12-9-93

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
RIDGECREST RESOURCE AREA OFFICE
300 SOUTH RICHMOND ROAD
RIDGECREST, CALIFORNIA 93555-4436

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
4700
(CA-065.30)

December 9, 1993

Wild Horse Organized Assistance
c/o Ms. Dawn Lappin
15640 Sylvester Rd.
Reno, NV 89511

Dear Dawn:

Enclosed for your review, please find a copy of Ridgecrest Resource Area's Proposed Capture Plan, and associated preliminary Environmental Assessment, for the removal of wild horses and burros from the Centennial and Slate Herd Management Areas.

As you are aware, the BLM provides for a thirty (30) day review and comment period, in which individuals and organizations, affected by the proposed action, can submit their input to be considered in our planning and decision making process.

Therefore, I would appreciate it if you would review these documents and provide me comments by January 9, 1994, to the above address. If you have any questions concerning these two documents, or need further clarification concerning the proposed capture, please don't hesitate to contact David Sjaastad, Supervisory Range Conservationist, at phone number (619) 375-7125.

Thank you for your prompt attention in this matter.

Sincerely,

Richard S. Smith

Lee Delaney
Area Manager

Enclosures

Ridgecrest Resource Area
Capture Plan for Wild Horse and Burros
for the
Centennial and Slate Herd Management Areas
Fiscal Year 1994

I. INTRODUCTION AND BACKGROUND

The purpose of this capture plan is to outline the objectives, methods and procedures for the reduction of wild horse and burro populations for the Centennial and Slate Herd Management Areas (HMA's). The majority of the China Lake Naval Air Weapons Station (NAWS) administered lands are within the boundaries of both HMA's. Certain logistical and procedural requirements are essential in implementing a wild horse management program on the NAWS. A Interagency Agreement, No. B-060-A2-0002, signed June 1992, between the Bureau of Land Management (BLM) and the NAWS out lines the responsibilities of the two agencies for managing wild horses and burros. To protect classified national security information and also to insure the safety of personnel, the NAWS Commander must, at all times, exercise complete control of all personnel and operations on NAWS range areas. All removal operations will be carefully scheduled to minimize potential conflict with range operations. Security clearances will be obtained through the Navy for the helicopter and gather crew when the gather operations involve the NAWS.

The proposed reductions are in accordance with goals identified in the California Desert Conservation Plan.

II. AREA DESCRIPTION

The Centennial and Slate HMA's are located in the upper western Mojave Desert of southern California. The town of Ridgecrest borders the south end of the Centennial HMA and is approximately 21 miles from the upper western boundary of the Slate HMA.

SLATE HMA

The Slate HMA is located within San Bernardino County. There is approximately 520,320 acres in the HMA which includes approximately: 88,320 acres of BLM lands; 1,920 acres state lands; 8,320 acres private lands; 49,920 acres within the Fort Irwin Military Reservation; and 371,840 acres within the China Lake NAWS.

The Slate Mountain Range is located in the northwest quarter of this HMA. It falls within the boundaries of the Slate Range Wilderness Study Area (WSA), CDCA-142. Two major valleys run parallel to the mountain range. Panamint Valley to the east and Searles Valley to the west. The elevation ranges from 1900 feet up to 5,578 feet at Straw Peak on the southern tip of the range. The western boundary extends south of the NAWS boundary near Slocum Mountain (elevation 5,124) about 5 miles before heading east towards Superior Lake. In the southern portion of the HMA is the Eagle Crags. This is a small range of volcanic mountains ranging in elevation from 3,000 feet to 4,835 feet. From Superior Lake the HMA boundary heads northeastwardly to Goldstone Lake which is 2 miles east of the China Lake NAWS-Fort Irwin Military Reservation boundary. From Goldstone Lake the eastern boundary of the HMA extends past the northern boundary of the Fort Irwin Military Reservation at the Quail Mountains into the Olwshead Mountains WSA, CDCA-156 just before long valley. The HMA boundary then runs down to the south end of Brown Mountain within the

China Lake NAWS and then runs northwestwardly up through Panamint Valley, terminating at the northern slopes of the Slate Mountain Range.

CENTENNIAL HMA

The upper two-thirds of the HMA is within Inyo County. The southern one-third is divided between two counties. The west half is located in Kern County and the eastern half is in San Bernardino County. There is approximately 996,735 acres in the HMA which includes approximately: 338,880 acres of BLM lands; 15,680 acres state lands; 36,480 acres private lands; and 605,695 acres within the China Lake NAWS. A map of the HMA is shown in figure 6 and 7.

The northern boundary of the HMA is Highway 190. The upper western boundary follows close to Highway 395. The lower western boundary follows the western boundary of the China Lake NAWS down to Highway 178 and beyond about 3 miles. The southern boundary parallels Highway 178 up to Poison Canyon where it follows Highway 178 up through Trona to the northern tip of Searles Lake. The HMA boundary follows the shoreline to the southwest where it ties into the west boundary of the Slate HMA. The eastern boundary of the HMA follows the western boundary of the Slate HMA northward up Searles Valley to the northern slopes of the Slate Mountain Range. The Boundary then deviates away from the Slate HMA northward up Panamint Valley, tying into Highway 190 about 2 miles west of Panamint Springs.

In the northwest quarter of the HMA is the Coso Mountain Range. The North Coso Range WSA, CDCA-130 and the Coso Range WSA, CDCA-131 are located in this area. The Coso Mountain Range is primarily volcanic in origin, with deeply cut steep faults in basalt forming a series of mesas on the western side. The elevation ranges from 4,000 feet near the Haiwee Reservoir to 8,160 feet at Coso Peak, where a small forest of pinyon pine and juniper is found. Freshwater springs are few. Along the western edge of the Cosos is a geothermal area with active hot springs and live fumaroles, known as the Coso Hot Springs/Devil Kitchen region. This area has been developed for energy production and currently generates approximately 240 mega watts of electric power.

Coso Basin and Indian Valley Wells makes up the majority of the southwest quarter of this HMA. This area has a interbedded strata of clay, sand and gravel.

The Argus Mountain Range makes up the majority of the eastern half of the HMA. The north end of the range extends into the Nelson Range and the south end terminates at Poison Canyon. This range primarily of volcanic origin. Major faults traverse the range forming steep, jagged ridges, sharp peaks and deep, steep-faced canyons with numerous drainages and extensive series of mesas. Elevations range from 1,847 feet in the Salt Wells Valley to 8,839 feet at the summit of Maturango Peak. The Darwin WSA, CDCA-132A and the Darwin Falls Area of Critical Environmental Concern (ACEC) is located at the northern end of this mountain range. This area includes the extreme southern end of Darwin Plateau and portions of the Darwin Hills area near the town of Darwin. Riparian areas are associated with China Garden Spring and Darwin Falls located in Darwin Canyon. The hills and surrounding bajadas have Joshua tree woodland and sagebrush scrub communities. Towards the southern end of the mountain range is the Great Falls Basin WSA, CDCA-132 and the Great Falls Basin ACEC. This area is unique with its riparian attributes.

III. JUSTIFICATION

The Wild Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195) as amended, Section 3(b)(2) requires that if an overpopulation exists on a given

area of public lands and that action is necessary to remove excess animals, the authorized officer shall immediately remove excess animals from the range so as to achieve appropriate management level.

The following table lists the estimated existing populations, the appropriated management level (AML) and the goals for removal inside the HMA's.

Herd Management Area	Appropriate Management Level	Estimated Population	Excess Above Manaement Level	Goal To Gather
Centennial Horses Burros	 168 0	 600 300	 432 300	 150 150
Slate Horses Burros	 0 0	 0 58	 0 58	 0 58

Populations can increase by 15% to 25% annually. Taking a conservative reproductive estimate, population numbers could double in five years. Population estimates are based on aerial survey data, ground observations, removals and projected yearly increases of 16 percent. The following is an analysis of methods and reliability of current estimates.

HMA	Population Estimate Method and Date	Reliability (High, Good, Fair, Poor)
Centennial	Aerial Census 1991	High
Slate	Air Observations 1993 16% Yearly Increase	High

The proposed action is to comply with Federal Statutes, CDCA Plan policy and the NAWS-BLM Interagency Agreement in the removal of wild horses and burros in the Centennial and Slate HMA's. The operation is planned to begin around January 10, 1994 and last for a 30 day period.

IV. CAPTURE SITES

Several sites will be needed to gather the wild horses and burros from the HMA'S. Each site will be selected after the round-up crew has determined the location of the animals and how the topography of the area can best be used to implement the gather. In general, all capture sites will be located in areas that have been previously disturbed to cause as little damage to the natural resources as possible. Capture corral sites will be located on and adjacent to existing roadways. No corral shall be set up in a WSA. Trap sites and temporary corrals will be confined within the WSA boundary roads, cherrystems or areas excluded from WSA's. Cherrystems are existing roads open for vehicle traffic in a WSA. Special care will be taken to minimize disturbance to resource values in gather areas.

CAPTURE SITES

Proposed Trap Sites on NAWS administered lands for the Centennial HMA

1. Sweetwater Wash. T. 24 S, R. 41 E, Sec. 10 SWSW, M.D.B.M.

2. Birchum Springs. T. 23 S, R. 42 E, Sec. 18 SENW, M.D.B.M.
3. Coso Hot Springs. T. 22 S, R. 39 E, Sec. 10 SENW, M.D.B.M.
4. Wild Horse Mesa. T. 22 S, R. 41 E, Sec. 21 SESE, M.D.B.M.
5. Big Cactus Flat. T. 21 S, R. 38 E, Sec. 12 NWNW, M.D.B.M.
6. El Conejo Mine. T. 21 S, R. 41 E, Sec. 30 NWSW, M.D.B.M.
7. Cole Spring. T. 20 S, R. 40 E, Sec. 32 SESW, M.D.B.M.
8. Darwin Wash. T. 20 S, R. 41 E, Sec. 29 SENW, M.D.B.M.

Proposed Trap Sites on BLM Administered Lands for the Centennial HMA

9. Thorndike Mine. T. 20 S, R. 38 E, Sec. 31 SENW, M.D.B.M.
10. Lower Centennial Flat. T. 19 S, R. 39 E, Sec. 25 SENE, M.D.B.M.
11. Little Cactus Flat. T. 20 S, R. 37 1/2 E, Sec. 12 NENE, M.D.B.M.
12. Nadeau Trail. Runs in a north-south direction on the east side of the Argus Mountain Range.
    T. 18 S, R. 42 E, Sec. 28 SWSW, M.D.B.M. Intersects HWY 190
    T. 22 S, R. 43 E, Sec. 28 NWNE, M.D.B.M. Intersects HWY 178

Proposed Trap Sites on NAWS administered Lands for the Slate HMA

1. Road Ways on the east side of the Slate Mountain Range and between Wingate Pass.
   T. 25 S and 26 S, R. 45 E, M.D.B.M.

