APPENDIX A
BIOLOGICAL OPINION ON LAND WITHDRAWAL, FACILITIES CONSTRUCTION AND OPERATIONS AT NAVAL SPECIAL WARFARE, LA POSTA MOUNTAIN TRAINING FACILITY, CAMPO CALIFORNIA

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
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In Reply Refer To:
FWS-SDG-4452

APR 20 2007

Captain Anthony T. Gaiani
Commanding Officer
Naval Base Coronado
P.O. Box 357033
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Attn: Kimberly O'Connor, Botanist, Navy Region Southwest

Subject: Biological Opinion on Land Withdrawal, Facilities Construction, and Operations at Naval Special Warfare, La Posta Mountain Training Facility, Campo California

Dear Captain Gaiani:

This document transmits the Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed land withdrawal, facilities construction, and Naval Special Warfare operations at Naval Special Warfare, La Posta Mountain Training Facility, Campo California located in San Diego County, California. This biological opinion was prepared in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Your December 8, 2005, request for formal consultation on the proposed action was received on December 16, 2005. Modifications to the project description were received on July 27, 2006. At issue are the effects of the action on the endangered Quino checkerspot butterfly (*Euphydryas editha quino*, Quino). This biological opinion is based on information provided in: (1) Biological Assessment of Land Withdrawal and Operations at Naval Special Warfare La Posta Mountain Warfare Training Facility, Campo California (BA); (2) Quino Checkerspot Butterfly Recovery Plan; (3) e-mail correspondence that amended proposed action; (4) site visits conducted by Service staff on June 23, 2005 and June 5, 2006; (5) meetings held between the Service and the Navy on: November 10, 2005; February 6, 2006; March 6, 2006; and March 22, 2007; (6) Environmental Assessment of Land Withdrawal and Operations at Naval Special Warfare, La Posta Mountain Warfare Training Facility; and pertinent literature contained in our files. A complete administrative record of this consultation is on file at the Service's Carlsbad Fish and Wildlife Office.

CONSULTATION HISTORY

TAKE PRIDE IN AMERICA

The Navy has conducted operations at La Posta Mountain Warfare Training Facility (La Posta MWTF) since 1985. The land is currently administered by the Bureau of Land Management (BLM). This consultation represents the first evaluation of the effects of ongoing military operations to the Quino checkerspot butterfly. The Navy contacted the Service regarding the proposed action in spring 2005. The Service advised the Navy that Quino checkerspot butterfly surveys in all portions of the installation that support potential habitat would be necessary to adequately evaluate the effects of the action (Fernandez, pers. comm.). Surveys throughout the installation were recommended because potential Quino habitat overlaps with training areas on the installation, and no previous evaluation of the extent of Quino occupancy had been conducted. The Navy elected to forego the recommended surveys, but completed a habitat assessment and conducted surveys within the immediate vicinity of existing and proposed facilities. These surveys confirmed the presence of Quino checkerspot butterflies in areas proposed for disturbance, but did not provide information regarding butterfly distribution or abundance in other portions of the installation that are subject to various levels of use. The Navy and Service conducted a site visit to La Posta MWTF on June 23, 2005. The Navy compiled data from the Quino surveys and habitat assessment into the BA and requested formal consultation on the effects of this action on December 8, 2005.

The Navy and Service met to discuss the proposed action on November 10, 2005, February 6, 2006, and March 6, 2006.

On May 12, 2006, the Navy informally notified the Service that construction of some facilities that are part of the proposed action had begun prior to completion of consultation, and that surface disturbance had occurred in areas where Quino checkerspot butterfly host plants had been documented. This premature action could have violated sections 7(d) and 9 of the Endangered Species Act as discussed below.

In accordance with section 7(d), Federal agencies and any applicants are prohibited from making irreversible or irretrievable commitments of resources with respect to the agency's proposed action that have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternatives, which would avoid the agency's proposed action violating section 7(a)(2). In this case, as discussed in the Conclusion section of the biological opinion below, the Service has determined that the proposed action is not likely to jeopardize the continued existence of the Quino checkerspot butterfly. For that reason, no reasonable and prudent alternatives are warranted, therefore, the premature start of construction activities, fortunately, did not violate section 7(d). However, to ensure compliance with section 7(d) for future Navy actions that require formal consultation the Service recommends that the Navy improve communications between Navy Natural Resource personnel, Navy Planning personnel, and Navy Range Management personnel to avoid any further similar incidents.

The premature destruction of Quino checkerspot butterfly host plants may have resulted in the unauthorized incidental take of butterfly eggs and/or larvae, however the presence or absence of larvae and/or eggs were not determined prior to construction. The Service does not have the authority to authorize such take after-the-fact except under the circumstances of an emergency situation as provided for under the implementing regulations for section 7 at 50 CFR 402.05.

Unfortunately, the premature start of construction activities for the proposed action considered herein does not qualify as an emergency situation. Therefore, the liability for any unauthorized take rests with the Navy. However, the Service retains prosecutorial discretion in instances where violations of the Act have occurred. In this case, the Navy has incorporated measures into their proposed action that allow for minimization of impacts to the Quino checkerspot butterfly. On that basis, the Service has elected to exercise its prosecutorial discretion on this matter.

During the June 5, 2006 site visit, the Navy provided additional information regarding the abundance and distribution of host plants present on Parcel C within the footprint of potential construction. Installation managers also indicated that construction activities outlined in the BA (i.e. the proposed action) did not accurately reflect the potential facilities proposed for construction. Navy personnel and the Navy's contractor (EDAW, primary author of the BA) agreed to refine the parameters of the proposed action to allow adequate evaluation of impacts in the Biological Opinion.

On July 27, 2006 the Service received a revision of the action described in the BA. The revised project description reflects a high degree of uncertainty regarding the exact locations and size of proposed structures within Parcel C.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The U.S. Department of Navy (Navy) proposes to conduct training and expand training facilities on lands on and within the vicinity of the existing *Microwave Space Relay Station* in Campo, California. The Navy proposes to expand their jurisdiction and use areas around this site for military training activities. Specifically, the Navy proposes to:

(1) Transfer administrative jurisdiction of 1,079 acres (437 hectares) currently used for training from *Microwave Space Relay Station non-exclusive use* to *Mountain Warfare Training Facility* (MWTF) *exclusive use*;

(2) Withdraw an additional 2,318 acres (938 hectares) of land from Bureau of Land Management (BLM) jurisdiction to Navy jurisdiction and use this land for Naval Special Warfare exclusive use training;

(3) Obtain right-of way (ROW) and conduct mountain warfare training activities on 2,169 acres (878 hectares) of public land under BLM jurisdiction;

(4) Upgrade and expand existing facilities, including expansion of the current Close Quarters Combat (CQC) house to create a "Simunition™" house, expansion of existing small arms ranges, installation of a sniper range backstop, construction of additional small arms ranges, relocation of trails, construction of firebreaks, road widening, culvert installation, and extension of the existing security fence at the main gated entrance;

(5) Add new training areas, including Multistructure Training Complex (MTC) that may consist of; four Close Quarters Combat compounds, reactive steel ranges, electrical distribution poles, and a leach area for the septic systems. If funding is not available to construct the Close Quarters Combat Structures (Military Construction [MILCON] Project), the Navy plans to construct a sniper range with multiple firing positions and targets within the footprint identified for the MTC as an alternative to the four Close Quarters Combat Structures. If the alternative range is constructed, the Navy intends to use alternative funding or internal resources for construction.

(6) Continue training activities, which include; reconnaissance and intelligence gathering, survival training, land navigation, patrolling operations, communications exercises, sniper live fire exercises, small arms live fire exercises (without tracers), building entry and clearing (use of explosives), and obstacles breaching and forcible entry (use of explosives).

(7) Implement conservation measures to minimize the impacts of proposed construction and training activities on the Quino checkerspot butterfly.

A brief description of each component of the proposed action is provided below. A more detailed description of the proposed action may be found in the Biological Assessment of Land Withdrawal and Operations at Naval Special Warfare La Posta Mountain Warfare Training Facility, Campo California.

Change administrative jurisdiction of Microwave Space Relay Station (1,079 acres) to exclusive use for the Mountain Warfare Training Facility (MWTF)

The Navy proposes to modify language in the public withdrawal law Public Land Order 3457 of September 30, 1964 to re-designate the use of the Microwave Space Relay Station and recognize its current use as a mountain warfare training facility. This component of the proposed action would change approximately 1079 acres (437 hectares) from the current withdrawal designation, "non-exclusive use", to "exclusive use" designation for use only by the U.S. Navy. Withdrawal would result in some limitations on public uses: public access would be allowed pursuant to existing easements or rights, including current grazing rights. Additional public access may be allowed on a case-by-case basis (i.e. hunting and horseback riding) when it does not conflict with the training mission. The Navy would retain administrative jurisdiction regarding third party uses including grazing and public access, and the BLM would retain residual jurisdiction in regards to mineral leasing.

