no land managed by USMC is located within a DWMA, these activities are prohibited by “Combat Center Order 5090.1C, Environmental Protection”</p>	<p>MCLB Barstow refers anyone that captures an animal to the local Adoption Program organization or contacts the DFG.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
Prohibit uncontrolled dogs out of vehicles				Although no land managed by USMC is located within a DWMA, dogs are not allowed in Training Areas by “Combat Center Order 5090.1C, Environmental Protection”	MCLB Barstow Base Order P5500.13 Pet Control prohibits uncontrolled dogs, enforced by the Provost Marshall Office (PMO).
Restrict establishment of new roads in desert wildlife management areas		NA	Some DFG lands within DWMA's have been fenced to prohibit vehicle use.	NA (no land managed by USMC is located within a DWMA)	NA
Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)	Installed permanent tortoise fence on I-15 southbound side from Lenwood Road (PM 68.4) to Outlet Center Drive (PM 65.8). Also put in permanent tortoise fence from Lenwood Road to approximately PM 72.4 for the I-15/58 interchange.	7.5 miles of fence installed	Though we have not installed any fencing on roads, it has been a requirement in many of our 2081's, especially with Caltrans. Due to the high number of tortoise on Harper Lake Road, fencing was required for the road due to the increased traffic that would be on the road for the operation of the solar energy plant. Fencing was installed by the Desert Tortoise Preserve Committee and soon one culvert will be placed under the road. Hiring exemptions for two temp help positions secured to perform needed management activities on DFG lands.	None (no land managed by USMC is located within a DWMA)	Approximately 5 miles of fencing installed to keep desert tortoise from entering a former landfill site. No culverts have been designed or installed on MCLB Barstow. During past reconstruction activities of our berms at the rifle range, temporary desert fencing has been erected.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
Number of acres or list of re-vegetation projects			None. Will be conducted on DFG lands as necessary.	None (no land managed by USMC is located within a DWMA)	NA
Sign and fence desert wildlife management areas as needed			Most of the land DFG owns is located northeast of Kramer Junction, in the Freemont/Kramer DWMA. We are currently working on consolidation of our lands so that the entire area can be fenced off from other uses.	NA (no land managed by USMC is located within a DWMA)	Signs and fencing are planned for the south property boundary of the Rifle Range of MCLB Barstow.
Establish environmental education programs and facilities.		NTC has a large Public Outreach Program that reaches hundreds of people annually.	Participating with DMG DIRT group and providing funding to produce revised tortoise information in the form of signs, brochures, kiosk information, etc.	Although no land managed by USMC is located within a DWMA, we continue to support an EE program and over 50,000 Marines and family members are provided environmental briefing annually. The MAGTFTC uses existing facilities to host EE training.	MCLB Barstow has started an EE program by briefing all new incoming personnel and marines that visit the rifle range annually for qualifications. We have displays at the annual Earth Day event, of the do's and don'ts about the desert tortoise. This education briefing is also dictated in our biological opinion of 1993 and 1997.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
Monitor desert tortoise populations within recovery units		NTC has funded the Line Distance Sampling Program on both the Superior-Cronese and Fremont-Kramer DWMA's for the past two years.	Contract with USGS. See below (next cell).	USMC assists BLM through providing a portion of the funding required for LDS in Ord-Rodman Critical Habitat Unit	MCLB Barstow has provided partial funding to BLM through MCAGCC for LDS in the Ord-Rodman Critical Habitat Unit, past two years. In 1999 MCLB Barstow completed a Desert Tortoise Survey Study.
Initiate research necessary to monitor and guide recovery efforts		The NTC has funded many research programs of behavior, disease and other topics on the desert tortoise.	DFG is funding USGS to continue monitoring of long term study plots along with necropsies of tortoise to learn more about diseases. DFG co-hosting Disease Workshop to consolidate known information, foster discussion between experts, and solicit management recommendations.	Although no land managed by USMC is located within a DWMA, the following projects were recently initiated: Tortoise Health Assessment (Dr. Kristin Berry) Line Distance Sampling (currently 40 four km transects) Line Distance Sampling in Ord-Rodman Critical Habitat	MCLB Barstow completed a study "The Occupation of Steep Slopes by Desert Tortoise in the Western Mojave Desert" (Ty Gardner) 2000.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
<p>Initiate research necessary to monitor and guide recovery efforts</p>				<p>The following projects were recently completed: Early Life History Stage Survival (Bjurlin & Bisonette) Mountain Tortoise Ecology (Gardner and Brodie)</p> <p>NOTE: Since the early 1980s, the Marine Corps has conducted or cooperated with numerous desert tortoise studies and research projects.</p>	
<p>Activities associated with predator control</p>		<p>The NTC has predator control programs, which include Raven Depravation, Raven Exclosures, Coyote Control and education programs to limit or</p>	<p>None. Raven control for DFG lands as appropriate.</p>	<p>Although no land managed by USMC is located within a DWMA, the following projects have been initiated: Trial free-roaming dog trapping program Natural Resources staff work closely with the MAGTFTC's Provost Marshall in</p>	<p>Policy Letter Preventing Feral Cat and Dog Populations on Navy Property, objective is to prevent injury and disease to Navy personnel and eliminate adverse impacts on native wildlife.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
		eliminate food and water sources for predators.		the control of free-roaming dogs Education and outreach, including newspaper articles (50,000 Marines and family members are briefed annually) Early Life History Stage Survival (Bjurlin & Bisonette) Presentation at the 2001 Desert Tortoise Council Symposium	