2. Indian Spring Road. Runs in a west-east direction south of the Eagle Crags.
   T. 30 S, R. 46 E, Sec. 7, M.D.B.M. West End
   T. 30 S, R. 46 E, Sec. 1, M.D.B.M. East End

3. Searles Valley on the east side of Searles Lake playa.
   T. 26 S, R. 44 E, Sec. 33, M.D.B.M.

Proposed Trap Sites on BLM Administered Lands for the Slate HMA

1. Indian Ranch Road and associated exclusion areas. The road runs in a north-south direction on the east side of the Slate Mountain Range.
   T. 22 S, R. 44 E, Sec. 3 NWSW, M.D.B.M. North End at Ballarat
   T. 22 S, R. 44 E, Sec. 35 S 1/2, M.D.B.M. Exclusion Area
   T. 23 S, R. 44 E, Sec. 14 NENW, M.D.B.M. Exclusion Area
   T. 24 S, R. 44 E, Sec. 12 NESW, M.D.B.M. Intersects Route P170

2. Route P152. Runs in a west-east direction. West end intersects Route P170.
   T. 24 S, R. 44 E, Sec. 12 SENW, M.D.B.M. West End
   T. 24 S, R. 45 E, Sec. 7 NESW, M.D.B.M. East End

3. Route P103 and associated roads. Runs in a north-south direction on the west side of the Slate Mountain Range.
   T. 22 S, R. 43 E, Sec. 33 NENE, M.D.B.M. North End
   T. 24 S, R. 43 E, Sec. 22 NWNE, M.D.B.M. Intersects Route P130

4. Route P130. Runs in a east-west direction on the west side of the Slate Mountain Range.
   T. 24 S, R. 43 E, Sec. 22 NWNE, M.D.B.M. West End
   T. 24 S, R. 44 E, Sec. 18 SENW, M.D.B.M. East End (Outside WSA)

5. Route P168. Runs in a southeast-northeast direction on the west side of the Slate Mountain Range.

T. 24 S, R. 43 E, Sec. 13 NWNW, M.D.B.M. Intersects Route P130
T. 24 S, R. 43 E, Sec. 12 SENE, M.D.B.M. Northeast End

V. METHODS OF CAPTURE

The proposed activities include the use of a Bell helicopter, 4 to 5 BLM wranglers on horseback, 8 to 10 saddle horses, temporary corrals to hold the wild horses or burros, trucks and trailers to remove the captured animals. All work will be done by personnel experienced in gathering operations, mostly the BLM wild horse and burro crew.

One of two methods of capture will be employed, depending on the number of animals to be trapped. If the number is 15 or greater, a run trap will be used. If less than 15, wranglers on horseback will rope and capture the animals. Both methods will be assisted by the helicopter to locate and herd the targeted animals to the capture site and assist the wranglers in capturing the animals.

It is expected that the number of animals herded will vary from 1 to 20 head. All attempts will be made to move and keep the band together. Rate of movement and distance animals travel will be based on terrain, physical barriers, weather and condition of animals. Burros would be herded a distance of up to six miles by the helicopter. Burros would not be moved at more than 10 miles an hour, and would be given a chance to rest as necessary. The helicopter will carry a BLM employee when necessary and should any animal become fatigued or undue stress is noted, the pilot will break off pursuit, so the animal(s) may rest and recover.

Each area will be flown prior to the start of the roundup to locate the animals, study the terrain and locate any hazards to the burros and/or horses while being herded (fences,cliffs, etc.). Flight time would not exceed 8 hours a day. The helicopter would normally fly at heights from 50 to 100 feet, although it would drop as low as 5 or 6 feet when turning the animals. This latter action would be brief (2 to 4 minutes), and would occur within 200 meters of the corral. Refueling would involve one fuel truck, which would be restricted to existing roads. Refueling would occur three to four times a day on flat, previously disturbed areas near the corral.

Heavy trucks will be necessary to transport the captured animals to holding facilities, thus trapping locations will be limited to those areas where suitable access exists. The temporary corral would be located near road ways or in road ways that are cherry stemmed from WSA's. The corral and related structures will be installed by hand using hand tools and will be removed upon completion of the gather in the area. A new site may then be set up according to the location of any other herds. If vehicle traffic needs access through the corral when it is positioned in the road or if the corral is going to be left over night, the end panels will be removed to allow access through the corral. The temporary corral would be constructed of portable steel pipe panels (height 6 to 7 feet) and would be self supporting. The dimensions of the corral will vary with the topography and the dimensions of the road.

Run traps will have two temporary wing extensions posed at 45 to 90 degree angles from two sides of the corral. A wing extension consists of 6 feet high jute netting supported by steel tee-posts spaced approximately 15 to 20 feet apart for a distance up to 300 feet. The jute provides a visible barrier that aids in herding the animals to the trap corral. Run traps are usually placed in arroyos or immediately over the crest of a hill where the corral extensions are easily disguised or not easily seen. The extensions create a funnel into which animals are herded by the helicopter and wranglers on horseback. As the helicopter herds the horses to the capture site, the wranglers will be stationed in a concealed location at the ends of the wings. Once the animals

are driven between the extensions, a decoy domestic "parader" horse is released by the wranglers and the wild horses usually follow the domestic animal into the corral. Wranglers stationed at the periphery of each extension assist the helicopter in preventing the animals from turning back and escaping the trap. Once a group of animals is in the corral, a gate is closed and capture is complete.

Colts and mothers occasionally become separated or which escape during capture. The escaped mother or colt would be roped to keep the colt from being orphaned. Only horses that must be captured individually would be roped.

The rope and capture method involves the helicopter to herd the wild animals to the wranglers on horse back. The wranglers will be positioned out of view from the on coming animals and in an area that allows the wranglers to maneuver their horses when giving chase. The helicopter will bring the main herd to a holding area and will break off a smaller set of animals that the wranglers can manage, usually one animal per wrangler. These animals are herded to the capture area. The wranglers will give chase, rope by lassoing the animal around the neck and leading the captured animal into the corral. This is repeated until all the targeted animals are captured.

Both trapping techniques require careful consideration of potential impacts to cultural, natural and military resources. The location of the trap sites would be subject to Navy approval on the Navy lands to insure that resource degradation or interference with military operations would be avoided, minimized or mitigated.

Approximately 8 to 10 saddle horses would be used in each operation. Those horses not being used during the capture will be kept tied to or left inside of the horse trailer during the round-up. Captured animals will be loaded onto goose-neck horse trailers that are pulled by 1-ton four wheel drive trucks and transported to the BLM Ridgecrest Corrals, where they will be sorted. The captured animals would receive water and feed according to their needs. Handling of the animals would be kept to a minimum in order to avoid traumatizing the animals as much as possible. A veterinarian would be on call at all times.

SORTING

All animals gathered will be brought back to the BLM Ridgecrest Corrals. Captured wild horses and burros are very sensitive to people. Because of this, the number of team members to handle the animals shall be limited to essential personnel to alleviate stress on the animals. The number of animals will be counted as they come off the trailer. The first consideration after unloading is to determine which animals, if any need special attention for injuries, illnesses or any other problems requiring prompt attention. Yearlings or younger are separated from older animals. The orphans shall be separated and provisions made to feed and care for them. The older animals will be separated by sex. The bureau policy of removing wild horse off the range require them to be five years and younger or they will be returned to the range. Exceptions will be made to the older animals that could be put through the Lerdo Prison Program or if there is a demand for them within the wild horse and burro adoption program. This determination would be made prior to returning the older animals back to the range.

VI. RESPONSIBILITIES

It will be the responsibility of the Capture Crew Leader from the Ridgecrest Resource Area Office to locate all round-up sites to assure that the capture

is being conducted in accordance with applicable regulations, BLM policy, in accordance with the California Desert Plan and the interim HMAP, and NAWS requirements. The capture crew leader will also insure that the animals are humanely treated (both using the helicopter and on the ground), work in a safe manner, observe the guidelines set forth in the capture plan and to determine if destruction of any sick or injured animals is necessary during the round-up. If for some reason the Wild Horse and Burro Specialist or Technician is unavailable, the Resource Area Supervisory Range Conservationist will act in his or her absence.

The Capture Crew Leader will keep the Ridgecrest Resource Area Supervisory Range Conservationist advised of progress and of any problems in implementing the capture plan. The Range Conservationist in turn who will keep the Ridgecrest Resource Area Manager informed.

VI. INJURIES AND DISEASE

For injuries and disease not requiring destruction, the Capture Crew Leader will determine if the animal can be transported to the Ridgecrest Corrals without further injury, harm or undue pain to the animal. If the animal can be transported, the animal will be treated upon arrival at the Ridgecrest Corrals. If the animal cannot be transported, or if the Capture Crew Leader is uncertain, a veterinarian will examine the injured or sick animal at the capture site.

VII. DESTRUCTION OF INJURED OR SICK ANIMALS

Any severely injured or sick animal shall be destroyed in accordance with 43 CFR 4740.31. Such animals shall be destroyed only when a definite act of mercy is needed to alleviate pain and suffering. When the Capture Crew Leader is unsure as to the severity of an injury or sickness, a veterinarian will be on call to make a final determination. Destruction shall be done in the most humane method available.

VIII. SAFETY

All capturing and handling of the animals shall be done in the safest manner possible for the wild animal, personnel and saddle horses. Some guidance may be obtained from "Safety Guidelines for Handling Wild Horses", prepared by the BLM, Burns District Office. All Aircraft Safety and CDD Communication procedures will be adhered to.

ENVIRONMENTAL ASSESSMENT

Ridgecrest Resource Area
Centennial and Slate Herd Management Areas
Wild Horse and Burro Gather and Removal

EA-CA065-94-20

U.S. Department of the Interior
Bureau of Land Management
Ridgecrest Resource Area
300 South Richmond Road
Ridgecrest, California 93555

This document analyzes the site specific impacts of gathering and removing wild horses and burros from the Centennial and Slate Herd Management Areas. These projects are part of the Bureaus continuing efforts to manage wild horse and burro populations, so that critical resources are protected and a thriving ecological balance is maintained. The gathers will implement helicopter assisted methods of capture. The project areas were reviewed by Beureau of Land Management and China Lake Naval Air Weapons Station staff specialists, with respect to the proposed action and alternatives.

SUMMARY

I. **Title of report:** Environmental Assessment for the Centennial and Slate Herd Management Areas Wild Horse and Burro Gather and removal.

II. **EA Number:** EA-CA065-94-20

III. **Lead writer/team leader:** Alex Neibergs (Name) Wild Horse and Burro Specialist (Title)

IV.