Withdraw 2,318 acres (938 hectares) from Bureau of Land Management (BLM) jurisdiction to Navy jurisdiction for Naval Special Warfare exclusive use training

The Navy proposes to withdraw additional lands adjacent to the existing Microwave Space Relay Station from BLM jurisdiction, for exclusive use as a mountain warfare training facility. Withdrawal would result in some limitations on public uses: public access would be allowed pursuant to existing easements or rights, including current grazing rights. Additional public access may be allowed on a case-by-case basis (i.e. hunting and horseback riding) when it does not conflict with the training mission. The

Navy would retain administrative jurisdiction regarding third party uses including grazing and public access, and the BLM would retain residual jurisdiction in regards to mineral leasing.

Obtain right-of way (ROW) and conduct mountain warfare training activities on 2,169 acres (878 hectares) of public land under BLM jurisdiction

The Navy proposes to obtain right of way authorization to conduct mountain warfare training activities on BLM land adjacent to parcels proposed for withdrawal. Administration of these lands would be retained by BLM, and Navy use would be compatible and coordinated with other public uses. Any future proposed improvements would require review and authorization by BLM.

Upgrade and expand existing facilities

Expand existing Close Quarters Combat (CQC) house
The DON proposes to expand the existing CQC house on Range 113 from 725 m^2 (7,800 ft^2) to 1,394 m^2 (17,800 ft^2). This would result in 929 m^2 (10,000 ft^2) of new surface disturbance.

Expand existing small arms ranges
The DON is proposing to improve sections of Range 115 by incorporating a horizontal ricochet reduction platform, commonly called and eyebrow, which can be installed over the tops of targets. The proposed eyebrow would measure 213 meters (700) feet) in length with a depth (distance from front edge to back wall) of 9.1 meters (30 feet). The area of new disturbance is expected to be 360 ft by 30 ft (10,800 ft^2, 1003 m^2). Construction of the eyebrow would create a baffled range and drop the surface danger zone by fifty percent.

Install sniper range backstop
The Navy proposes to improve Range 112 by adding four sniper bullet traps, each measuring 2.4 meters (8 feet) by 2.4 meters (8 feet), built into the hillside directly above Range 115. The total surface disturbance associated with construction of sniper bullet traps would be 23.04 m^2 (256 ft^2). The basic construction would be three walls and a roof made from railroad ties. In the center would be a swinging steel plate to provide immediate feedback upon contact.

Construct sniper tower
A 15.2 meter (50 ft) tall sniper tower with a 1200 ft2 platform is proposed for construction south of the existing sniper platform. The total surface disturbance associated with construction of the proposed sniper platform would be 1200 ft2. A 15.2 m (50 ft) by 30.4 m (100ft) paved parking area leading to the sniper platform at Range 112 is also proposed. The proposed paved parking area would result in 462.08 m^2 (5000 ft^2) surface disturbance.

Relocate trails
The Navy proposes to relocate trails, but has not determined which trails are proposed for relocation.

Construct firebreaks
The Navy proposes to construct firebreaks, but has not determined locations for firebreak construction.

Improve existing road
The Navy proposes to widen and straighten an existing dirt roadway and install two drainage culverts outside the MTC in Parcel C. The road providing access to this area is currently eroded and becomes impassable during the rainy season. The existing dirt road (approximately 8 ft wide) is proposed to be graded, widened to 7.3 meters (24 feet), and maintained. Widening would occur from the most northern point of the MTC construction footprint to the southern section where the dirt road intersects with an existing 7.3-meter-wide (24-foot-wide) dirt road. Widening will continue eastward to the southern intersecting road that leads to the existing withdrawal gate. Improvements to the existing road would entail 1.4 acres (60,984 ft^2) of new ground disturbance. No paving of the roadway would occur and the surface would remain permeable. Along the proposed widened road, two culverts would be installed near the existing withdrawal gate site to help minimize and control erosion. The culverts would consist of 70-centimeter (24-inch) pipe, each with a length of 15.24 meters (50 feet). The disturbance associated with culvert installation would extend beyond the width of the roadway approximately 13 ft on each side of the road and result in additional surface disturbance.

Extend the existing security fence at the main gated entrance
At the MWTF main entrance gate, the Proposed Action includes the expansion of the existing security gate and fence to 152.4 meters (500 linear feet) to either side of the entrance. The total surface disturbance associated with the expansion of the existing security gate is approximately 1,114.84 m^2 (12,000 ft^2), assuming a construction disturbance width of 3.66 m (12 ft).

Construct new ranges and facilities

Multistructure Training Complex
The Proposed Action includes construction of a "Multistructure Training Complex" (MTC) for special warfare missions. A detailed layout of each structure is currently unavailable, however the proposal includes four potential Close Quarter Combat (CQC) compounds, reactive steel ranges, restroom facilities, and a leach area for the septic systems. The MTC would be constructed within an area of approximately 59.5 acres (20 hectares) referred to as the "MTC Footprint" within Parcel C. Development would include the construction of several buildings made of concrete and/or ballistic steel with reconfigurable interior walls and points of entry for the purpose of small unit urban tactics training, method of entry training, surveillance, decline shooting, and other NSW

skill requirements. Undeveloped observation/firing positions would be located throughout the valley in locations that have not yet been identified, and would be incorporated into training utilizing MTC structures. One facility may contain a multilevel structure totaling approximately 1,449 m^2 (15,600 ft^2). Each proposed structure's footprint covers approximately 121 m by 182 m (400 ft by 600 ft) of ground area. Each facility would be spaced approximately 80-400 ft apart from other buildings and provide different scenarios incorporating force entries points, and no fire/ firing areas using appropriate bullet traps. Adjacent to several structures parking and turnout areas are proposed. The precise configurations of each facility would vary, but all direct development would be restricted to the MTC footprint of section C and the adjacent access road.

Support components within the southern portion of the MTC footprint would include electrical distribution system; a well and a 5,000 gallon water storage tank to provide potable water; a septic tank and leach field to support a restroom; a 20 ft x 20 ft restroom; and a portable electric generator storage building to supply power when required. Solar power will provide electrical services to the well and restroom facility as required. MTC structures may be supplied water and electricity by underground connections if needed.

A detailed layout of proposed structures is unavailable at this time however, entire MTC footprint (59.5 acres) may be disturbed as a result of the proposed action and is likely to be subject to frequent foot and vehicle traffic.

Continue training activities

Reconnaissance and intelligence gathering, survival training, land navigation
This type of training typically involves 2-4 people, who are dropped off by a vehicle from existing roadways.

Patrolling operations
Regular security patrols over the entire Proposed Action area would occur on a routine basis utilizing all-terrain vehicles on existing roads and trails.

Communications exercises
Communication exercises would consist of 20 personnel in pairs of (2) who would go into the field to conduct communication practice between each other and a base camp. The pairs will sit in separate locations and observe a target and report on observations. A communications suite inside a van will be set up at a high location, typically the HELO pad to monitor communications.

Sniper live fire exercises (without tracers)
Sniper live fire exercises are currently performed throughout the existing withdrawal and are proposed for the additional withdrawn property. No tracers are currently allowed, and none are proposed for future use. Sniper firing points are located throughout the facility at varied locations. Firing positions will change based on exercise parameters. Firing

positions will be located on and around the 60 acres slated for future construction (Parcel C) to allow for firing into, over, around and through structures.

Small arms live fire exercises (without tracers)
Small arms are currently fired at the existing ranges. No tracers are allowed, and none are proposed for future use. Small arms live fire will be conducted throughout the facility but must comply with strict safety parameters. Small arms live fire is proposed both inside and outside the constructed scenario sites within a 60 acre area of Parcel C.

Building entry and clearing (use of explosives)
Building entry is currently conducted at the CQC facility and will be conducted at the future 60 acre multi-scenario site. Both mechanical and surgical explosive (< 1 lb) building entry techniques are utilized. A team of 4 to 8 personnel will stage outside of a target structure. The doors, windows or walls will be breached as needed and the team will enter and move tactically throughout the building clearing it of occupants both friendly and not.

Obstacles breaching and forcible entry (use of explosives)
Obstacle breaching and forcible entry is currently conducted at the CQC facility and will be conducted at the future 60 acre multi-scenario site. Both mechanical and surgical explosive (< 1 lb) building entry techniques are utilized. A team of 4 to 8 personnel will stage outside of a target structure. The doors, windows or walls will be breached as needed and the team will enter and move tactically throughout the building clearing it of occupants both friendly and not.

Implement Conservation Measures to Minimize Impacts to Quino Checkerspot Butterfly

1. Clearly delineate construction sites by flagging, survey lath, or wooden stakes.

2. Contain sediment runoff within the limits of construction through the use of siltation fences, straw bales, sand bags, or silt ponds.

3. Minimize production of dust by using biologically sound chemical treatments.

4. Implement a habitat enhancement program to compensate for the loss of occupied Quino habitat associated with facilities construction.