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	No Specific DWMA				
Agency	CalTrans	NTC Ft Irwin	CDFG	MCAGCC	MCLB
Recovery Action					
Limit firearm use to hunting of big game or upland game birds from September through February					NA

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Establish at least one desert wildlife management area of at least 1,000 square miles in each recovery unit	<p>The park consists of 794,000 acres (1240 sq. miles); of this approximately 592,690 acres is Congressionally designated wilderness (926 sq. miles). The recovery plan designates Joshua Tree National Park as a desert wildlife management area (DWMA).</p> <p>It is estimated that more than 50% of the park is desert tortoise habitat.</p> <p>Lands just outside the boundary of Joshua Tree National Park are known to contain desert tortoise populations as well and these have been and are currently being used for density estimates by Kiva Biological.</p>
Secure habitat within desert wildlife management areas	<p>In 1994, the park was enlarged by 234,000 acres. Since 1998, the park has bought or received through donation 18,850 acres of private land inside the park. 592,690 acres in Joshua Tree NP are Congressionally designated wilderness and are protected by the Wilderness Act 1964. The park’s Backcountry and Wilderness Management Plan further designates a natural zone within the park’s boundaries that is protected from disturbance.</p> <p>“When the FWS designated critical habitat for the desert tortoise Mojave population and published a notice in the Federal Register (59 FR 5820) and Code of Federal Regulations (50 CFR Part 17) in 1994, lands within the boundaries of Joshua Tree National Monument were considered already protected and were not classified as critical habitat. Lands to the south and north of the monument, however, did not have the same level of protection as offered by the NPS as were designated as the Chuckwalla Bench and Pinto Mountain critical habitats. With the passage of the California Desert Protection Act on October 31, 1994, the park acquired lands to the south, north, and east of the monument boundaries, some of which had been designated as critical habitat earlier in the year. The portions of the Chuckwalla Bench critical habitat that lie within the park are comprised of the rugged and steep Little San Bernardino and Cottonwood Mountains. The greatest concentrations of desert tortoise populations are located on lands within the park boundaries that did not receive the designation of critical habitat. Portions of critical habitat were added to park lands with the intention that with the completion of the management plans of the Mojave and Colorado deserts, the entire park would comprise one DWMA. The critical habitat for the Mojave Desert tortoise populations will conform to the DWMA boundaries determined through the recovery planning and implementation process. At this time, neither the West Mojave Desert Management Plan nor the Northern and Eastern Colorado Desert Management Plan is complete (?). Thus, the critical habitat designation remains in effect, and none of the Joshua Tree National Monument lands before the California Desert Protection Act are included in the designation. (50 CFR Part 17).” (Environmental Assessment for the Modification of VR-1257, February 2000).</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Secure habitat within desert wildlife management areas	Joshua Tree has been part of a international biosphere reserve since 1984. Fulfillment of the biosphere reserve concept and long-term protection of ecological units that extend outside of the boundary are made more difficult by land use and development around the park.
Connect functional habitat within recovery units wherever enough extant desert tortoise habitat exists	The two recovery units in the Joshua Tree National Park DWMA are connected through functional habitat, being bisected only by a few roads that run through the park. Mitigation measures have been implemented on curbed roads through built-in “tortoise breaks” to allow passage of desert tortoises and other wildlife from one side of the road to another. These tortoise breaks have also been implemented in parking lots to prevent tortoises from being trapped in these lots.
Number (or miles) of roads closed or rehabilitated	<p>There are over 400 miles of old roads within the park consisting of jeep trails, historic roads, and recent roads created on former BLM lands; these roads are all closed and, as of 2002, are all staked as closed. The majority of these roads cut through wilderness.</p> <p>Several long roads including the following have been closed in the park: Thermal, Rockhouse, Fargo, Coxcombs Adit, Cadiz SW, Coxcomb Guzzler, Elsa Ann Mine, Old Powerline Rd. (East and West); several smaller ones have been closed as well</p> <p>Several portions of old roads were rehabilitated and re-vegetated after Federal Highways Project 173 (Quail Springs to Cap Rock) in our park.</p> <p>Approximately 30 roads have been re-vegetated at the junction of an open road (the road “head” ; between 100’ – 300’). One of these goals of these closures is to allow for recovery of roads, and to provide contiguous, protected, undisturbed habitat for the tortoise.</p>