Participating Staff	Resource Specialty
Name	Title
Julee Pallette	Wilderness Specialist
Robert Parker	Wildlife Biologist
Tom Campbell	Biologist Naval Air Weapons Station
Glenn W. Harris	Natural Resources/Cultural Specialist
Dave Sjaastad	Range Conservationist

V. **Team leader/Writer** _____
Signature Date

VI. **Environmental Coordinator** _____
Signature Date

VII. **Resources Branch Chief** _____
Signature Date

Table of Content

I. Purpose and Need

Wild horses and burros in the Mojave Desert are thought to have escaped from, or been turned loose by, early prospectors over 100 years ago. They have relatively high reproductive rates, few natural predators and low incidence of disease. As time passed they multiplied to the point that they were out competing native wildlife and overgrazing rangelands. Throughout the western United States, it became increasingly apparent that detrimental impacts exerted by uncontrolled populations of wild horses and burros upon soils, native plant and animal communities, water and cultural resources degraded the natural environmental quality of arid land ecosystems.

The need to manage these impacts and the mechanisms for doing so have been clearly established. Congress recognized the issues and established parameters for management through the Wild Free Roaming Horse and Burro Act of 1971, the Federal Land Policy and Management Act of 1976, and the Public Rangelands Improvement Act of 1978. In the California Desert Conservation Area (CDCA) Resource Management Plan of 1980, the Bureau of Land Management (BLM) identified 22 Herd Management Areas (HMA's), which established appropriate management levels for wild horse and burro populations. Lands outside of the established HMA's are to be managed for other resources to the exclusion of horses and burros. The current estimated populations of wild horses and burros in the Centennial HMA and burros in the Slate HMA exceed the management level prescribed in the CDCA Plan.

The following table lists the estimated existing populations, the appropriated management level (AML) and the goals for removal inside the HMA's.

Herd Management Area	Appropriate Management Level	Estimated Population	Excess Above Manaement Level	Goal To Gather
Centennial				
Horses	168	600	432	150
Burros	0	300	300	150
Slate				
Horses	0	0	0	0
Burros	0	58	58	58

Populations can increase by 15% to 25% annually. Taking a conservative reproductive estimate, population numbers could double in five years.

The Wild Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195) as amended, Section 3(b)(2) requires that if an overpopulation exists on a given area of public lands and that action is necessary to remove excess animals, the authorized officer shall immediately remove excess animals from the range so as to achieve appropriate management levels.

The China Lake Naval Air Weapons Station (NAWS) is a full cooperater in this proposed removal. The NAWS has two major land areas: the China Lake Test Range Complex (approximately 605,700 acres) and the Mojave "B"/Randsburg Wash Test Range Complex (approximately 487,300 acres). The China Lake Test Range Complex is within the Centennial HMA boundaries and the Slate HMA incorporates about 80 percent of the Mojave "B"/Randsburg Wash Test Range Complex. The primary mission of the NAWS is to serve as the principal Unites States Naval research, development, test and evaluation center for air warfare and missile weapons systems. The land comprising the NAWS is administered by the Navy. A Interagency Agreement, NO. B-060-A2-0002, signed June 1992, between the BLM and the NAWS outlines the responsibilities of the two agencies for managing wild horses and burros. Wild horses are found only within the China Lake Complex.

The NAWS historically had conflicts with burros. Uncontrolled populations damaged remote tracking systems and instrumentation sites; wandered onto rocket sled railways, airfields and roads; caused vehicle accidents; and created a high potential for aircraft accidents on runways. These herds of wild burros were detrimental to the proper management and operation of the NAWS test ranges. They were also detrimental to the management and protection of significant biological and cultural/archeological resources located on the NAWS lands.

In 1981, Amendment 24 to the CDCA plan was proposed to delete the Centennial and Slate HMA's of the Centennial/Slate Herd Management Area Plan for burros, because of the conflicts that they were imposing on the NAWS. The record of decision for the amendment was approvedd. The appropriate herd management level for these two HMA's is now zero burros.

The problem of burros interfering with NAWS activities has been effectively controlled by the reduction in their population through roundups initiated in 1982. The goal of total and permanent burro removal may never be fully achieved, due to emigration of burros from adjacent HMA's into the Slate and Centennial HMA's. Wild horses have the potential to cause adverse impacts similar to those created by burros, if populations are allowed to increase without control.

II. Authority and Planning Conformance

The Wild Free Roaming Horse and Burro Act of 1971, the Public Range Improvement Act of 1976, the California Conservation Area Plan of 1980 and the BLM-NAWS Interagency Agreement, NO. B-060-A2-0002 of 1992 outlines the laws and regulations that will be followed in managing and removing wild horses and burros.

III. Proposed Action and Alternative

Proposed Action:

The proposed action is to comply with Federal Statutes, CDCA Plan policy and the NAWS-BLM Interagency Agreement in the removal of wild horses and burros in the Centennial and Slate HMA's. The operation is planned to begin on or about January 11, 1994 and last for a 30 day period.

Several capture sites will be used to gather the wild horses and burros from the HMA'S. Each site will be selected after the gather crew has determined the location of the animals and how the topography of the area can best be used to implement the removal. In general, all capture sites will be located in areas that have been previously disturbed to cause as little damage to the natural resources as possible. Capture corral sites will be located on and adjacent to existing roadways. No corral or trap site shall be set up in a WSA. Special care will be taken to minimize disturbance to resource values in gather areas adjacent to WSA's. The objectives, methods and procedures for wild horse and burro reductions are described in the Ridgecrest Resource Area Capture Plan for Wild Horses and Burros for the Centennial and Slate Herd Management Areas Fiscal Year 1994 (attached).

Capture Sites

Proposed Trap Sites on NAWS administered lands for the Centennial HMA (Fig. 1)

1.	Sweetwater Wash.	T. 24 S,	R. 41 E,	Sec. 10	SWSW, M.D.B.M.
2.	Birchum Springs.	T. 23 S,	R. 42 E,	Sec. 18	SENW, M.D.B.M.
3.	Coso Hot Springs.	T. 22 S,	R. 39 E,	Sec. 10	SENW, M.D.B.M.
4.	Wild Horse Mesa.	T. 22 S,	R. 41 E,	Sec. 21	SESE, M.D.B.M.
5.	Big Cactus Flat.	T. 21 S,	R. 38 E,	Sec. 12	NWNW, M.D.B.M.
6.	El Conejo Mine.	T. 21 S,	R. 41 E,	Sec. 30	NWSW, M.D.B.M.
7.	Cole Spring.	T. 20 S,	R. 40 E,	Sec. 32	SESW, M.D.B.M.

8. Darwin Wash. T. 20 S, R. 41 E, Sec. 29 SENW, M.D.B.M.

Proposed Trap Sites on BLM Administered Lands for the Centennial HMA (Fig. 1)

9. Thorndike Mine. T. 20 S, R. 38 E, Sec. 31 SENW, M.D.B.M.
10. Lower Centennial Flat. T. 19 S, R. 39 E, Sec. 25 SENE, M.D.B.M.
11. Little Cactus Flat. T. 20 S, R. 37 1/2 E, Sec. 12 NENE, M.D.B.M.
12. Nadeau Trail. Runs in a north-south direction on the east side of the Argus Mountain Range.
    T. 18 S, R. 42 E, Sec. 28 SWSW, M.D.B.M. Intersects HWY 190
    T. 22 S, R. 43 E, Sec. 28 NWNE, M.D.B.M. Intersects HWY 178

Proposed Trap Sites on NAWS administered Lands for the Slate HMA (Fig. 2)

1. Road Ways on the east side of the Slate Mountain Range and between Wingate Pass.
   T. 25 S and 26 S, R. 45 E, M.D.B.M.

2. Indian Spring Road. Runs in a west-east direction south of the Eagle Crags.
   T. 30 S, R. 46 E, Sec. 7, M.D.B.M. West End
   T. 30 S, R. 46 E, Sec. 1, M.D.B.M. East End

3. Searles Valley on the east side of Searles Lake playa.
   T. 26 S, R. 44 E, Sec. 33, M.D.B.M.

Proposed Trap Sites on BLM Administered Lands for the Slate HMA (Fig. 2)

1. Indian Ranch Road and associated exclusion areas. The road runs in a north-south direction on the east side of the Slate Mountain Range.
   T. 22 S, R. 44 E, Sec. 3 NWSW, M.D.B.M. North End at Ballarat
   T. 22 S, R. 44 E, Sec. 35 S 1/2, M.D.B.M. Exclusion Area
   T. 23 S, R. 44 E, Sec. 14 NENW, M.D.B.M. Exclusion Area
   T. 24 S, R. 44 E, Sec. 12 NESW, M.D.B.M. Intersects Route P170

2. Route P152 and associated exclusion areas. Runs in a west-east direction. West end intersects Route P170.
   T. 24 S, R. 44 E, Sec. 12 SENW, M.D.B.M. West End
   T. 24 S, R. 45 E, Sec. 7 NESW, M.D.B.M. East End

3. Route P103 and associated roads. Runs in a north-south direction on the west side of the Slate Mountain Range.
   T. 22 S, R. 43 E, Sec. 33 NENE, M.D.B.M. North End
   T. 24 S, R. 43 E, Sec. 22 NWNE, M.D.B.M. Intersects Route P130

4. Route P130. Runs in a east-west direction on the west side of the Slate Mountain Range.
   T. 24 S, R. 43 E, Sec. 22 NWNE, M.D.B.M. West End
   T. 24 S, R. 44 E, Sec. 18 SENW, M.D.B.M. East End (Outside WSA)

5. Route P168. Runs in a southeast-northeast direction on the west side of the Slate Mountain Range.
   T. 24 S, R. 43 E, Sec. 13 NWNW, M.D.B.M. Intersects Route P130
   T. 24 S, R. 43 E, Sec. 12 SENE, M.D.B.M. Northeast End (O

Alternative - No Action:

The "No Action" alternative will be reviewed. Under the "No Action" alternative, no wild horses or burros would be gathered.

IV. Affected Environment

General Conditions:

The Centennial and Slate HMA's are located in the upper western Mojave Desert of southern California. The town of Ridgecrest borders the south end of the Centennial HMA and is approximately 21 miles from the upper western boundary of the Slate HMA. A vicinity map is shown in figure 3.

Slate HMA

The Slate HMA is located within San Bernardino County. There is approximately 520,320 acres in the HMA which includes approximately: 88,320 acres of BLM lands; 1,920 acres state lands; 8,320 acres private lands; 49,920 acres within the Fort Irwin Military Reservation; and 371,840 acres within the China Lake NAWS. A map of the HMA is shown in figure 4 and 5.