The Navy would determine the location and extent of enhancement areas via consultation with the Fish and Wildlife Service and submit a Quino Checkerspot Butterfly Habitat Enhancement Plan that outlines location(s) of the enhancement area(s) and management strategies. The Navy would submit the Quino Checkerspot Butterfly Habitat Enhancement Plan prior to implementation of enhancement activities. The program would focus on control of invasive nonnative plants and augmentation of host plant populations.

5. Avoid direct impacts to Quino during construction by:

(1) Conducting surveys for host plants during the spring preceding construction.

Surveys would occur within the construction footprint and a 10 m (32.8 ft) buffer around the limits of construction by a qualified biologist;

(2) Examining any host plants detected within the construction footprint for larvae during the active season, and moving larvae detected to a pre-selected area at least 10 m (32.8 ft) from the edge of the construction limits.

6. Direct impacts to Quino associated with foot traffic would be addressed by monitoring and adaptive management.

(2) Surveys would be conducted following USFWS guidelines within all unsurveyed exclusive use parcels of the La Posta MWTF (approximately 2500 acres [1,012 hectares]). Surveys would be conducted in phases over a two-year period beginning in 2006 to accommodate funding constraints. Initial surveys would include areas surrounding locations where Quino were detected and would focus primarily on hilltops. Areas frequently used for training would be second in priority for surveys followed by areas used only occasionally and those completely unused.

(3) If Quino are detected during focused surveys in areas used for training, the Navy would re-initiate consultation with the Service. If appropriate, a monitoring program would be established for Quino checkerspot butterfly and habitat at La Posta MWTF. The habitat monitoring program would be designed to detect any significant changes in Quino habitat that could lead to decline of populations at La Posta MWTF. The Quino population monitoring component of the program would detect changes in the population size and distribution. Because populations are known to fluctuate from year to year, changes in the local population would be compared to populations throughout the region.

(4) Appropriate management activities would be implemented if training were determined to be the cause of negative impacts to the Quino checkerspot butterfly at the La Posta MWTF.

In summary, the area that the Navy proposes to withdraw and/or reserve for Navy training is comprised of the Existing Withdrawal parcel and Parcels C, E, and G (lands under application of withdrawal), and Parcels A, B, D, F, and H (proposed for ROW access), a total of 5,554 acres (2,248 hectares). The area proposed for new facilities construction/expansion includes approximately 61.85 acres (25.03 hectares) of non-excluded Quino Checkerspot Butterfly Habitat within Parcel C and the existing withdrawal parcel. The area proposed for foot traffic associated with dispersed training includes approximately 2,152.0 acres (870.9 hectares) of non-excluded Quino checkerspot butterfly habitat.

Table 1. Habitat disturbance associated with proposed action.

Action	*Parcel*	*Acres (hectares) Quino Habitat*	*Impacts to Quino*
Road widening	C	1.4 (.5666) [60,984 ft^2]	Habitat Loss, Potential Larvae Mortality
Extend security fence	EW	.28 (.11) [12,000 ft^2]	Habitat Loss, Potential Larvae Mortality
Expand CQC House	EW	.22 (.08) [10,000 ft^2]	Habitat Loss, Potential Larvae Mortality
Install Eyebrow	EW	.25 (.10) [10,800 ft^2]	Habitat Loss, Potential Larvae Mortality
Install sniper backstop	EW	.01 (0) [256 ft^2]	Habitat Loss, Potential Larvae Mortality
Install sniper tower	EW	.02 (0) [1200 ft^2]	Habitat Loss, Potential Larvae Mortality
Paved parking area adjacent to tower	EW	.11 (.04) [5000 ft^2]	Habitat Loss, Potential Larvae Mortality
Construct firebreaks	TBD	To Be Determined	Potential Larvae Mortality (depending on location)
Relocate trails	TBD	To Be Determined	Potential Larvae Mortality (depending on location)
Construct MTC	C	59.5 (24.08)	Habitat Loss, Potential Larvae Mortality
Frequent Use: foot traffic, vehicle traffic	C,E,G,EW	1247.3 (504.8)	Potential Habitat Degradation, Potential Larval Mortality
Occasional Use	C,E, EW	904.7 (366.1)	Potential Larval Mortality
Total Anticipated Construction Disturbance	**C,EW**	**61.78 (25.00)**	**Habitat Modification, larval mortality**
Total Anticipated Foot Traffic Disturbance	**C,E, EW,G**	**2152.0 (870.9)**	**Potential Habitat Modification, larval mortality**

STATUS OF THE SPECIES

Description

The quino checkerspot is a small member of the brush-footed butterfly family (Nymphalidae). It is about 4 cm (1.5 inch) in wing span. The dorsal (top) sides of the wings have a red, black, and cream colored checkered pattern; the ventral (bottom) sides are dominated by a checkered red and cream pattern. The abdomen of the Quino checkerspot butterfly has red stripes across the top. After their second molt, Quino checkerspot butterfly larvae can be recognized by the characteristic dark-black coloration and row of 8 to 9 orange tubercles (fleshy/hairy extensions) on their back. Before their first molt, larvae have a predominantly yellow coloration, and before their second molt they are grey with black markings (G. Pratt, pers. comm. 1999). Pupae are mottled black on a pale blue-gray background, and extremely cryptic.

Lifecycle

The life cycle of the Quino checkerspot butterfly typically includes one generation of adults per year, with a 4 to 6 week flight period beginning from late January to early March and continuing as late as early May, depending on weather conditions (Emmel and Emmel 1973, U.S. Fish and Wildlife Service 2003). Adult butterflies live from 10 to 14 days; however, adult emergence from pupae is staggered. If sufficient rain falls in late summer or early fall, a rare second generation of reduced numbers may occur (Mattoni *et al.* 1997). Females usually mate on the day they emerge from pupae, and lay egg masses of 120-180 eggs which hatch in 7-10 days. Females may lay multiple egg masses. In the closely related Bay checkerspot butterfly (*Euphydryas editha editha*), female nectar feeding resulted in increased egg production. Total egg production ranged from 400-800 eggs per female (Murphy et al. 1983).

Emergent larvae undergo two or three obligate molts prior to pupation. The periods between molts (shedding skin) are called instars. During the first two instars, larvae cannot move more than a few centimeters and are usually restricted to the plant on which eggs were laid (the primary host plant species). During the first two instars, larvae spin a fairly conspicuous web and feed in groups. Third instar larvae usually wander independently in search of food, and may switch from feeding on the plant on which they hatched (primary host plant) to another plant of the same species, or another host plant species (secondary host plant). By mid-third instar, larvae can travel up to 1 meter (3.3 feet) to find host plants (G. Pratt, pers. comm.). Early instar larvae (first two or three instars), are most susceptible to mortality because of their dependence on annual foodplants that senesce and dry rapidly following the last rain of the season.

During larval development, the host plants age, eventually drying out and becoming inedible (senescence). At the time of host plant senescence, if larvae are old enough and have accumulated sufficient reserves, they are able to enter an obligatory diapause. Diapause is a resting state that enables larvae to maintain a low metabolic rate during periods when host plants are not available. While in diapause, larvae are much less sensitive to climatic extremes and can tolerate temperatures from over 49 degrees Celsius (120 degrees Fahrenheit) to below freezing (M. Singer, pers. comm.). The larval exterior, or skin, is distinctive during diapause, becoming much blacker with denser "hairs" (setae) than earlier instars. Diapausing *Euphydryas editha* larvae have been observed curled up under rocks or sticks, or within the lower branches of *Eriogonum fasciculatum* (G. Pratt pers. Comm..), and enclosed in a light webbing (C. Parmesan and M. Singer, pers. comm.). Observations of post diapause larvae near dense grass and shrub cover indicates they may diapause in these areas (Osborne and Redak 2000). Extended periods of diapause may occur during times of drought (G. Ballmer, in litt., 1990). Post-diapause larvae develop through four more instars and then pupate, usually among low plants near the ground or under rocks (G. Pratt, unpubl. Data, White 1986). Pupae mature and to emerge as adults in about 10 days.

Quino checkerspot butterfly larvae can live for several years. One mechanism that generates longevity is repeated diapause (Singer and Ehrlich 1979), which occurs when larvae emerge from diapause, feed, and then re-enter diapause, postponing development until the next year. It has been suggested that Quino checkerspot butterfly larvae may also be able to survive without "breaking" diapause to feed in extremely dry years (G. Pratt, pers. comm.).