All competitive and organized events on designated roads	We occasionally have organized events and receive requests for permits for various activities, such as bicycle tours/races, film crews, etc. Special events must be approved by the ID team through the NEPA process. Once events are approved through the NEPA process, special use permits must be issued by our Special Use Permits Coordinator. Events are generally restricted in group size and kept as close to roads and disturbed areas as possible. Events occurring around or near known tortoise locations are monitored closely by a law enforcement ranger or a biological monitor; these areas are surveyed and cleared for tortoises before they are permitted to occur.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Prohibit habitat destructive military maneuvers	<p>On February 2000 an Environmental Assessment was made for the modification of a Navy Overflight exercise route that passed through portions of Joshua Tree NP. The overflight route was thought to potentially harass or affect the natural behavior of the desert tortoise and other sensitive species within the park. Flight route VR-1257 was rerouted over a portion of Joshua Tree NP which contained lower densities of desert tortoises, bighorn sheep, and visitor campgrounds.</p> <p>Military exercises in the park are mostly limited to repelling off rock structures near moderately visited or disturbed areas.</p>
Prohibit clearing for agriculture, landfills, and any other surface disturbance that diminishes the capacity of the land to support desert tortoises, other wildlife, and native vegetation	<p>Developments and other land uses adjacent to the boundary threaten the integrity of the park’s resources and wilderness values. Surrounding land use has changed significantly since the 1936 proclamation of the monument. Town and cities, interstate and state highways, subdivision, utility corridors, mining, military facilities, and agricultural interests are now on or near the park boundary. The park does not permit any new developments or surface disturbance to occur within tortoise habitat without prior approval and consultation from USFWS.</p> <p>The Eagle Mountain landfill has been proposed near the southeast boundary and is the subject of great controversy. Joshua Tree NP is still trying to prevent the proposed landfill from being placed near one of the largest desert tortoise densities in the park (Pinto Basin).</p>
Acres of grazing allotments (sheep and cattle) closed or bought out for conservation	<p>Stock use would be limited to horses and mules and restricted to designated equestrian trails and corridors.</p>
Number of wild horses and burros removed	<p>Stats currently unavailable.</p>
Prohibit vegetation harvest, except by permit; collection of biological specimens, except by permit	<p>In accordance with the NPS Research Permit system and the Special Use Guidelines, all permittees are extremely regulated in the collection of biological specimens. Each request is scrutinized and permits are only given to those who can adequately justify the need for collection. In general, “harvest” is kept to a minimum. There is/has been poaching in the park, certainly in the past, but mostly focused on cacti and not vegetation that would be preferred food sources of the tortoise.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
Number of illegal dumps cleaned up (and tons of trash removed, if this information is available)	23 sites for a total of 547,704 lbs. On Earth Day volunteers and Park employees take part in cleaning up various areas of the park
Prohibit deposition of captive or displaced desert tortoises or other animals, except under authorized translocation research projects	Tortoises that are removed from the park are no longer relocated within the park boundaries. These animals are given to the tortoise rescue center or tortoise adoption agency where they receive a physical inspection and appropriate USFWS permit tags Tortoises thought to show symptoms of URTD are reported to Kristin Berry for a health inspection. Interpretation does routine public service messages for commercial radio about what to do when you encounter a tortoise; approximately 2 tortoise spots per year with listeners numbering in the hundreds of thousands of regional residents Interpretation staffs a booth each year during Joshua Tree’s Tortoise days celebration; Other local fairs and festivals that we attend include tortoise information. Yearly attendance at these fairs range from 10,000 to 30,000. Interpretation spoke on TV news at 29 Palms Jr. High to the entire school about tortoises in response to one student removing hatchling from the desert and giving them away to people who wanted them; reached 609 people. We talk about Eagle Mt. Landfill in Finding a Solution and Desert Connections. The secondary curriculum activity guide helps students learn about issues faced by desert parks. Several of the programs we do, touch on tortoises as to being threatened, do not touch, what do if you see them, etc. These programs are: Habitats (grades 1-2), Who Lives in a National Park (Pre-K to Kinder), Whos Who and Whats What (3rd grade), Living in Harmony (4th grade), Desert Adaptations (3rd-6th grade), Finding a Solution (8th-12th grade), Desert Connections (9th-12th grade).
Prohibit uncontrolled dogs out of vehicles	Posted signs indicate that dogs should be held on leash at all times Regulations in the park allow fines to be imposed upon those do not keep their dogs on leashes Feral dogs may be trapped or controlled through direct reduction removal
Restrict establishment of new roads in desert wildlife management areas	Meeting the needs of a growing public visitation rate equates partially with maintaining the roads to provide safe access to campgrounds and educational facilities. Joshua Tree NP General Management Plan outlines several road rehabilitation projects and the construction of new parking lots to meet visitor needs. Before such projects are undertaken, they are carefully reviewed for impacts to the desert tortoise and formal consultation with USFWS is conducted to obtain their biological opinion and FONSI.