The Slate Mountain Range is located in the northwest quarter of this HMA. It falls within the boundaries of the Slate Range Wilderness Study Area (WSA), CDCA-142. Two major valleys run parallel to the mountain range. Panamint Valley to the east and Searles Valley to the west. The elevation ranges from 1900 feet up to 5,578 feet at Straw Peak on the southern tip of the range. The western boundary extends south of the NAWS boundary near Slocum Mountain (elevation 5,124) about 5 miles before heading east towards Superior Lake. In the southern portion of the HMA is the Eagle Crags. This is a small range of volcanic mountains ranging in elevation from 3,000 feet to 4,835 feet. From Superior Lake the HMA boundary heads northeastwardly to Goldstone Lake which is 2 miles east of the China Lake NAWS-Fort Irwin Military Reservation boundary. From Goldstone Lake the eastern boundary of the HMA extends past the northern boundary of the Fort Irwin Military Reservation at the Quail Mountains into the Olwshead Mountains WSA-CDCA-156 just before long valley. The HMA boundary then runs down to the south end of Brown Mountain within the China Lake NAWS and then runs northwestwardly up through Panamint Valley, terminating at the northern slopes of the Slate Mountain Range.

Centennial HMA

The upper two-thirds of the HMA is within Inyo County. The southern one-third is divided between two counties. The west half is located in Kern County and the eastern half is in San Bernardino County. There is approximately 996,735 acres in the HMA which includes approximately: 338,880 acres of BLM lands; 15,680 acres state lands; 36,480 acres private lands; and 605,695 acres within the China Lake NAWS. A map of the HMA is shown in figure 6 and 7.

The northern boundary of the HMA is Highway 190. The upper western boundary follows close to Highway 395. The lower western boundary follows the western boundary of the China Lake NAWS down to Highway 178 and beyond about 3 miles. The southern boundary parallels Highway 178 up to Poison Canyon where it follows Highway 178 up through Trona to the northern tip of Searles Lake. The HMA boundary follows the shoreline to the southwest where it ties into the west boundary of the Slate HMA. The eastern boundary of the HMA follows the western boundary of the Slate HMA northward up Searles Valley to the northern slopes of the Slate Mountain Range. The Boundary then deviates away from the Slate HMA northward up Panamint Valley, tying into Highway 190 about 2 miles west of Panamint Springs.

In the northwest quarter of the HMA is the Coso Mountain Range. The North Coso Range WSA, CDCA-130 and the Coso Range WSA, CDCA-131 are located in this area. The Coso Mountain Range is primarily volcanic in origin, with deeply cut steep faults in basalt forming a series of mesas on the western side. The

elevation ranges from 4,000 feet near the Haiwee Reservoir to 8,160 feet at Coso Peak, where a small forest of pinyon pine and juniper is found. Freshwater springs are few. Along the western edge of the Cosos is a geothermal area with active hot springs and live fumaroles, known as the Coso Hot Springs/Devil Kitchen region. This area has been developed for energy production and currently generates approximately 240 mega watts of electric power.

Coso Basin and Indian Valley Wells makes up the majority of the southwest quarter of this HMA. This area has a interbedded strata of clay, sand and gravel.

The Argus Mountain Range makes up the majority of the eastern half of the HMA. The north end of the range extends into the Nelson Range and the south end terminates at Poison Canyon. This range primarily of volcanic origin. Major faults traverse the range forming steep, jagged ridges, sharp peaks and deep, steep-faced canyons with numerous drainages and extensive series of mesas. Elevations range from 1,847 feet in the Salt Wells Valley to 8,839 feet at the summit of Maturango Peak. The Darwin WSA-CDCA-132A and the Darwin Falls Area of Critical Environmental Concern (ACEC) are located at the northern end of this mountain range. This area includes the extreme southern end of Darwin Plateau and portions of the Darwin Hills area near the town of Darwin. Riparian areas are associated with China Garden Spring and Darwin Falls located in Darwin Canyon. The hills and surrounding bajadas have Joshua tree woodland and sagebrush scrub communities. Towards the southern end of the mountain range is the Great Falls Basin WSA-CDCA-132, and the Great Falls Basin ACEC. This area is unique with its riparian attributes.

Climate

The weather is typical of the Mojave Desert, but is influenced by the Great Basin in the northern portions of the Centennial HMA where it is cooler and wetter. Temperature for summer highs average 98°F (36°C) and 65°F (18°C) for average lows. Winter highs average 62°F (16°C), with lows of 32°F (0°C). Precipitation over the area is usually quite variable. June is on the average the driest month, with 0.02 inches (0.5mm), while January and February are the wettest, each averaging 0.49 inches (12. 4mm).

Specific Resource Values

Surface Hydrology

Surface water occurs in the form of seeps, wells, springs and developed wildlife drinkers. Perennial springs are important water resources for native wildlife as well as wild horses and burros. The daily output of some of these water sources is very small. The potential for water shortage exists if the springs and guzzlers are over utilized, or severe drought conditions occur. The riparian vegetation associated with the permanent water resources are unique and provides habitat for numerous species of wildlife. Large uncontrolled concentrations of wild horses or burros at water sources damage the riparian vegetation; compact the soil around the water source; increase soil erosion, which contributes to increased water turbidity; and water is contaminated with feces and urine. Fecal contamination has been documented at Birchum Springs and Junction Ranch on the Naval Station in the form of fecal coliform and fecal streptococci (Phillips 1981). Water turbidity, water depletions, changes in water chemistry due to urine and feces, changes in temperature and repeated disturbances of the water surface, subsurface and the surrounding area may influence the survival of aquatic species or terrestrial species dependent on these water sources.

Wild horses do not generally range more than two miles from these watering sources (Phillips 1982). During periods of drought and/or the hottest part of the year, wild horses and burros concentrate around the water sources.

Vegetation

The vegetative communities of the HMA's are characterized by components derived from two major floristic zones, the Great Basin and Mojave Deserts.

Nine principal vegetative zones have been identified in the HMA's. The Forest and Woodland/Scrub-High Cover zones are found only in the Centennial HMA and all other zones are found in both HMA's.

1. Forest

The pinyon-juniper (Pinus monophylla-Juniperus spp.) association is the single forest community in the Centennial HMA. It is found between the elevations of 6,500-8,000 feet within the Coso Mountains and the northern range of the Argus Mountains. The pinyon grows at higher elevations and on the northern exposures at lower elevations. The juniper can tolerate drier climatic regimes and predominately is found at lower elevations and on southern exposures. Dominant and subdominant understory species in the pinyon-juniper community are sagebrush (Artemisia tridentata and A. nova), antelopebrush (Purshia glandulosa), a variety of perennial grasses such as galleta grass (Hilaria jamesii), squirreltail (Sitanion histrix) and needlegrasses (Stipa spp.).

2. Woodland/Scrub-High Cover

An open pinyon-juniper woodland predominates between the 6,500 and 7,000 foot elevations of the Centennial HMA. Associated subdominate species include sagebrush, galleta grass, squirreltail and needlegrass.

The Joshua-blackbrush (Yucca brevifolia-Coleogyne ramosissima) association is a woodland-scrub zone that is not influenced by the Great Basin floristic zone. It is found between the elevations of 4,000 and 6,000 feet. The subdominant species include spiny hopsage (Grayia spinosa), goldenbush (Haplopappus linearifolius), rabbit-bush (Chrysothamnus nauseosus and C. viscidiflorus), needlegrass and squirreltail and galleta grass, along with an occasional pinyon and/or juniper trees at the higher elevations.

3. Woodland/Scrub-Low Cover

A low cover woodland emerges between elevations of 3,000 and 7,000 feet where moisture, temperature and edaphic regimes produce a slightly drier habitat. Vegetation includes sagebrush, shadscale (Atriplex confertifolia), needlegrass, galleta grass, squirreltail and cheatgrass (Bromus tectorum).

Another low-cover woodland community occurs between 2,000 and 5,000 feet in elevation consisting of Joshua tree, creosote bush (Larrea tridentata), needlegrass and cheatgrass.

4. Scrub-High Diversity

The scrub community composed of sagebrush, rabbit-brush, spiny hopsage, winter fat (Eurotia lanata), mormon tea (Ephedra spp.) and grasses are scattered throughout the area between the elevations of 2,300 and 7,000 feet.

Another scrubland association is composed primarily of blackbrush with associated species of shadscale, spiny hopsage, mormon tea, winterfat and scattered Joshua trees.

5. Scrub-Moderate Diversity

The creosote/burro bush (Ambrosia dumosa) scrubland association is present from playa edges up to 5,000 feet elevation. Creosote generally grows in open stands on well drained slopes, fans and valleys. Subdominate species includes cheesebush (Hymenoclea salsola), desert senna (Cassia armata) and saltbush (Atriplex spp.).

6. Scrub-Low Diversity

Desert Holly (Atriplex hymenelytra) is a dominant species in a low diversity scrub association which is found in some areas between 1,000 and 5,000 feet in elevation (Phillips 1982).

7. Scrub/Grassland

This vegetation zone exists from playa edges up to about 3,200 feet (Phillips 1981). Dominant species include four-winged saltbush (Atriplex canescens), needle grass and brome grass (Bromus spp.)

8. Scrub/Barren

This vegetative zone exists near playas and at elevations below 3,200 feet. Plants are tolerant of extreme temperatures, low precipitation and high alkaline and saline soil conditions. The dominant specie is saltbush associated with subdominant species of pickleweed (Allenrolfea occidentalis) and inkweed (Suaeda torreyana).

9. Riparian

Riparian areas are scattered throughout the Centennial HMA and are generally associated wherever surface water occurs. They are generally highly productive and add considerable botanical diversity to the regional flora and fauna. The dominant plants include willows (Salix spp.), cotton woods (Populus spp.) mesquite (Prosopis glandulosa), squaw waterweed (Baccharis sergiloides) and gooseberry (Ribes velutina). Riparian habitat provide water, shade, protective cover, food, breeding and nesting sites for a wide variety of vertebrates. Wild horses and burros tend to concentrate around riparian areas in the hot summer months in an attempt to alleviate stress due to heat, water and forage shortages (Phillips 1981). With an expanding wild horse and burro population, negative impacts to the water sources and the surrounding areas increase.

Vegetative Impacts

The results of a 1982 aerial census, indicated that the pinyon-juniper, joshua-blackbrush and riparian habitat types are the three major vegetative associations occupied and influenced by wild horses. The census indicated that 22 percent of the horse bands were in the pinyon-juniper vegetative zone within the Coso Mountain area, seventy-two percent occurred on the grass covered lava mesa tops within the joshua tree-blackbrush vegetative zone and six percent of the wild horse sightings were seen at riparian areas (Phillips 1982). Studies indicate that horses are grazers and that grasses constitute the major portion of the diet. Horses are highly selective feeders, showing a preference for short, new growth while rejecting old growth. Under conditions of food scarcity, horses are capable of closely cropping and eventually eliminating the available high value vegetation (Phillips 1982).