Habitat Affinities, Foodplants, and Nectar Sources

The Quino checkerspot butterfly is not associated with a single plant community, as are many butterflies, but instead with open spaces within several communities. Quino resource and climatic requirements are met, over the long term, by dynamic relationships that we can only generally recognize and at present describe imprecisely. The butterfly is found within several plant community types from scrub on coastal bluffs, through open grassland, coastal sage scrub, chaparral, oak woodland to desert pinyon-juniper woodland habitats of the interior foothills of southwestern California and Northwestern Baja California, Mexico (G. Ballmer, in litt. 1991, Mattoni et al. 1997). In all of these communities, it is found in openings within the dominant plant community where there is sufficient cover of larval foodplants which co-occur with nectar sources for adults. The definition of sufficient food plant density, however, has yet to be determined and may depend upon host plant species. Primary larval food plants (primary host plants) of the quino checkerspot include: *Plantago erecta* (dwarf plantain, family Plantaginaceae); *Plantago ovata*; *Castilleja exserta* (owl's clover, family Scrophulariaceae) (White 1974; G. Ballmer, pers. comm. 1993); *Antirrhinum coulterianum* (white snapdragon; Pratt 2001); *Plantago patagonica* (woolly plantain; Pratt 2000, 2001); and *Cordylanthus rigidus* (thread-leaved bird's beak), a partially parasitic plant often found at high densities in disturbed areas (Chuang and Heckard 1986). Additional primary host plant species may exist but remain unconfirmed at this time. Female Quino checkerspot butterflies appear to prefer ovipositing on individual plants that exhibit a spreading growth on leaves closest to the ground (Pratt 2001).

Plant community structure, and not the dominant species composition is the critical factor for Quino populations. Habitat is characterized by the presence of primary host plants (described above), secondary host plants which provide food resources for larvae, and nectar sources, which provide food resources for adult butterflies. Nectar sources for adult quino include a wide range of plant species. Butterflies alight on and find nectar in particular flower species, demonstrating some degree of nectar source constancy (McNeely and Singer, in press). *Euphydryas editha* prefers flowers with a platform-like surface on which they can remain upright while feeding (D. Murphy, G. Pratt, and M. Singer, pers. comm.). The butterflies frequently take nectar from *Lomatium* spp. (lomatium), *Muilla* spp. (goldenstar), *Achillea millefolium* (milfoil or yarrow), *Amsinckia* spp. (fiddleneck), *Lasthenia* spp. (goldfields), *Plagiobothrys* and *Cryptantha* spp.(popcornflower), *Gilia* spp. (gilia), *Eriogonum fasciculatum* (California buckwheat), *Allium* spp. (onion), and *Eriodictyon* spp. (yerba santa) (D. Murphy and G. Pratt, pers. comm.). *Salvia columbare* (chia) (Orsak 1978; K. Osborne, pers. comm. 2001; G. Pratt, D. Murphy, pers. comm. 2001), and *Dichelostemma capitatum* (blue dicks) (K. Osborne, pers. comm. 2002) may also be used for nectar feeding.

Quino checkerspot may preferentially select sites where exposure to winter sun is greatest (Weiss et al. 1987; Allen 1990). Among known colonies, there is usually some topographic relief, such as raised mounds, low to high hills, slopes and ridges. Cryptobiotic crusts (lower plant species crusts associated with undisturbed soils) have also been correlated to the presence of some host plant species and may be important for maintenance of appropriate habitat conditions for Quino (Mattoni et al. 1997).

Behavior

Adult Quino checkerspot butterflies spend time searching for mates, basking in the sun to thermoregulate, feeding on nectar, defending territories, and (in the case of females) searching for oviposition sites and depositing eggs. The Quino checkerspot butterfly is ectothermic, using air temperatures and sunshine to increase body temperatures to levels required for flight. If air temperature is cool, clear skies and bright sunshine may provide enough thermal power for flight, but flight is not possible below about 16 degrees Celsius (60 degrees Fahrenheit). In warmer air temperatures, flight may still be possible with scattered clouds or light overcast conditions, but has not been observed in very cloudy, overcast, or foggy weather. Adults remain hidden (often roosting in bushes or trees) during fog, drizzle, or rain, and usually avoid flying in windy conditions (sustained winds greater than 24 kilometers [15 miles] per hour). *Euphydryas editha* butterflies generally fly close to the ground in a relatively slow, meandering flight pattern (M. Singer, pers. comm.). Adult (K. Osborne, pers. comm. 2002) and larval (Osborne and Redak 2000) Quino checkerspot butterflies, like some other subspecies of *Euphydryas editha*, show a tendency to occur in barren spots amidst low-growing vegetation. Quino checkerspot butterflies tend to avoid flying over trees, buildings, or other objects taller than about 2 meters (7 feet), but natural vegetation does not constitute an impermeable barrier to dispersal (D. Murphy, G. Pratt, C. Parmesan, and K. Osborne, pers. comm.). Quino checkerspot butterfly thermodynamic requirements and natural avoidance of shaded areas deter flight in densely wooded areas and other types of closed-canopy vegetation (M. Singer, pers. comm.).

While Quino have been observed in areas with little topographic relief, male Quino checkerspot butterflies, and to a lesser extent females, are frequently observed on hilltops and ridgelines (Carlsbad Fish and Wildlife Office GIS Quino checkerspot butterfly database and metafile, Osborne 2001). A number of behaviors characteristic of species commonly found on hilltops have been documented. For example, male Quino checkerspot butterflies have been observed perching consistently in prominent locations on hilltops devoid of host plants and have been seen "attacking other male Quino checkerspot butterflies as well as other species of butterfly that approach (Osborne 2001, Pratt 2001). Hilltops may also represent centers of Quino checkerspot butterfly population density in some areas. Because adult Quino checkerspot butterflies are frequently observed on hilltops (U.S. Fish and Wildlife Service database), even in the absence of nearby larval host plants (Osborne 2001), hilltops and ridgelines may be important for population survival and therefore should be searched during presence/absence surveys and included in reserve designs.

Quino checkerspot butterflies are a sedentary species, however when quality host plants are in short supply, adult Quino checkerspot butterflies may respond by dispersing (White and Levin 1981, Murphy and White 1984). The likelihood of long-distance colonization by a given individual is considered low because environmental conditions promoting dispersal are not likely to also allow successful colonization. High emigration and habitat patch colonization rates probably only occur during rare outbreak years, when high local densities combine with favorable establishment conditions in "unoccupied" patches (not supporting larval development; Harrison 1989). Rare outbreak events are thought to play a crucial role in Quino checkerspot butterfly metapopulation resilience (Murphy and White 1984). Dispersal studies suggest that long distance movements by individual Quino checkerspot butterflies are not common, but may be sufficient to allow for infrequent between-patch exchanges of up to 6 kilometers (3.7 miles).

Abundance and Distribution
The Quino checkerspot may have been one of the most abundant butterflies in San Diego, Orange, and western Riverside Counties during the early part of the 20th century (Murphy 1990). The butterfly was historically distributed throughout the coastal slope of southern California, including Los Angeles, Orange, western Riverside, San Diego, and southwestern San Bernardino Counties and northern Baja California (Mattoni *et al.* 1997, Allen 1990). The species was once described as occurring; "on every coastal bluff, inland mesa top, and lower mountain slope in San Diego County and northern Baja California (D. Bauer, pers. Comm..) and occupied a variety of habitat types including coastal sage scrub, open chaparral, juniper woodland, forbland, and grassland communities (Brown and Faulkner 1984). By the 1970's most of the coastal bluff and mesa habitats in southern California had been disturbed, and by the mid-1980's the Quino checkerspot butterfly was believed to be extinct (USFWS 1997).

Current information indicates that the butterfly has been extirpated from Los Angeles, Orange, and San Bernardino Counties. Quino checkerspot butterflies are currently known to persist in San Diego and Riverside Counties, and in northern Baja California.

Quino checkerspot butterflies exhibit a metapopulation structure, which may be described as a set of populations that are interdependent over ecological time. Although member populations may change size independently, their probabilities of existing at a given time are not independent of one another because they are linked by processes of extirpation and mutual recolonization that occur on the order of every 10 to 100 generations. (Harrison et al. 1988).

Spatially clustered Quino checkerspot butterfly observations are referred to as "occurrence complexes" in the Quino Checkerspot Recovery Plan (USFWS 2003). Occurrence complexes represent areas of documented short-term local occupancy, probably within the greater distribution of extant metapopulations. The Quino Checkerspot Butterfly Recovery Plan has grouped occurrence complexes into "Habitat Areas". Areas with current records of Quino checkerspot butterfly include: The Northwest Riverside, Southwest Riverside, South Riverside, South Riverside/North San Diego, Southwest San Diego, and Southeast San Diego Habitat Areas, and more recently the Campo/La Posta area. The Campo/La Posta area is situated between the Southeast San Diego Habitat Area (Otay Mountain area) and the Southwest San Diego Habitat Area (Jacumba area). It was not recognized as a designated Habitat Area in the Recovery Plan due to a lack of Quino records at the time the Recovery Plan was drafted. Although not identified as an occurrence complex or Habitat Area in the Recovery Plan, the recent identification of Quino checkerspot butterflies on multiple properties in the La Posta/Campo area points to the existence of a Campo/La Posta "Habitat Area" for Quino checkerspot butterflies. This area may be of regional importance to the species as a linkage between the Southeastern San Diego Habitat Area, and the Southwestern San Diego Habitat Area as well as linkage between populations in Mexico, and those further to the north.