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
<p>Location and miles of desert tortoise fencing installed (include number of culverts designed or suitable for desert tortoises)</p>	<p>Temporary Desert tortoise fencing has been installed at construction staging areas for Project 173 and will be incorporated in future road rehabilitation projects. Areas with high tortoise densities are fenced off and monitored by park biologists on-site during construction. Project 173 incorporated approximately xxxx miles of tortoise breaks Project 291 will incorporate approximately xxxx miles of tortoise breaks</p>
<p>Number of acres or list of re-vegetation projects</p>	<p>Federal Highway Projects: approximately 45 acres of disturbance associated with construction has been rehabilitated; approximately 18.5 acres of disturbance may occur in phase 2 of the highway project and this will be revegetated within one year.</p>
<p>Sign and fence desert wildlife management areas as needed</p>	<p>Fencing and Foam Plugging of open Mine Shafts to prevent a hazard to tortoises which may fall inside; the total number of closures can be submitted at a later time. Park boundaries are signed and maintained by law enforcement rangers.</p>
<p>Establish environmental education programs and facilities.</p>	<p>From 1995-97 we worked on the development of desert tortoise traveling trunks. These were produced with NPS and Southern California Edison funds. JOTR has four of these kits. Others exist at DEVA, MOJA, and LAME. BLM received two kits produced under this project. Once the Sonoran Desert parks saw what we were doing they obtained funds and developed tortoise traveling trunks of their own. These kits are loaned to teachers for use in classrooms and come with specimens, books, videos, and a curriculum unit. They have been seen and used by several thousand students since they were put into service. The park education program developed a special curriculum unit on tortoises called Tortoise, Tortoise! Targeted at junior high school students; This program deals mainly with transects, not with radio telemetry. We have replica tortoises (adult, subadult, juveniles) along with GPS and other equipment. 14 programs with 521 students. see the website for further details http://www.nps.gov/jotr/educate/standards/tortoise.html The new education van will include equipment, exhibits, and other information associated with the tortoise monitoring and recovery efforts. New museum exhibits at the Oasis VC, Cottonwood, and at Black Rock discuss the desert tortoise and its plight. The Cottonwood tortoise exhibit was developed by the Desert Tortoise Preserve Council and is on loan to Joshua Tree. These museum exhibits have collectively been viewed by approx. 500,000 people over the last 2+ years.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
<p>Establish environmental education programs and facilities.</p>	<p>Orientation exhibits produced in 1998 for park entrances and visitor centers The new wayside exhibit plan has one entire wayside dedicated to the desert tortoise. Periodic articles have appeared in the park newspaper about the desert tortoise and what to do when encountering them. Our park website has a feature article on the desert tortoise; http://www.nps.gov/jotr/resources/animals/reptiles/tortoise/tortoise.html At the park's urging, Huell Howser did about 20 minutes on desert tortoise monitoring and conservation efforts n the park during an episode of his California Gold program in 1998. It featured park ecologist Gillian Bowser and the Earthwatch tortoise volunteers. We continue to sell the video that was produced from this show. The Joshua Tree National Park Association sells books, t-shirts, post cards, refrigerator magnets, and stuffed animals on the desert tortoise. The Association's Desert Institute offers college-level courses on park reptiles and amphibians. Tortoise issues are a part of every course. The reptile classes are the most popular courses the Institute offers. Park biological technicians often present at conferences or environmental organizations the park's interests and endeavors in preserving the desert tortoise. Biotechs also train volunteers, construction workers, and park staff from other branches (maintenance, fire, etc.) from time to time to make them aware of the desert tortoise and what to do when one is encountered; leave no trace and minimum impact suppression tactics also incorporate training for desert tortoise awareness. We distribute BLM tortoise brochures to students after conducting talks about tortoises. These are usually in the form of brief, patio talks with high school or scout groups, or may be given out after campfire programs.</p>
<p>Monitor desert tortoise populations within recovery units</p>	<p>The park's population is estimated at approximately 12,700 animals (Karl 1988). Prior to the listing of the tortoise in 1990, two surveys were completed to determine tortoise locations and densities throughout the park. Recent surveys by park staff have found that the tortoise is more widespread and densities in some areas are higher than previously thought In 1991 the staff established four permanent trend plots, each one kilometer square. A fifth was established in 1994. Each site is visited at least 10 times per season (one day per week). More than 400 tortoises have been marked and and their age, sex, weight, and location have been recorded (1994) In 1992 a desert tortoise survey along the road corridor from the Quail Springs intersection to the Geology Tour Road intersection was completed. This study entailed tortoise populations that might be affected by road reconstruction and other projects. Results indicated that few tortoises live in the surveyed area. Of the 80 transect lines walked, 62 had no tortoise sign. Very little sign was found in the remaining 18 transects, indicating low densities.</p>