The species composition of a plant community can be altered with grazing. The degree of alteration varies according to climate, soil, topography, grazing pressure and plant species. Positive or negative impacts can occur

with grazing depending upon the amount and frequency the forage plants are cropped. If plant species are continually cropped to the point that their photosynthetic efficiency, reproductive capacity, vigor and survival decreases, the alteration of a plant community will occur. Under heavy burro grazing pressure, it has been found that perennial grasses and forbs disappear quickly and creosote and sagebrush increase (Phillips 1981). In 1981, BLM range specialists determined that nearly all perennial grasses, the principal components of wild horse diets, and approximately 50 percent of wild burro diets, had been removed from the Lacey/Cactus/McCloud allotment. Overgrazing by cattle, wild horses and burros was the assumed cause (Phillips 1982). On overgrazed ranges in arid habitats, areas near water are typically severely impacted and these conditions presently exists. It is also evident that weedy annual species will colonize disturbed sites.

Plants provide protection against soil loss. Under natural conditions, lichens, moss and alga frequently grow on the surface of desert soils forming a cryptogamic soil crust. It is believed that this crust acts to retain soil moisture, provide a seed bed, and prevents soil erosion.

Sensitive Plants

Sensitive plants are those considered as such by the U.S. Fish and Wildlife Service, the California Department of Fish and Game and the California Native Plant Society which are Rare, Threatened or Endangered, as well as species of limited distribution.

Nine sensitive species have been reported to occur on the subject land. None of these species are listed as Rare, Threatened or Endangered under the Federal Endangered Species Act or under the California Native Plant Protection Act, but all nine species are California Department of Fish and Game Natural Diversity Data Base Special Plants. The following is the list of species, their life cycle, flowering period and habitat (Bagley 1985).

1. Astragalus atratus var. mensanus (Darwin Mesa milk-vetch)

Perennial	
Flowering Period:	April - June
Elevational Range:	5400 - 6050 feet
Plant Communities:	Sagebrush Scrub and Pinyon-Juniper Woodland
Potential Habitat:	Northern Coso and Argus Ranges on open flats and hillsides, in volcanic clay and gravel.

2. Cordylanthus eremicus ssp. eremicus (Panamint birds-beak)

Annual	
Flowering Period:	August - October
Elevational Range:	4900 - 8400 feet
Plant Communities:	Sagebrush Scrub, Pinyon-Juniper Woodland
Potential Habitat:	Coso and Argus Ranges on dry rocky and gravelly flats and slopes with soils derived from granite or marine sedimentary deposits.

3. Dudleya saxosa ssp. saxosa (Panamint live forever)

Perennial	
Flowering Period:	May - June
Elevational Range:	3000 - 7100 feet
Plant Communities:	Creosote Bush Scrub to Pinyon Juniper Woodland
Potential Habitat:	Dry stony slopes, in bedrock cracks and on cliffs.

4. Fendlerella utahensis (Utah fendlerella)

Shrub	
Flowering Period:	June - August
Elevational Range:	4,000 - 8,400 feet
Plant Communities:	Shadscale scrub, Mixed desert Scrub, Sagebrush Scrub and Pinyon-Juniper Woodland
Potential Habitat:	Limestone areas of the northern Argus Range.

5. Hulsea vestita ssp. inyoensis (Inyo hulsea)

Biennial or Perennial	
Flowering Period:	Late April - June
Elevational Range:	4600 - 7600 feet
Plant Communities:	Mixed Desert Scrub, Sagebrush Scrub, and Pinyon-Juniper Woodland
Potential Habitat:	Coso and Argus ranges on disturbed areas and unstable slopes of course soil.

6. Lupinus magnificus var. glareola (Coso Mountains lupine)

Perennial	
Flowering Period:	Late April - June
Elevational Range:	5,000 - 7,000 feet
Plant Communities:	Joshua Tree Woodland, Sagebrush Scrub and Pinyon Juniper Woodland
Potential Habitat:	Coso and Argus ranges on open slopes in sandy or gravelly loam derived from granite rocks.

7. Phacelia mustelina (Weasel phacelia)

Annual	
Flowering Period:	March - June
Elevational Range:	3,000 - 6,000 feet
Plant Communities:	Creosote bush Scrub, Mixed Desert Scrub, Sage Brush Scrub and Pinyon-Juniper Woodland.
Potential Habitat:	Crevices and ledges on granitic, volcanic and limestone rock outcrops and cliffs.

8. Psorothamnus arborescens var. arborescens (Mojave indigo bush)

Shrub	
Flowering Period:	April - May
Elevational Range:	1,300 - 2,600 feet
Plant Communities:	Creosote Bush Scrub
Potential Habitat:	Desert hillsides and stony flats and on granitic bedrock.

9. Sclerocactus polyancistrus (Mojave fishhook cactus)

Cactus	
Flowering Period:	April - June
Elevational range:	2,000 - 7,000 feet
Plant Communities:	Creosote Bush Scrub, Mixed Desert Scrub, Joshua Tree Woodland, Blackbrush Scrub, Sagebrush Scrub and Pinyon-Juniper Woodland
Potential Habitat:	Well drained soils on rocky, gravelly mesas, slopes and outcrops.

Wildlife

Mammals

Approximately 80 species of mammals are known to exist within the subject area. Aerial survey counts on mule deer (Odocoileus hemionus) range between 30 to 50 animals. They are generally seen in the pinyon-juniper habitats of the Coso and Argus Mountains. As deer habitat quality declines, deer become more susceptible to disease and decreased reproduction rates.

In 1970, there was an estimated 12 bighorn sheep (Ovis canadensis nelsoni) in the Argus Mountains. In 1981, a survey failed to indicate their continued presence. The decline in bighorn populations is attributed to introduction of disease from domestic sheep, poor habitat conditions, rapidly increasing human activity, poaching, lack of water and competition with other animals. There is potential for competition with burros in respect to food, water, shade and living space. Overlap in the diets of burros and bighorn sheep has been documented by several researchers. The depletion of range resources by feral equines, especially feral burros, is considered a causative factor in the bighorn disappearance (Phillips 1981). The desert bighorn sheep was reintroduced to the Argus Mountain Range in the Centennial HMA and the Eagle Crags area of the Slate HMA. In the fall of 1993, an aerial survey identified about 24 bighorn sheep in the Argus Range.

Mountain lions (Felis concolor), bobcats (Lynx rufus) and coyotes (Canis latrans) are the only large predators sighted in the HMA's. Of these, the mountain lion is the only animal capable of significant wild horse and burro predation. Other predators include Weasels (Mustela frenata), kit foxes (Vulpes macrotis), grey foxes (Urocyon cinereoargenteus), spotted skunks (Spilogale putorius), badgers (Taxidea taxus) and ringtail cats (Bassariscus astutus) (Phillips 1981).

Small mammals, especially rodents are common throughout the area. It has been documented that intensive overgrazing by domestic and feral livestock disrupts natural rodent communities in desert ecosystems, causing reductions in both density and diversity of populations (Phillips 1982). Small mammals common in the area include jackrabbits (Lepus californicus), cottontail (Sylvilagus audubonii), woodrats (Neotoma spp.), mice (Peromyscus spp.), pocket mice (Perognathus spp.) and kangaroo rats (Dipodomys spp.). Some of the species are given special attention. The Mohave ground squirrel (Spermophilus mohavensis) is a State-listed Threatened (until final publication in California Department Fish and Game Codes) and Federal Category II Candidate species. The yellow eared pocket mouse (P. xanthonotus) and the Panamint kangaroo rat (D. panamintinus) are California Species of Special Concern, as is the Argus Mountain Kangaroo Rat (D. panamintinus argusnesis).

Birds

There are approximately 226 bird species found in the HMA's. The majority of these birds are associated with riparian habitats that provide food, water, cover and nesting habitats. The California Inyo Towhee (Pipilo crissalis eremophilus) is a State Endangered and Federally Threatened species. This bird has a substantial breeding population on the NAWS and Great Falls Basin/Argus Range Area Critical of Environmental Concern. It is exclusively restricted to the limited riparian areas for nesting. A California Species of Special Concern found in the area is the golden eagle (Aquila chrysaetos). Chukar (Alectoris chukar), an introduced species, inhabit areas within the HMA's.

Reptiles

There are approximately 30 reptilian species located throughout the HMA's. Representative species include the side-blotched lizard (Uta stansburiana), zebra-tailed lizard (Callisaurus draconoides), western whiptail (Cnemidophorus

tigris), western fence lizard (Sceloporus occidentalis), desert iguana (Dipsosaurus dorsalis), chuckwalla (Sauromalus obesus), red racer (Masticophis flagellum), gopher snake (Pituophis melanoleucus), sidewinder (Crotalus cerastes) and the Mohave rattlesnake (C. scutulatus) (Phillips 1981).

The desert tortoise (Gopherus agassizi) is a state and federally protected reptile. Tortoise habitat is generally below 4,500 feet in elevation. The Slate HMA has tortoise habitat located within the area of the proposed action. The boundaries of tortoise habitat in this area are shown in figure 8. Tortoise burrows are crucial for the survival of the tortoise. The burrow provides protection from summer and winter weather extremes and from predators. Burrows are normally found under bushes, overhanging soil or rock formations, or in the open. Tortoises are generally active between March and June, and to a lesser extent in late summer / early fall. Tortoises are herbivorous, feeding mostly on annual forbs and grasses. Special attention will be given to areas in the Slate HMA in the NAWS where proposed capture sites are located in or near tortoise habitat.

Amphibians

The scarcity of amphibians reflects the scarcity of water resources. Protection of these resources is essential for the survival of the native amphibians. Representative species include the western toad (Bufo boreas), red-spotted toad (B. punctatus) and western spadefoot toad (Scaphiopus hammondi). Slender salamanders are believed to exist on the NAWS although surveys for this species have not been completed.

Soils

Soils develop very slowly in the conditions of a desert ecosystem. Two soil categories generally found in these HMA's are Entisols and Aridisols. Aridisols are found on playas, alluvial fans and bajadas. No major playas are found within the Centennial HMA occupied by wild horses. Aridisols of alluvial fans and bajadas are usually stable, being only infrequently disturbed by running waters. The majority of desert soils are entosolic in nature and are sometimes protected by desert pavement. When undisturbed, these soils are resistant to erosion by water and wind (Phillips 1982). Trailing and wallowing tend to increase soil erosion and compaction. This leads to decreased precipitation infiltration and increased sheet or overland flow.

Grazing

In 1959, the Navy entered into an agreement with the BLM and signed a Memorandum of Understanding with the Department of the Interior whereby the BLM would administer grazing on behalf of the NAWS. The BLM is required to "...administer the area in accordance with provisions of the Federal Range Code and will assume full responsibility for the conduct of range improvement and rehabilitation programs, the administration of grazing and supervision of the range. The Navy keeps the BLM informed of safety and security regulations. The BLM uses this information in administration and licensing and furnishes copies of these licenses to the Navy."

The Lacey-Cactus-McCloud Allotment is located within the boundaries of the Centennial HMA. It is a perennial grazing unit in fair range condition, with an improving trend. The total production of this allotment is 35,502 Animal Unit Months (AUMS). It has a livestock grazing preference of 4,873 AUMS on the federal range. 1,737 AUMS is suspended until range condition is good. The season of use is November 1st through May 31st.