Although no estimates of population size for the Quino checkerspot butterfly are currently Available, the best available information indicates the species is highly endangered.

Threats

Threats to Quino checkerspot butterfly include habitat modification associated with development, invasive plant species establishment and proliferation, grazing/trampling, and predation. Climate change may adversely affect the species' distribution. In addition, the role of fire in the ecology of this species is poorly understood and fire has the potential to result in local extirpations that could exacerbate existing fragmentation.

Fifty to seventy-five percent of the known range of the Quino checkerspot butterfly was lost between 1900 and 1991 due to habitat degradation or destruction (Brown 1991) and additional significant levels of construction have occurred since 1991 in potential habitat.

Primary larval food plants can be displaced by exotic plants, which invade once the ground is disturbed by discing, grading, grazing and/or trampling (J. Johnson, in litt., 1989; G. Ballmer, in litt. 1990). Some food plants may colonize sites where grass does not grow well, like trails and road edges, where Quino checkerspot butterfly larvae are then subject to trampling (D. Hawks, pers. comm. 1993).

There is evidence that predation is a threat to Quino. Preliminary studies (D. Hawks, pers. comm., 1993; G. Ballmer, pers. comm. 1994) indicate that predation has contributed to the decline of the butterfly at sites where habitat has been invaded by non-native plant species, which may also harbor predatory arthropods.

Little data are published about the direct and indirect impacts of fire on Quino populations, nor on Quino host and nectar plants. The Recovery Plan states that "a combination of naturally occurring events (e.g. drought, cold snaps, flood, and fire), exacerbated by ongoing human caused habitat destruction and degradation (development, agriculture, and grazing), resulted in the apparent extirpation of formerly resilient Quino checkerspot butterfly populations in Orange County". Wildfire is apparently a natural perturbation that can directly extirpate a population of Quino, but the habitat patch might be recolonized depending on its distance from a source population. Based on research on bay checkerspot butterflies (*E.e. bayensis*), dispersal distances greater than 2 kilometers do not appear likely. The 2003 fires likely had an adverse effect on Quino populations due to the extent and severity of these fires. The "Cedar-Otay-Paradise Fire in 2003 burned 45.9% of the quino occurrences, and 21% of the habitat recorded in San Diego County. Interestingly, fire suppression activities have also been hypothesized to contribute to the changes in distribution and abundance exhibited for this species (Recovery Plan), as an increased fire return interval may allow changes in plant species composition or structure (i.e. a closed canopy) that would not be suitable as Quino habitat. Some areas occupied by Quino are in early post-fire succession (Mattoni et al. 1997) and several host plant species are known to be "fire following" species. Based on the metapopulation structure of the Quino checkerspot butterfly it is likely that the species is adapted to geographic and temporal variation in food plant distribution that would result from a habitat mosaic created from periodic fires.

Regional Status in San Diego County and the Campo/La Posta Area

The La Posta MWTF lies within southern San Diego County between the Southwestern San Diego and Southeastern San Diego Recovery Units (derived from the "Habitat Areas". The area surrounding the proposed La Posta MWTF supports habitat characteristic of higher elevation Quino sites such as Anza (G. Pratt pers. Comm.). The status of the Quino checkerspot butterfly in the area is largely unstudied. Several records now exist, associated with proposed habitat disturbing activities. Several projects are currently in the early planning stages in the vicinity of the proposed La Posta MWTF, including; a regional landfill, La Posta MWTF, and several housing developments.

A 400-acre landfill, approximately 400-acre well field and 200 acres of support facilities are proposed on tribal land located approximately 3 miles south of the proposed installation boundary (SAIC 2006). Quino have been documented in the immediate vicinity of, and within the project footprint for the proposed landfill.

Quino have also been documented on San Diego Mountain Ranch, within a mile (east) of the proposed MWTF boundary.

A significant number of the recorded Quino checkerspot butterfly occurrences, predicted species distribution, and critical habitat in San Diego County burned in 2003. Based on DOI BAER Vegetation Mortality, released 11/10/2003, 178 occurrences of 388 (pre-fire), or 45.0% burned. This same analysis indicates that 21% of the predicted distribution of Quino burned in these fires. The current status of the butterfly at sites that burned (3 years post fire) is under review.

In 2004 the Conservation Biology Institute finalized the Las Californias Binational Conservation Initiative. The Conservation Initiative provides a landscape level analysis of the biogeographic significance of the California-Baja California border region and presents a vision for conservation in the border region of California and Baja California. The Las Californias Conservation Initiative recognizes the Campo/La Posta area as a "critical opportunity area", where conservation values of existing habitat blocks are imminently threatened unless focused conservation actions take place. The Las Californias Conservation Initiative states a Conservation Goal in this area of creation of an area of unfragmented core habitat on the BLM lands around the La Posta Microwave Station property.

The Nature Conservancy recently acquired 2 parcels (330 acres) adjacent to the proposed La Posta Mountain Warfare Training Facility using funds provided by several agencies, including the Department of Defense. The land was acquired by the Nature Conservancy in accordance with the "Buffer Lands Initiative Memorandum of Understanding" to: (1) provide a buffer area between the La Posta Mountain Warfare Training Facility and surrounding private/public land; and (2) help maintain regional connectivity between National Forest lands to the north and habitats in Baja California. The buffer area is intended to reduce potential conflicts between

military training activities and surrounding land uses, thereby no training activities would be conducted within the buffer area. Although no natural resource inventory has been conducted and the suitability/occupancy of this site by Quino checkerspot butterflies is unknown, the acquired buffer lands may have conservation value for this species. Habitat assessment and surveys of acquired buffer lands are necessary to ascertain the presence of Quino checkerspot butterflies or suitable habitat on these parcels. The MOU precludes the use of this acquisition land as compensation for military impacts within the boundaries of the installation.

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR § 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation, and the impacts of State and private actions which are contemporaneous with the consultation in progress.

The action area for the La Posta Mountain Warfare Training Facility includes parcels proposed for Exclusive Use Withdrawal and parcels proposed for Right of Way. The action area and surrounding area may be of great importance to Quino checkerspot butterfly given the metapopulation structure of the species and the position of the area between the Southwestern San Diego Recovery Unit and the Southeastern San Diego Recovery Unit. The action area is a subset of the Campo/La Posta area. The baseline condition of the Campo/La Posta area is discussed in the "Regional Status" section of this opinion (p. 15).

The action area lands are currently managed bv BLM under the guidance of the South Coast Resource Management Plan (SCRMP) (BLM 1994). The action area lies within the San Diego County Management Area of the SCRMP. The Management Plan lists Resource Condition Objectives for the area, including: emphasis on the protection and enhancement of sensitive species habitat and open space values; and enhancement of habitats for all wildlife species, including deer and quail.

The action area supports at least 18 vegetation series and is largely undeveloped. The action area is currently subject to foot and vehicle traffic due to ongoing training activities, recreational use, and illegal alien traffic; and has experienced several fires within the past twenty years. The existing withdrawal has been used by Naval Special Warfare, the Border Patrol, San Diego County Sheriff's Department and others for training since 1985. Existing development and disturbance exists primarily within the existing withdrawal and includes: (1) the microwave tower; (2) seven other buildings on Ranges 112 and 115; (3) a helicopter pad; (4) general purpose storage area; (5) breaching facility, (6) small arms range complex; (7) CQC house; (8) 300-yard known range; (9) three water wells; (10) simulated enemy missile site; (11) shotgun trail; (12) three dirt roads; (13) unmapped trails and some partially unvegetated and previously disturbed

areas. A grazing allotment is in place within Parcels E and F, and portions of Parcels B, C, and G, which may have affected the vegetation composition and soil structure of this area. Public recreational activities, such as horseback riding, camping, hiking, and hunting, are currently allowed within the action area. A network of undesignated and unmapped trails has developed as a result of ongoing use.

The Quino Checkerspot Butterfly Habitat Assessment did not assess the acreage of potential habitat on Right of Way parcels, however the areas proposed for withdrawal (the existing withdrawal and Parcels C, E, and G) support approximately 3,041.09 acres (1231 ha) of "non excluded" potential Quino checkerspot butterfly habitat and is occupied by Quino checkerspot butterflies (BA). The distribution of Quino checkerspot butterflies within the action area is under review- to date, occupancy has been documented in the areas proposed for facilities construction and expansion activities. The action area contains topographical features (hilltops and ridges) and host and nectar plants characteristic of Quino habitat. The primary host plant detected within the proposed construction areas is white snapdragon (*Antirrhinum coulterianum*). Approximately 420 individual plants of this species were detected within area proposed for construction during May 2006. The white snapdragon plants were located in a valley dominated by California annual grassland series, California buckwheat/white sage series, and chamise series. An additional occurrence of white snapdragon was mapped in Parcel G, in an area that is likely to receive limited use (foot traffic) as part of the proposed action. Additional surveys are necessary to determine the abundance of Quino and better define suitable habitat within the boundaries of the proposed MWTF.