Recovery Action Summary – Western Mojave Recovery Unit

DWMA	Joshua Tree
Agency	National Park Service – Joshua Tree
Recovery Action	
<p>Monitor desert tortoise populations within recovery units</p>	<p>Tortoise densities range from zero in rugged mountain areas to 240 per square mile in the Pinto Basin. Most areas in the park do contain tortoises. (1994) Desert Tortoise populations occurring with construction footprints and their zones of influence (per USFWS survey protocols) are surveyed, monitored, and documented. Desert Tortoise sightings reported by park staff and visitors are collected through wildlife observation cards; this information is analyzed, recorded in an Excel database, and later incorporated into a GIS (ArcView shapefile) database. Desert Tortoises are monitored during rain events to prevent mortalities on park roads.</p>
<p>Initiate research necessary to monitor and guide recovery efforts</p>	<p>Dr. Jeffrey E. Lovich, Dr. Kristin Berry, Dr. Alice Karl, Dr. Jerry Freilich, Dr. Gillian Bowser have all initiated research to monitor and guide recovery efforts at Joshua Tree NP Dr. Bill Boarman examined Raven populations in the park and developed a recommended Raven Management Plan. Phil Medica is guiding LDS in concert with Peter Woodman of Kiva Biological Several populations of desert tortoises in the park have been examined for home range studies (Masters theses) Dr. Kristin Berry has examined several tortoises for the presence of URTD Many Student Conservation Association (SCA) interns have assisted in obtaining LDS and radiotracking data (Gsub zero) before 2001 Pending funding and staffing, a Raven monitoring program at moderate to high tortoise density areas will be considered. Sampling of tortoise densities in areas not currently examined in LDS transects Tortoise populations are monitored in areas affected by fire (e.g. Juniper Fire Complex, 1999) Joshua Tree NP’s Inventory and Monitoring program includes obtaining data on threatened and sensitive species—including the desert tortoise Park research on Desert Tortoises exists before the late 80’s—i.e. Barrows’s studies in Pinto Basin.</p>
<p>Activities associated with predator control</p>	<p>Coyotes that have developed a trend towards agonistic behavior in campgrounds will be monitored closely and controlled. Ravens are monitored at Maintenance facilities; their nests are removed in areas where they have been seen preying on tortoises. Preventing Eagle Mountain Landfill will be an indirect means of predator control.</p>
<p>Limit firearm use to hunting of big game or upland game birds from September through February</p>	