The southern portion of the Slate HMA on BLM lands is within the Superior Valley Allotment. This is an ephemeral sheep allotment. Historical use has been during the spring season. However, since the listing of the desert tortoise, grazing in this allotment has been suspended.

Cultural Resources

There are numerous archaeological sites of representative remains that may extend from recognized cultural traditions of approximately 45,000 years B.P. to the present period of European domination. The majority of the sites are prehistoric and include obsidian quarries, rock shelters, open habitations and petroglyph (rock art) sites. Historical sites include structures associated with mining and ranching activities from the late 19th through the mid-20th century. World War II and cold war era resources are becoming more important in representing historic values on the NAWS lands.

Two areas within the Centennial HMA have been listed in the National Register of Historic Places: Big and Little Petroglyph Canyons and Coso Hot Springs which are on NAWS lands. Water sources such as playas and springs often have extensive cultural resources associated with them.

Grazing, trampling, wallowing and watering promote alterations to the sights by surface disturbance, followed by subsurface damage, erosion and deflation of archaeological deposits. This may alter the original character of the artifacts and horizontal movement of artifacts can invalidate stratigraphic interpretations.

Chemical analysis of material or surrounding soils employed to date sites and artifacts may be affected by chemical contamination from feces and urine.

Wilderness Study Areas/Areas of Critical Environmental Concern

There are 7 Wilderness Study Areas (WSA's) and 2 Areas of Critical Environmental Concern (ACEC's) associated with the Centennial and Slate HMA's. Within the Centennial HMA are the:

1. North Coso Range WSA-CDCA-130
2. Coso Range WSA-CDCA-131
3. Great Falls Basin WSA-CDCA-132 and the Great Falls Basin ACEC
4. Darwin Falls WSA-CDCA-132A and the Darwin Falls ACEC
5. Argus Range WSA-CDCA-132B.

Within the Slate HMA are the:

1. Slate Range WSA-CDCA-142
2. Owlshead Mountains WSA-CDCA-156 (administered by Barstow Resource Area)

Military Operation

The primary mission of the NAWS relates to official military use. Personnel have been injured or endangered as a result of uncontrolled burro activity. Equipment has been damaged compromising safety and the NAWS mission.

V. Environmental Impacts

Proposed Action

Short-term disturbances will be associated with the construction of temporary traps and/or temporary corrals and the movements and concentration of horses and burros in and around these structures. All trap sites will be located in previously disturbed sites.

No long-term adverse impacts are expected to influence any of the environmental components or aspects of the military mission with the implementation of the proposed action.

Surface Hydrology

No negative impacts to water sources are expected through the reduction process. Roundups and trap sites are not located in or adjacent to riparian or wetland areas. Reduction of wild horse and burro population densities would benefit the water resources. The potential for over-population induced shortages of water will be reduced. Wildlife would have increased accessibility to watering areas. Soils, vegetation and cultural resources associated with water sources, will receive less trampling related impacts. The quality of the water resource would improve with less turbidity from ground disturbances and from urine and fecal contamination.

Vegetation

The short-term impacts associated with the gathers would be some increase of vegetation trampling at the gathering trap sites. The long-term benefits would be: 1) decreased grazing pressure; 2) forage presently consumed by the wild horses and burros will be made available to wildlife; 3) the potential for over-population induced shortages of forage would be reduced; 4) improvements in the plant community structure and ecosystem stability with increased species diversity (composition), vigor, reproductive potential (seed production, germination and survival); 5) improve cover, especially near water sources; 6) unpalatable species will lose community dominance as perennial grasses and forbs return; 7) animals that depend on the riparian vegetation, such as the California Inyo Towhee for nesting habitat will have less disturbance; and 8) promotion of survival potential for sensitive species to due to improvement in habitat conditions.

Wildlife

There will be no long-term adverse impacts to wildlife. The short-term impacts would be caused by human presence and the noise from the helicopter.

The gather will be occurring during the winter dormancy of the desert tortoise. During this period, the desert tortoise will be in their burrows. Each proposed capture site within desert tortoise habitat will be inventoried by a biologist or designated BLM representative who has done field work with desert tortoises for tortoise burrows. Temporary structures, vehicles, equipment, helicopter landing sites and other activity shall be located in areas free of tortoise burrows.
The following stipulations will be followed:

1. One member of the team conducting the gather shall be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordination on compliance. This individual shall have the authority to halt all activities that are in violation of the stipulations. The person may be a BLM or NAWS employee.

2. The gather crew shall be aware of the following types of information concerning the desert tortoise:

   - general behavior and ecology of the tortoise
   - sensitivity to human activities
   - legal protection
   - penalties for violations of State or Federal laws
   - reporting requirements
   - project protective mitigation measures

   The crew may contact the BLM and/or NAWS biologists for clarification and additional information.

3. Only individuals authorized by the U.S. Fish and Wildlife Service shall handle desert tortoises.

4. The area of disturbance shall be confined to the smallest practical area, considering topography, placement of facilities, locations of burrows, public health and safety, and other limiting factors. To the extent possible, previously disturbed areas within the site shall be utilized. The project lead shall ensure compliance with this measure.

5. The Ridgecrest office shall receive a brief report on the effectiveness of the stipulations.

6. Upon locating a dead or injured tortoise, the gather crew is to notify the Ridgecrest Office. The BLM must then notify the appropriate field office (Carlsbad or Ventura) of USFWS by telephone within three days of the finding.

7. No dogs shall be allowed on site during the operation.

8. All trash and food items shall be promptly contained within closed, raven-proof containers. These shall be regularly removed from the project site to reduce the attractiveness of the area to ravens and other tortoise predators.

The long-term benefits to wildlife would be: 1) decreased competition for water, forage and cover; 2) promotion of survival potential of sensitive species due to long-term improvements in habitat conditions; 3) long-term improvement and stabilization of riparian environments; and 4) improvement in water quality for aquatic habitats.

Soils

Short-term impacts are expected to occur in the gathering process. Top soil disturbances and subsurface compaction would occur with the movement of animals and the concentration of animals in and around the capture sites. Expected Long-term benefits include: 1) improved soil stability; 2) reduction in soil loss; 3) decreased soil compaction, especially in spring and riparian areas; 4) increased water infiltration rates; 5) increased water retention qualities; 6) vegetation responds positively to improved soil conditions increasing the productivity of the land and decreasing soil erosion; and 7) reduction of multiple trail systems.

Grazing

Reducing the number of wild horses and burros will improve the quality and quantity of forage available to livestock. This will allow better livestock distribution and reduce the utilization on key plants and in riparian zones. Although the proposed action will occur during the season of use by cattle, behavior differences and the domestication of the cattle compared to that of the horses and burros will limit the adverse impacts created by the gather crew and helicopter activity. Short-term impacts include an increased stress and agitation level exhibited by the cattle as the helicopter gathers horses and burros. However, long-term benefit from reducing competition for feed and water will out weigh the adverse short term impacts.

Cultural

No impacts are expected in the gathering process. All cultural / archeological resources will be avoided by placing the gathering sites in previously disturbed areas. Continued disturbances cultural / archeological sites will be reduced.

Wilderness Study Areas/Areas of Environmental Concern

There should be no impacts to wilderness or the ACEC's during the gathering process. Gathering activities conducted within any WSA or ACEC will be limited to herding the animals via helicopter and horseback to the proposed trap sites and temporary corrals that will be set up outside or along the boundaries of the WSA. No off road travel by vehicles in these areas is permitted.

Long-term benefits would be realized by reducing ongoing environmental degradation from uncontrolled populations of wild horses and burros.

Military Operations

No adverse impacts will occur. Operations on the NAWS is strictly done on a non-interference basis. Gather operations will be coordinated through NAWS personnel.

The long-term benefits would be: 1) reduced interference with planned military operations; 2) reduced potential for aircraft and motor vehicle accidents on airfields and roadways; and 3) reduction in damage to facilities and equipment at test sites.

Alternative - No Action

This alternative will involve a "No Action" approach to the removal wild horse and burro populations. The population of these herds would expand to a point that degradation to the range resources would cause the animals to either disperse into other desert habitats or starve to death.

Hydrology

The rate of utilization, contamination and soil disturbance at watering sites would increase. Some springs may be rendered unusable. The availability of water for wildlife and cattle would decrease.

Vegetation

Overgrazed areas would expand and the condition of the range would decline. Favored plants of wild horses and burros would remain at reduced abundance throughout their range and would not recover from past grazing impacts. Available forage for wildlife would decrease.

Wildlife

Critical habitat for wildlife species would continue to be adversely impacted by wild horse and burros. Overcrowding these areas would occur and will degrade the site and cause declines in populations of wildlife species. The reintroduced bighorn sheep, California Inyo Towhee and desert tortoise are only a few examples of wildlife species that would be negatively affected.

Soils

Soil productivity would decline due to compaction and reduced water retention capability that would lead to increased gully and sheet erosion.

Grazing

Authorized, licensed grazing of livestock would need to be reduced or suspended in whole, in attempts to curtail adverse impacts by overpopulation of burros and horses, causing substantial economic hardship to the livestock operator.

Cultural Resources

Surface and subsurface disturbances and alterations would continue to increase. Some of these non-renewable resources would be destroyed.

Wilderness Study Areas/Area of Critical Environmental Concern

These areas unique qualities would continue to be damaged with the impacts associated with an uncontrolled number of wild horses and burros.

Military Operations

Increased negative impacts to test equipment and facilities would continue. Accident potential would increase for motor vehicle operators and pilots.

VI. Cumulative Impacts

Proposed Action

The gather and removal of wild horses and burros would:

1. Reduce erosion and compaction of soil.
2 Help protect riparian areas.
3. Help protect NAWS equipment.
4. Reduce the potential for accidents.
5. Reduce adverse impacts to cultural/archeological resources.
6. Facilitate range (vegetation) recovery.
7. Help maintain high quality habitat which supports a diverse native wildlife population.
8. Maintain habitat diversity and resiliency.

The long-term environmental benefits of reducing and controlling the numbers of wild horses and burros outweigh any short term adverse impacts that may be realized on environmental resources during the removal process.

Alternative - No Action

The "No Action" alternative would allow for uncontrolled environmental and cultural resource degradation to continue and eventually increase in intensity as the wild horse and burro populations increase. Federal Laws and BLM policies outlined in the CDCA Plan state that:..."populations of wild horses and burros will be managed, so that critical resources are protected and a thriving ecological balance is maintained." The BLM is attempting to coordinate wild horse management with the NAWS and cannot meet objectives without reducing the wild horse and burro populations. The potential for interference with NAWS operations and personnel safety problems will increase with increasing number of wild horses and burros.