Foot traffic currently occurs on trails and off trails within the boundaries of the proposed withdrawal. Individuals involved in outdoor recreation activities (horseback riding, hiking), illegal immigrants, Border Patrol agents, and military personnel all currently traverse the area. The current level of training activity onsite includes approximately 4,850 days per year of off road foot traffic.

The vicinity of the action area was not recognized as a Recovery Unit (USFWS 2003) or included as part of the Quino checkerspot butterfly Critical Habitat designation (USFWS 2002), due to lack of Quino checkerspot butterfly surveys and resulting lack of records from this area. Recovery Units were established based on the presence of one or more core (large) occurrence complexes within each habitat region. The action area lies between two Quino checkerspot Recovery units, the San Diego Southwest Recovery Unit and San Diego Southeast Recovery Unit. The Recovery Plan for the Quino Checkerspot Butterfly recommends the establishment of additional recovery units, including a Central San Diego Recovery Unit. Further surveys of the action area and surrounding lands may be necessary to determine whether this area should be recognized as an additional Recovery Unit.

The primary host plant that occurs within the action area is *Antirrhinum coulterianum. Antirrhinum coulterianum* appears to be a facultative fire-follower in nondesert areas (Thompson 1988, USFWS 2004). The plant displays morphological characteristics similar to those of some other primary host plant species, as individual plants often produce a substantial cluster of spreading leaves close to the ground (Thompson 1988). Quino females often oviposit on the underside of these leaf clusters

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

The Proposed Action is likely to result in the mortality of Quino checkerspot butterfly larvae within areas proposed for construction and in areas proposed for foot traffic. The proposed action would reduce the area of suitable and restorable habitat available to Quino checkerspot butterflies within the Existing Withdrawal and Parcel C. In addition, the proposed action may result in habitat changes from foot traffic throughout the action area. The area proposed for new facilities construction/expansion includes approximately 61.78 acres (25.0 hectares) of non-excluded Quino Checkerspot Butterfly Habitat within Parcel C and the existing withdrawal parcel. The area proposed for foot traffic associated with dispersed training includes approximately 2152.0 acres (870.9 hectares) of non-excluded Quino checkerspot butterfly habitat within parcels C, E, and G. Additional dispersed foot traffic would occur in Quino Checkerspot Butterfly habitat in parcels for which right of way is proposed.

Table 1. Habitat disturbance associated with proposed action.

Action	*Parcel*	*Acres (hectares) Quino Habitat*	*Impacts to Quino*
Road widening	C	1.4 (.5666) [60,984 ft^2]	Habitat Loss, Potential Larvae Mortality
Extend security fence	EW	.28 (.11) [12,000 ft^2]	Habitat Loss, Potential Larvae Mortality
Expand CQC House	EW	.22 (.08) [10,000 ft^2]	Habitat Loss, Potential Larvae Mortality
Install Eyebrow	EW	.25 (.10) [10,800 ft^2]	Habitat Loss, Potential Larvae Mortality
Install sniper backstop	EW	.01 (0) [256 ft^2]	Habitat Loss, Potential Larvae Mortality
Install sniper tower	EW	.02 (0) [1200 ft^2]	Habitat Loss, Potential Larvae Mortality

Paved parking area adjacent to tower	EW	.11 (.04) [5000 ft^2]	Habitat Loss, Potential Larvae Mortality
Construct firebreaks	TBD	To Be Determined	Potential Larvae Mortality (depending on location)
Relocate trails	TBD	To Be Determined	Potential Larvae Mortality (depending on location)
Construct MTC	C	59.5 (24.08)	Habitat Loss, Potential Larvae Mortality
Frequent Use: foot traffic, vehicle traffic	C,E,G,EW	1247.3 (504.8)	Potential Habitat Degradation, Potential Larval Mortality
Occasional Use	C,E, EW	904.7 (366.1)	Potential Larval Mortality
Total Anticipated Construction Disturbance	**C,EW**	**61.78 (25.00)**	**Habitat Modification, larval mortality**
Total Anticipated Foot Traffic Disturbance	**C,E, EW,G**	**2152.0 (870.9)**	**Potential Habitat Modification, larval mortality**

The Proposed Action includes Conservation Measures that may allow some butterfly larvae to survive that might otherwise perish within the construction footprint. In addition, the Proposed Action includes Conservation Measures that will help contain the impact to the identified construction areas. If nearby Quino checkerspot butterfly occurrences can be located, proposed Conservation Measures may result in positive management and augmentation of these occurrences. Based on the recovery plan, conservation measures that fully protect and/or restore habitat of greater value that the habitat lost should be outlined. A crucial aspect of conserving existing metapopulations is protection of dispersal areas between habitat patches. In order to protect dispersal areas between habitat patches, an increased understanding of the distribution of Quino checkerspot butterflies and host plants in the vicinity of the proposed La Posta MWTF is necessary.

The proposed action includes: (1) administrative changes in ownership that will give the U.S. Navy increased control of land uses; (2) ongoing and intensified training uses; (3) expansion of existing facilities; (4) development of new facilities, and; (5) implementation of conservation measures. The effect of each component of the proposed action on the Quino checkerspot butterfly is outlined below.

Administrative Change in Jurisdiction

The proposed change in administrative status to La Posta Mountain Warfare Training Area would remove approximately 3386 acres (1370 ha) of land from public access. The change in jurisdiction may result in some reduction in recreational and illegal entry, however the range would not be fenced and at this time, no additional security has been proposed. Where private or

BLM land abut the Withdrawal, gates would be installed, and signs would be posted. Access pursuant to existing rights and easements, including grazing allotments, would continue. Additional public access would be allowed on a case-by-case basis (i.e. hunting and horseback riding) when it does not conflict with the training mission. Some casual recreational use, as well as continued illegal entry, may continue to occur. However, the amount of recreational use is expected to be less than would occur if the lands were not withdrawn for exclusive Navy use. The net level of human activity at La Posta MWTF, taking into account increased training activity and some potential decrease in other human uses, is expected to increase. Increased levels of human activity would likely result in some level of degradation to Quino checkerspot butterfly habitat via weed introduction, spread, soil compaction, or host plant trampling (as discussed in the "Existing and intensified training activities" section, below). The proposed change in administrative status would also modify the natural resource goals that are currently in place under the South Coast Resources Management Plan, and may indirectly result in increased impacts to Quino checkerspot butterfly. Under the South Coast Resources Management Plan, resource goals for the area include emphasis on the protection and enhancement of sensitive species habitat and open space values; and enhancement of habitats for all wildlife species, including deer and quail. Withdrawal of these lands for exclusive use by the Navy Special Warfare units would likely change the goals for the area, as the primary goal would be to support the U.S. Navy training mission. The impacts of incremental changes in habitat quality associated with the change in administration would be reduce by implementation of the proposed Habitat Enhancement Plan. Increases in human foot traffic would increase the potential for harm to Quino larvae and adults, however the distribution of butterflies throughout the site has not been identified, so the level of impact remains unknown.

Right of Way Authorization on Parcels A, B, D, F, and H

Right of Way Authorization on Parcels A, B, D, F, and H would likely increase the level of human foot traffic on approximately 2169 acres (933 ha), as no reduction in other human uses would occur, but increased uses by trainees would occur.. Right of Way authorization would, however, retain the recognition of the natural resource goals set forth in the South Coast Resources Management Plan over this area. Increases in human foot traffic would increase the potential for harm to Quino larvae and adults; however the distribution of butterflies throughout the site has not been identified, so the level of impact remains unknown.

Existing and intensified training activities

Training activities that currently occur at the Mountain Warfare Training Facility Units involve 20-200 individuals during one class or training session. Approximately 12,011 use-days per year occur on the installation, and of these approximately 4,850 occur off roads or ranges, where there is more potential for Quino impact. Use is expected to increase on the installation, with 15,668 use-days per year expected in the future, including approximately 4,886 use days conducting off-road or off-range activities. Most of the anticipated increase in training use is expected to occur

on fixed range facilities (Range 113, Range 115, proposed CQC and sniper facilities). Approximately 1,247.33 acres (504.79 ha) of non-excluded Quino checkerspot butterfly habitat are proposed for frequent training use and approximately 904.65 acres (366.10 hectares) of non-excluded Quino checkerspot butterfly habitat are proposed for occasional training use.

Training activities could result in direct and indirect adverse impacts to Quino checkerspot butterflies as outlined below. In addition, foot traffic associated with training may result in "opening" of some closed canopy plant communities and improve conditions for Quino. Training exercises have been conducted at the proposed La Posta MWTF since the mid-eighties and Quino checkerspot butterflies currently occupy the site. It is unknown, however, whether the existing abundance and distribution is comparable to historical abundance and distribution at the site.