APPENDICES

APPENDIX A

Contact Information

Contact Information

NOMO

Roy C. Averill-Murray
Amphibians and Reptiles Program Manager
Arizona Game and Fish Department
2221 W Greenway Road
Phoenix, AZ 85023
Phone (602) 789-3505
Fax (602) 789-3926
rmurray@gf.state.az.us

Donald Copeland
Caltrans Biologist
California Department of Transportation
464 West 4th Street, 6th Floor, MS 822
San Bernardino, CA 92401
Phone (909) 383-5927
Fax (909) 383-6494
donald_copeland@dot.ca.gov

Mike Small
Wildlife Biologist
BLM – Arizona
Arizona Strip Field Office
Perashot National Monument
345 East Riverside Drive
St. George, Utah 84790
Phone (435) 688-3224
Mike_Small@blm.gov

Jim Crisp
District Manager
BLM - Utah
345 East Riverside Drive
St. George, Utah 84790
Phone (435) 688-3201

Tim Duck
BLM - Arizona
Tim_Duck@blm.gov

Linda Cardenas
BLM – Nevada
Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
Phone (702) 515-5000
Fax (702) 515-5023

Contact Information

WEMO

Rhys M. Evans

Ecologist

MCAGCC 29Palms

NREA Division

Phone (760) 830-7396 x234 [DSN 230]

Fax (760) 830-5718

evansrm@29palms.usmc.mil

Thomas V. Mull

Environmental Manager

Edwards Air Force Base

TYBRIN Corporation

Conservation Support for AFFTC/EM

Edwards AFB CA

Phone (661) 277-1448;

DSN 527-1448

Fax (661) 277-6145

thomas.mull@edwards.af.mil

Manuel Joia, Jr.

Natural/Cultural Resources

Marine Corps Logistics Base Barstow Environmental Division

Barstow, CA, 92311

Phone (760) 577-6111

Fax (760) 577-6256

JOIAM@barstow.usmc.mil

Michael J. Connor, Ph.D.

Executive Director

Desert Tortoise Preserve Committee

(including DTNA – Desert Tortoise Natural Area)

4067 Mission Inn Avenue

Riverside, CA 92501

Phone (909) 683-3872

Fax (909) 683-6949

<http://www.tortoise-tracks.org>

Donald Copeland

Caltrans Biologist

California Department of Transportation

464 West 4th Street, 6th Floor, MS 822

San Bernardino, CA 92401

Phone (909) 383-5927

Fax (909) 383-6494

donald_copeland@dot.ca.gov

Contact Information

WEMO

Rebecca Jones
Fish and Game California
36431 41st Street East
Palmdale, CA 93552
Phone (661) 285-5867
Fax (661) 285-5867
dfgpalm@mindspring.com

Clarence Everly
Expertise- MDEP, DOD Coordinator
Mojave Desert Ecosystem Program
222 E. Main Street, Suite 215
Barstow, CA 92311
Phone (760) 255-8896 MDEP
Fax (760) 256-6863
everlyc@mojavedata.gov

Larry Foreman
Expertise-District Biologist
BLM – California
BLM-Box Springs Station
6221 Box Springs Blvd
Riverside, CA 92507
Phone (909) 697-5387
lforeman@ca.blm.gov

UPPER VIRGIN

Bill Mader
Administrator of the Red Cliffs Desert Reserve
Washington County
197 East Tabernacle
St. George, UT 84770
Phone (435) 634-5756
mader@infowest.com