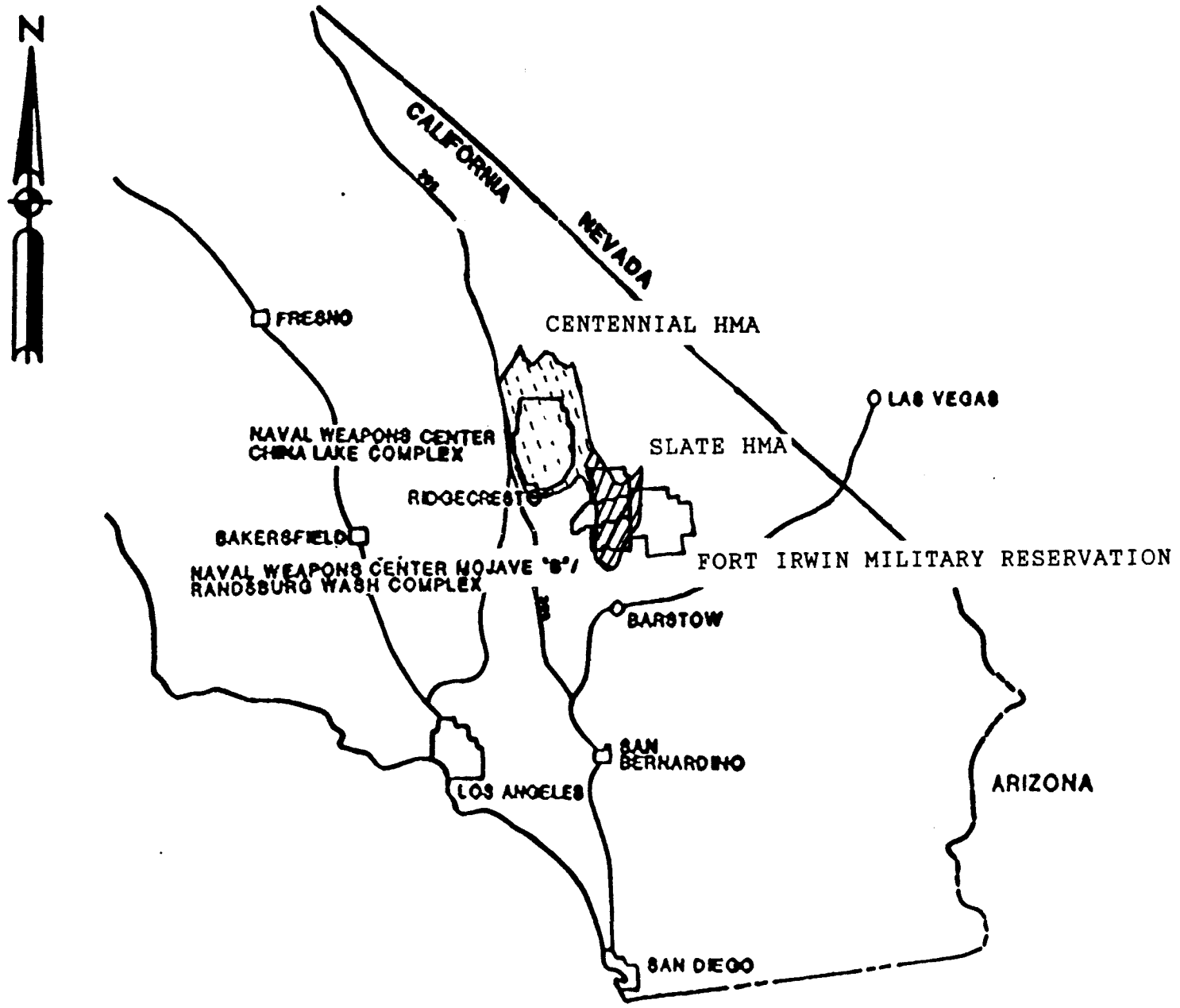
The impacts associated with the "No Action" alternative are all negative. For this reason the "No Action" alternative is unacceptable.

VII. Consultation and Coordination

Participating Staff	Resource Specialty
Name	Title
Julee Pallette	Wilderness Specialist
Robert Parker	Wildlife Biologist
Tom Campbell	Biologist Naval Air Weapons Station
Glenn W. Harris	Natural Resources/Cultural Specialist
Dave Sjaastad	Range Conservationist

Appendix A

Maps of Regions Associated with the Gather



VICINITY MAP

Figure 3

CENTENNIAL HMA

Proposed Trap Sites

Figure 1

R 37 E
R 38 E
R 39 E
R 40 E
R 41 E
R 42 E
R 43 E

T 17 S
T 18 S
T 19 S
T 20 S
T 21 S
T 22 S
T 23 S
T 24 S
T 25 S
T 26 S
T 27 S

10
11
12
8
9
7
5
6
3
4
2
1

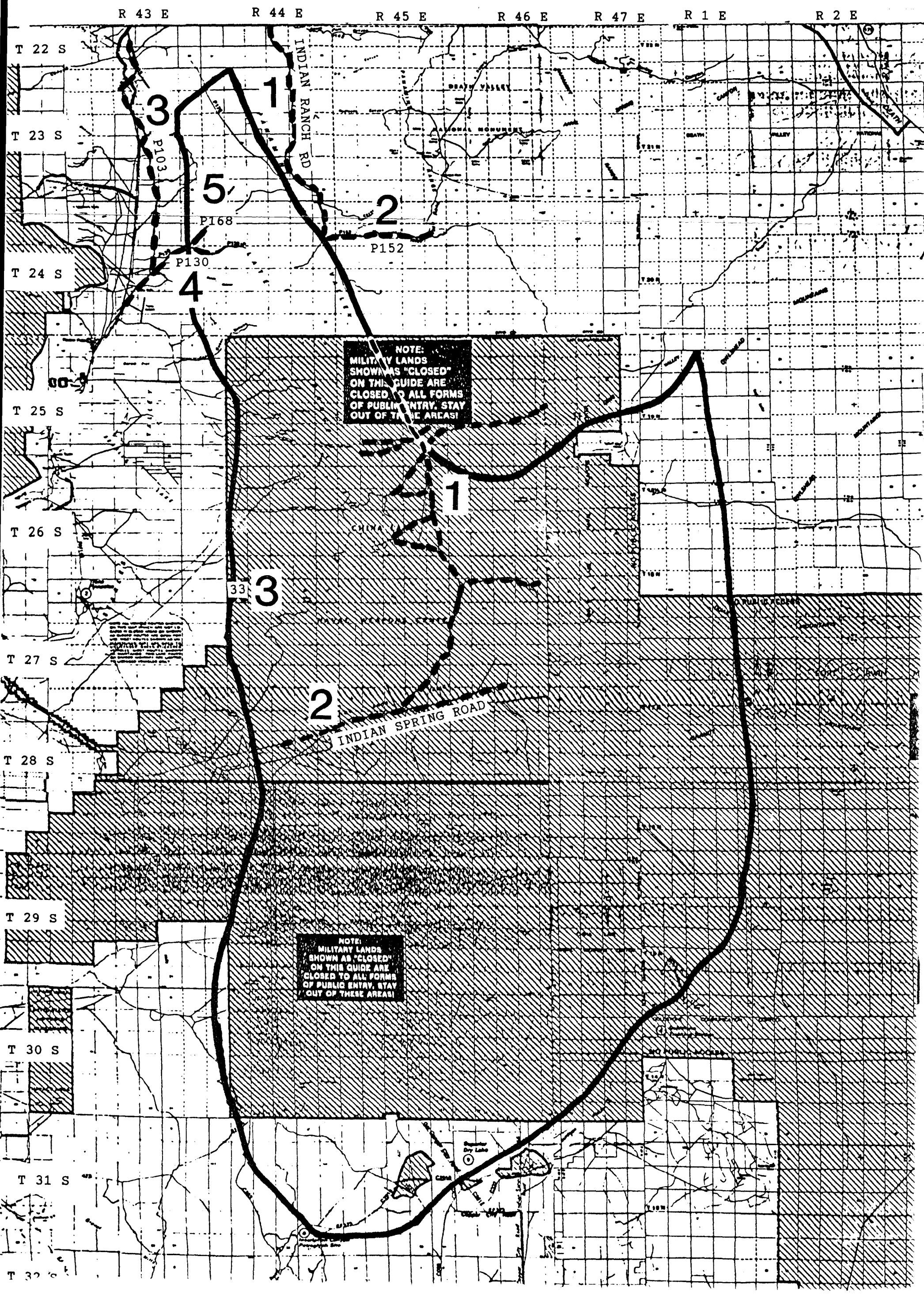
NOTE:
MILITARY LAND)
SHOWN AS "CLOSED"
ON THIS GUIDE ARE
LOSED TO ALL FORMS
UBLIC ENTRY, STAY
UT OF THESE AREAS!