Trainees may step on, and unintentionally harm or kill larvae while traversing Quino checkerspot butterfly habitat. Quino larvae inhabit open areas between larger shrubs exposing them to potential harm from foot traffic, which is likely to occur in such open spaces. The extents of the impacts to Quino that may result from foot traffic are undeterminable because patterns of foot traffic and distribution of Quino checkerspot butterfly larvae at La Posta MWTF have not been identified. The relative intensity of use has been identified as a coarse measure of potential impacts associated with ongoing use. Based on this assessment, approximately 1,247.33 acres (504.79 hectares) of Quino checkerspot butterfly are likely to be subject to frequent use as part of the proposed action. We anticipate that Quino checkerspot butterfly harm, mortalities, and other impacts associated with foot traffic are most likely in these areas. Approximately 2152.0 acres (870.9 hectares) are likely to be subject to frequent or occasional foot traffic. Foot traffic may also degrade habitat by crushing larval host plants or nectar plants, compacting soils, or by spreading seeds of non-native invasive plants. Non-native invasive plants can out compete the native plant species on which the Quino checkerspot butterfly depends. Like foot traffic, vehicular traffic can crush larvae or host/nectar plants, and facilitate the spread of non-native invasive plants. In addition, adult butterflies may be hit and harmed or killed by vehicles. Based on the projections for changes in use levels associated with the proposed action, the impacts from off-road foot traffic and off-road vehicle activity associated with continued and intensified training at La Posta should remain similar to that which has occurred in recent years (currently 4850 use days increasing to 4886 use days, an increase of 36 days per year).

Fire, in the form of wildfires or controlled burns could occur as a result of training activities or range maintenance and is likely to kill Quino adults, eggs, larvae and host/nectar plants when it occurs in occupied areas. Fire, however, may also be important for the persistence of *Antirrhinum coulterianum* (white snapdragon), the local primary host plant. The risk of fire is increased in areas where pyrotechnics (flares, illumination rounds) would be used. Tracers, another potential ignition source, would not be used during live fire training exercises at La Posta MWTF, which reduces the overall potential for wildfire at this range. Controlled burns may also be propose in the future to implement fuel breaks or reduce the fuel load in safety arcs behind

fixed ranges, however the effects will be evaluated when locations for controlled burns are identified. In addition to the direct impacts associated with fire, fire is likely to change the plant community composition after a burn, affecting habitat suitability. One of the locations in which adult Quino were located in 2004 was in the vicinity of a previous burn. Fire could open the canopy and improve conditions for however fire could also result in annual grass invasion, which would decrease habitat value for the species.

Quino checkerspot butterflies or larvae may be hit by rounds that fall within the safety arcs behind existing or proposed ranges. Quino checkerspot butterflies have been found in the vicinity of the existing CQC house (Range 113), existing Small Arms Complex (Range 115), and have been found within the area proposed for similar exercises. Paradoxically, the safety arcs behind existing and proposed ranges also offer a degree of protection from foot traffic, as these areas are off-limits to foot traffic for safety reasons. Live fire exercises are expected to increase from 6,050 per year to approximately 9,662 per year (including future exercises conducted at MOUT) as part of the proposed action, which increases the possibility of butterflies being hit.

Expansion and Maintenance of Existing Facilities and Development of New Facilities

Expansion of existing facilities and development of new facilities is likely to result in the direct modification of approximately 61.78 acres of Quino habitat, including impact to the documented primary host plant occurrence in Parcel C. The Parcel C valley in which most new construction/ improvements/ training use is proposed supports over 95% of the Quino checkerspot host plants identified to date on the base. Modification of the 59.5 acre Parcel C MTC area, and resulting Quino checkerspot butterfly mortality and habitat loss may result in loss of this occurrence of Quino checkerspot butterfly. The significance of the loss of this occurrence is unknown, due to the limited amount of information about Quino checkerspot butterfly abundance and distribution in the Campo/ La Posta area. Based on the preliminary survey results, the loss may be significant, as host plant density appears low in most areas surveyed to date. An additional host plant occurrence documented in Parcel G has not been numerically quantified, and may also support a significant occurrence of host plants.

However, because the distribution of Quino checkerspot butterflies on the La Posta MWTF and in the La Posta/Campo region is poorly understood, the level of impact to the species associated with modification of this habitat is not known. We anticipate that larval, egg, and host plant losses would be significant to the local area, since this is the only place identified with this density of host plants. Loss of occupied Quino habitat is likely to be significant on a regional basis, given the location of La Posta MWTF between eastern, western, southern, and historical northern occurrences. The impact to the local Quino population is unknown due to information gaps concerning the presence of Quino throughout the local area.

Implementation of Proposed Conservation Measures

Proposed conservation measures include: (1) measures designed to clearly delineate construction project footprints and contain impacts to the project footprint area(s); (2) measures intended to reduce the number of larvae that are harmed or killed during construction activities; and (3) measures intended to reduce local and regional impacts of loss of Quino habitat and potential loss of a Quino occurrence by improving habitat.

The Navy has proposed several measures designed to clearly delineate construction project footprints and contain impacts to the project footprint area(s). Clearly marking the construction sites, utilizing siltation fences or means of controlling sediment runoff, and minimizing dust production are expected to reduce the potential for unplanned footprint expansion, erosion impacts, and loss of larvae or host plants due to dust.

The Navy has proposed several measures intended to reduce the number of Quino checkerspot butterfly larvae that are harmed or killed as a result of construction activities. The success of such efforts will be dependent upon the ability of biologists to find larvae. Adequate understanding of the Quino use of the construction area(s) that will allow location and collection of larvae will likely necessitate multiple seasons of site assessment.

The Navy has proposed continued surveys and habitat enhancement to reduce the local and regional impacts of the proposed action. Habitat enhancement is most likely to offset the impacts of the proposed action if implemented within the Quino dispersal distance from the construction areas. Surveys may help to identify appropriate areas for habitat augmentation or other Quino occurrences within the boundaries of the proposed installation. The Navy has committed to implementation of appropriate management activities if training is determined to be a negative impact to Quino on the installation, which should also reduce the impacts of the proposed action.

Approximately 657.32 acres (346.96 hectares) of Quino habitat occurs on La Posta MWTF in areas that are proposed for no training use. Quino checkerspot butterfly larvae and adults would likely benefit from any reduction in recreational use that occurs as a result of Navy administration of these areas.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future non-federal (State, tribal, local, or private actions) activities that are reasonably certain to occur in the action area considered in this Biological Opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended. Previous actions (State, tribal, local, private, and Federal) are addressed in the Environmental Baseline section of this consultation. The action area includes only the federal lands proposed for withdrawal or right of way use. No future non-federal activities are anticipated.

CONCLUSION

After reviewing our understanding of the current status of the Quino checkerspot butterfly, the environmental baseline for the action area, effects of the proposed action, and cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the Quino checkerspot butterfly. We draw this conclusion for the following reasons:

1. Although the proposed action is likely to result in the loss of potentially significant Quino checkerspot butterfly habitat and individuals within this area, the Navy has committed to enhance Quino checkerspot butterfly habitat and minimize loss of individual butterflies/ larvae to offset anticipated impact;
2. A potentially significant host plant occurrence, which may support butterflies/larvae, is located within Parcel G in an area proposed for withdrawal likely to be subject to little use as part of the proposed action;

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations issued pursuant to section 4(d) of the Act prohibit take of endangered and threatened species without a special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that actually kills or injures a listed species by significantly impairing potential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined as an action that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2) of the Act, such incidental take is not considered to be a prohibited taking under the Act, provided that such taking is in compliance with this incidental take statement.

The measures described below are nondiscretionary and must be undertaken by the Navy so they become binding conditions of any permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Navy has a continuing duty to regulate the activity covered by this incidental take statement. If the Navy (1) fails to adhere to the terms and conditions, (2) fails to require the enforceable terms that are added to the permit, and/or (3) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. To monitor the impacts of incidental take, the Navy must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR §402.14(i)(3)]

AMOUNT OR EXTENT OF TAKE ANTICIPATED

Based on our discussion in the effects analysis, we anticipate that Quino checkerspot butterflies, eggs, or larvae that occur over approximately 2152.0 acres (870.9 hectares) are likely to be subject to frequent or occasional foot traffic and some butterflies or larvae within this area may be taken in the form of harm (injury, habitat degradation), harassment, or death (trampling, burning, vehicle contact), as a result of ongoing military training and facilities expansion at La Posta. We are unable to quantify the number of butterflies or larvae that may be taken due to the dispersed nature of the training activities, and the lack of information concerning butterfly and host plant distribution throughout the installation. It is not possible to quantify the amount of larvae that may be effected by the project. Any attempt at quantification of the number of larvae would not be based on any empirical data, therefore we will use acreage as a surrogate for numerical take. We anticipate that butterflies (3 observed in 2004) and host plants (420 recorded in 2006) that inhabit approximately 61.85 acres (25.03 hectares) of appropriate habitat may be lost in the course of facilities expansion and development for the new features proposed herein.