Jim Crisp
District Manager
BLM - Utah
345 East Riverside Drive
St. George, Utah 84790
Phone (435) 688-3201

Pedro Mazier Chavarria
Wildlife/Tortoise Biological Technician
Joshua Tree National Park
74485 National Park Dr.
Twentynine Palms, CA 92277
Phone (760) 367-5568
Pedro_Chavarria@nps.gov

John Hamill
California Desert Coordinator
USDoI
222 East Main Street, Suite 215
Barstow, CA 92311
Phone (760) 255-8888
Fax (760) 256-6863
john_hamill@dmg.gov

Lori Rose
Biologist
Red Cliffs Desert Reserve
Washington County
197 East Tabernacle
St. George, UT 84770
Phone (435) 634-5759
lorirose@infowest.com

Contact Information

EASTERN COLORADO

Larry Foreman

Expertise-District Biologist

BLM – California

BLM-Box Springs Station

6221 Box Springs Blvd

Riverside, CA 92507

Phone (909) 697-5387

lforeman@ca.blm.gov

Pedro Mazier Chavarria

Wildlife/Tortoise Biological Technician

Joshua Tree National Park

74485 National Park Dr.

Twentynine Palms, CA 92277

Phone (760) 367-5568

Pedro_Chavarria@nps.gov

Michael J. Connor, Ph.D.

Executive Director

Desert Tortoise Preserve Committee

(including DTNA – Desert Tortoise Natural Area)

4067 Mission Inn Avenue

Riverside, CA 92501

Phone (909) 683-3872

Fax (909) 683-6949

<http://www.tortoise-tracks.org>

NORTHERN COLORADO

Larry Foreman

Expertise-District Biologist

BLM – California

BLM-Box Springs Station

6221 Box Springs Blvd

Riverside, CA 92507

Phone (909) 697-5387

lforeman@ca.blm.gov

EMO

Larry Foreman

Expertise-District Biologist

BLM – California

BLM-Box Springs Station

6221 Box Springs Blvd

Riverside, CA 92507

Phone (909) 697-5387

lforeman@ca.blm.gov

Linda Cardenas

BLM – Nevada

Las Vegas Field Office

4701 N. Torrey Pines Drive

Las Vegas, NV 89130

Phone (702) 515-5000

Fax (702) 515-5023

Contact Information

EMO

Kitti Jensen

Wildlife Biologist

Mojave National Preserve

222 E. Main St., Suite 202

Barstow, CA 92311

Phone (760) 255-8865

Fax (760) 255-8828

kitty_jensen@nps.gov

APPENDIX B

Glossary

Glossary

Common Abbreviations

ACEC	Area of Critical Environmental Concern
APHIS	Animal and Plant Health Inspection Service
BLM	Bureau of Land Management
CALTRANS	California Department of Transportation
CDCA	California Desert Conservation Area
CFR	Code of Federal Regulations
DEVA	Death Valley National Park
DFG	Department of Fish and Game
DTNA	Desert Tortoise Natural Area
DTPC	Desert Tortoise Preserve Committee
DWMA	Desert Wildlife Management Area
Edwards AFB	Edwards Air Force Base
EIS	Environmental Impact Statement
ELISA	Enzyme-Linked Immunosorbent Assay
FONSI	Finding Of No Significant Impact
GFD	Game and Fish Department
GIS	Geographic Information System
GPS	Global Positioning System
HCP	Habitat Conservation Plan
INRMP	Integrated Natural Resource Management Plan
JOTR	Joshua Tree National Park
LAME	Lake Mead National Recreation Area
LDS	Line Distance Sampling
LVFO	Las Vegas Field Office
NA	Not Applicable
NBS	National Biological Survey
NECO	Northern and Eastern Colorado Desert Planning Unit
NEPA	National Environmental Protection Agency
NTC Ft Irwin	National Training Center Fort Irwin
NPS	National Park Service
MCAGCC	Marine Corps Air Ground Combat Center
MCLB	Marine Corps Logistics Base
MOJA	Mojave National Preserve
MSHCP	Multi-species Habitat Conservation Plan
UDWR	Utah Department of Wildlife Resources
UNLV	University of Nevada Las Vegas
URTD	Upper Respiratory Tract Disease
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USMC	U.S. Marine Corps

OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
RMP	Resource Management Plan
SCA	Student Conservation Association