TRAIL
NADEAU

SLATE HMA

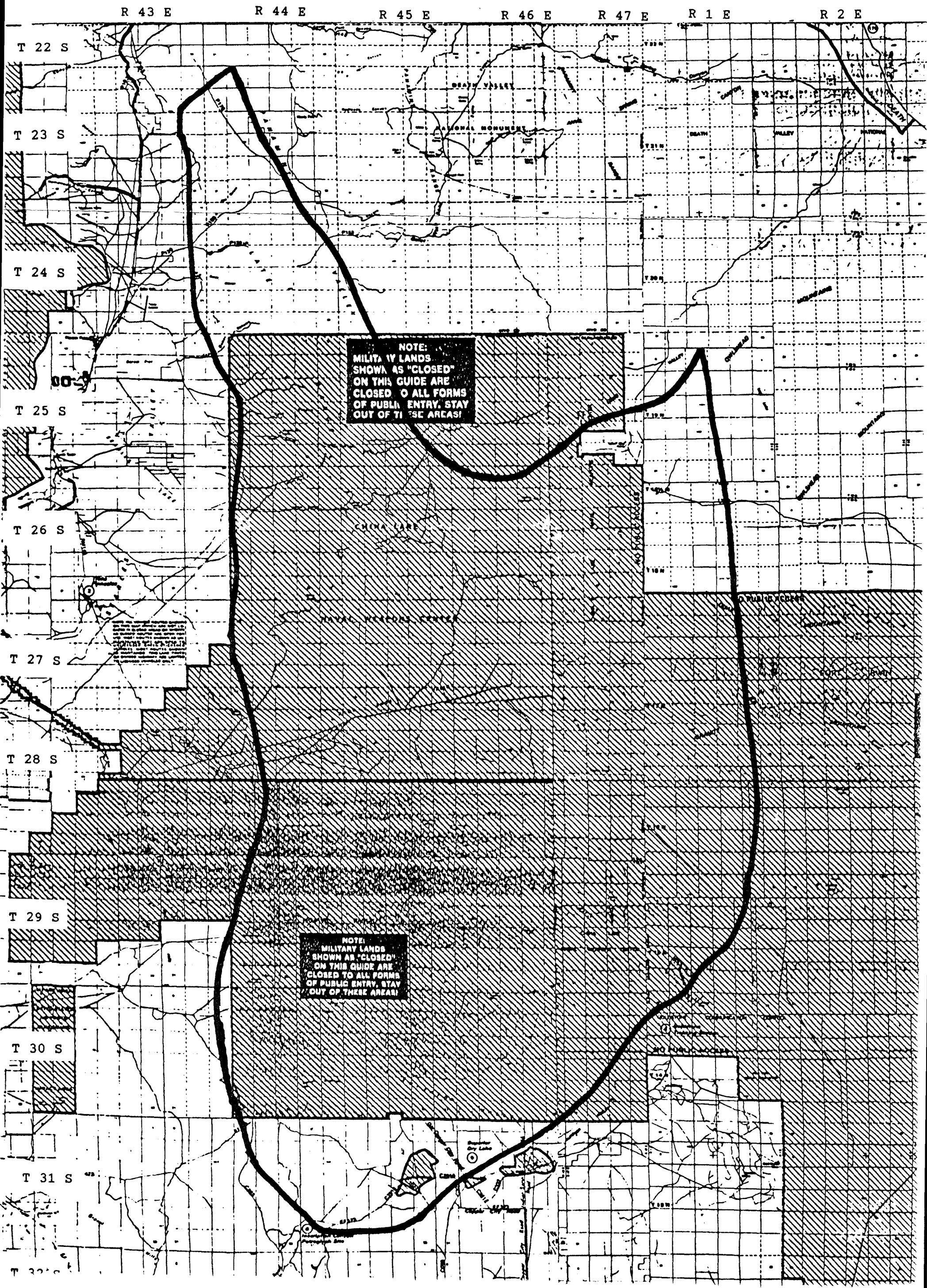
Proposed Trap Sites

Figure 2



SLATE HMA

Figure 4



SLATE HMA

Area Boundary

Figure 5

R 37 E R 38 E R 39 E R 40 E R 41 E R 42 E R 43 E

17 S
18 S
19 S
20 S
21 S
22 S
23 S
24 S
25 S
26 S
27 S

CENTENNIAL HMA
AREA BOUNDARY

Figure 6

WILD HORSE RETENTION AREA
AREA BOUNDARY

MILITARY LAND
ON THIS GUIDE
OF PUBLIC ENT
SED
ARE
FORMS
, STAY
REAS)

Naval Weapons Center

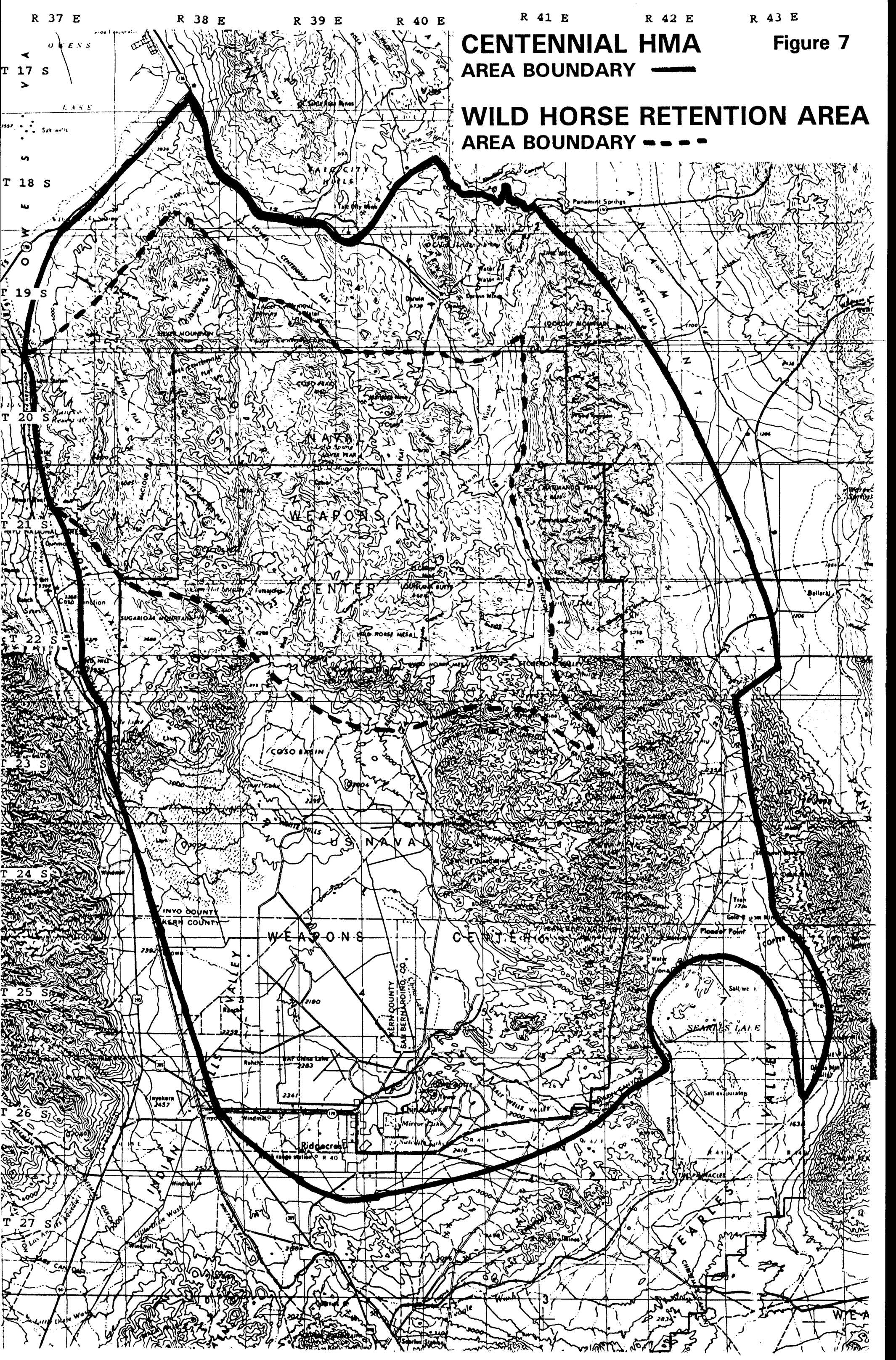
Naval Weapons Center

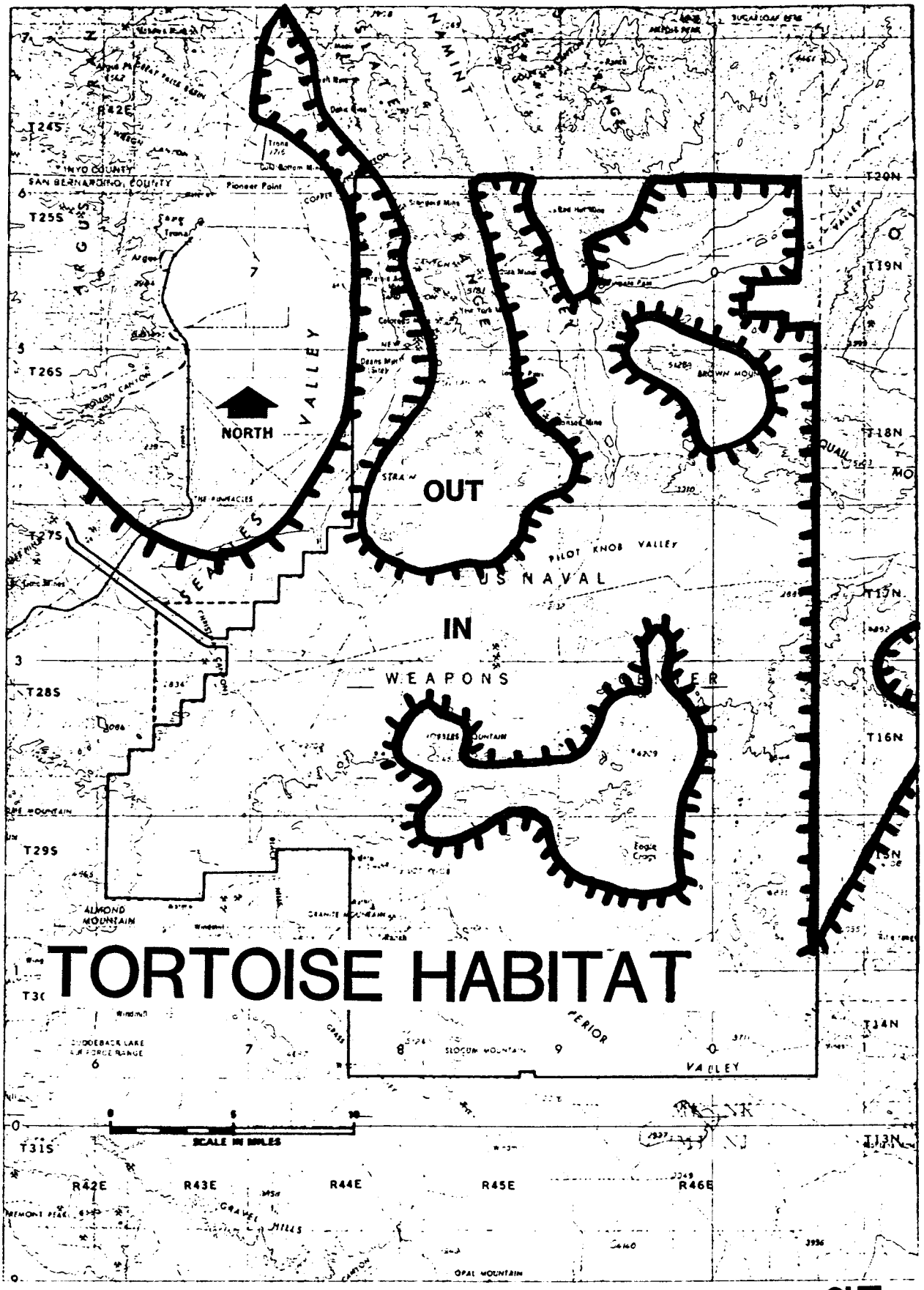
SPANGLER

CENTENNIAL HMA
AREA BOUNDARY ——

WILD HORSE RETENTION AREA
AREA BOUNDARY - - - -

Figure 7





TORTOISE HABITAT OUT / IN

Figure 8

Appendix B

References Cited

Bagley, M. 1985. Sensitive Plant Species of the Naval Weapons Center, China Lake and surrounding Regions, Inyo, Kern and San Bernardino Counties, California. Prepared with Ecological Research Services for unpublished report on file at Naval weapons Center, China Lake, California.

Phillips Brandt Reddick. 1981. Feral Burro Management Program Naval Weapons Center China Lake, California. Naval Weapons Center, China Lake, California.

Phillips Brandt Reddick. 1981. Interim wild horse Management Program Naval Weapons Center China Lake, California. Naval Weapons Center, China Lake, California.