REASONABLE AND PRUDENT MEASURES

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize the impact of incidental take anticipated in this biological opinion on the Quino checkerspot butterfly.

1. The Navy must implement the Proposed Avoidance and Minimization Measures outlined in the Biological Assessment subject to modifications described in the Terms and Conditions, to increase the measures' effectiveness in avoiding and minimizing impacts of incidental take.

2. The Navy must avoid, to the extent practicable, larval clusters that occur within the potential construction area for MTC in Parcel C, and in all other areas where facilities development or expansion is proposed.

3. The Navy must identify Quino Management Areas and focus management of Quino habitat in these areas to lessen the impact of the permanent modification of Quino habitat associated with construction and expansion of facilities at La Posta MWTF.

4. The Navy must augment or restore Quino checkerspot butterfly habitat to appropriate areas to lessen the impact of detected or anticipated Quino habitat degradation and/or Quino injuries/fatalities associated with ongoing foot traffic in Quino habitat within La Posta MWTF.

5. The Navy must educate all trainees who use La Posta Mountain Warfare Training Facility about the Quino checkerspot butterfly and the Navy's stewardship role regarding this species.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Endangered Species Act, the Navy must ensure that their military personnel, including all agents and contractors anticipated herein, comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline the required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. To implement reasonable and prudent measure one, the Navy, including all of their agents and contractors, shall implement the Avoidance and Minimization Measures described in the BA and in the "Description of the Proposed Action" above, subject to the following specifications:

1. a. The Navy shall have a biological monitor present during the initial phases of clearing for construction projects to assure that construction sites are appropriately marked and to assure adequate communication regarding conservation measures and location of Quino checkerspot butterfly habitat. The Navy shall brief all contractors or Navy construction personnel regarding the presence of Quino checkerspot butterflies and habitat at La Posta MWTF, and the need to minimize the effective size of project footprints.

1. b. The Navy shall conduct host plant and larval surveys, as proposed in the "Proposed Avoidance and Minimization Measures" (BA) (and subject to the following modifications) during spring for 1 to 3 years preceding construction to gain understanding of the host plant dynamics and Quino checkerspot butterfly use of construction sites and thereby allow for successful collection of Quino larvae and white snapdragon seed.

Seed collection must be conducted by personnel qualified to identify, collect and properly store white snapdragon seed. The Navy shall collect seed from host plants identified within the construction footprint of the MTC, and other proposed facilities and utilize this seed to enhance Quino habitat outside the construction footprint. At least two years of seed collection prior to construction/disturbance of plants is likely necessary to collect sufficient seed for meaningful habitat augmentation. Based on meetings with the Range Manager, the area behind each range (safety arc) is a "no walk zone" and may provide an appropriate enhancement site to minimize the impact of unavoidable host plant impacts. The location of enhancement areas shall be identified as discussed in Term and Condition 1.d.

Larval salvage must be conducted by personnel qualified to identify, handle, and maintain Quino larvae. The Navy shall use a combination of techniques to relocate larvae outside the construction footprint, including Proposed Avoidance and Minimization Measure 5(1), "examine host plants detected within the construction footprint for larvae during the active season, and moving larvae detected to a preselected area (i.e. Quino Management

Areas) at least 10 m (32.8 ft) from the edge of the construction limits". Movement of larvae to the Quino Management Area must be conducted in accordance with the Habitat Enhancement Plan as discussed in Term and Condition 1.d. The Navy shall maintain larvae recovered from the construction limits through diapause and release these larvae to Quino Management Areas, using qualified personnel. Post-diapause larvae or adult butterflies recovered immediately preceding construction may also be relocated. All salvage work must be conducted in accordance with a Quino salvage protocol that may be included as part of the Quino Checkerspot Butterfly Habitat Enhancement Plan.

1. d. As proposed in Proposed Avoidance and Minimization Measure 4, the Navy shall develop of a comprehensive Quino Checkerspot Butterfly Habitat Enhancement Plan for La Posta MWTF, which will be included as part of the Integrated Natural Resources Management Plan for the installation. The Quino Checkerspot Butterfly Habitat Enhancement Plan shall use enhancement/restoration guidelines provided in the Recovery Plan, shall be consistent with the recovery objectives for the species and include: (1) identification local areas of importance to the species on the installation or in adjacent areas proposed as Quino Management Areas, (e.g. all areas where Quino adults, larvae, eggs, and potential host plants have been identified), cryptobiotic crusts, hilltops, ridgelines, and topographic features of likely importance to the butterfly, potential corridors to other known occurrences, and overlap with training areas; (2) the boundaries of areas managed to support Quino (Quino Management Areas); (3) specific management strategies (i.e. specifics regarding weed management, host-species augmentation, application of controlled burns) that will be implemented to benefit Quino in areas of the base; (4) mission-compatible mechanisms for avoiding trampling of Quino checkerspot butterfly larvae, host plants, or cryptobiotic crusts in any key areas if importance; (5) a habitat monitoring program designed to detect any significant changes in Quino habitat that could lead to decline of populations at La Posta MWTF; (6) A Chapter or Appendix that describes in detail the larval salvage and release techniques to be used (7) a Quino population monitoring program designed to detect changes in distribution, in which select occurrences on base are surveyed at least once every 4 years. The Quino Checkerspot Butterfly Habitat Enhancement Plan must be completed and receive Service concurrence prior to construction of facilities within Parcel C.

1. e. The Navy shall complete Quino checkerspot butterfly surveys initiated in 2006 to include all parcels of La Posta MWTF proposed for exclusive use for the Navy (approximately 2500 acres [1,012 hectares]).

1. f. As proposed in Avoidance and Minimization Measure 4, the Navy shall control the introduction of and spread of non-native plants throughout La Posta Mountain Warfare Training Facility. To prevent introduction of new invasive weed species, the Navy shall require that trainees' shoes and vehicles be free of soil and seed prior to travel throughout the installation. To control the spread of existing non-native species on base, the Navy

shall implement a weed control program. The weed control program may be included as part of the Quino Checkerspot Butterfly Habitat Enhancement Plan.

2. To implement reasonable and prudent measure two, the Navy, including all of their agents and contractors, shall adhere to the following terms and conditions:

2. a. Construction personnel shall using existing roads or existing parking lots for staging areas whenever possible.

2. b. Botanical surveys shall be conducted as close to the flowering period of *Antirrhinum* and within one year prior to construction. prior to grading activities to identify the locations of all primary and secondary host plants that lie within the clearly defined construction footprint, and;

2. c. Construction personnel shall avoid host plants where possible. This may be accomplished by slight modifications in construction boundaries, where possible, or by marking a buffer area around host plants. The Service acknowledges that due to the host plant distribution within the MTC footprint, in many instances, avoiding host plants will not be possible.

3. In order to implement Reasonable and Prudent Measure Number 3, the Navy shall:

3. a. Identify one or more sites that support a total of at least 61.78 acres of occupied Quino habitat, and manage this habitat under the guidance of the Quino Checkerspot Butterfly Habitat Enhancement Plan to offset the permanent modification of 61.78 acres of occupied Quino habitat. Quino management sites may be within the boundaries of the La Posta MWTF (preferably in areas that currently receive no use to reduce conflict), or may be off of the installation (in parcels that are acquired or encumbered for conservation), but must be within dispersal distance/ flight distance of parcel C and/or the Existing Withdrawal. Occupation of proposed management areas may be confirmed based on previous surveys or surveys conducted in support of identification of such sites.

3.b. Enhance at least one acre of habitat adjacent to the sniper platform constructed within the Existing Withdrawal in 2006 and manage this site to support Quino under the guidance of the Quino Checkerspot Butterfly Habitat Enhancement Plan.

4. In order to implement Reasonable and Prudent Measure Number 4, the Navy shall:

4. a. Include enhancement measures to address degradation associated with foot traffic in the Habitat Enhancement Plan.

5. In order to implement Reasonable and Prudent Measure Number 5, the Navy shall:

5. a. Include material regarding Quino checkerspot butterfly appearance and biology in briefings or range manuals distributed for the La Posta MWTF.

The Service believes that no more than the anticipated incidental take of Quino checkerspot identified above would result from the proposed action. The reasonable and prudent measures, with the implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring re-initiation of consultation and review of the reasonable and prudent measures provided. The Navy must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Reporting Requirements
In order to demonstrate compliance with the foregoing Terms and Conditions the Navy, or its designated contact, shall submit an annual report to the Service that describes and summarizes the implementation of the proposed Project, including a cumulative total of the amount of habitat impacted in order to track take, and its associated conservation measures.

Disposition of Sick, Injured, or Dead Specimens
The Service's Division of Law Enforcement, San Diego, California (619) 557-5063 is to be notified immediately should any quino checkerspot butterflies or quino checkerspot larvae be found sick, injured, or dead in the Project area. The Service's Carlsbad Fish and Wildlife Office should be notified concurrently at (760) 431-9440, ext. 274, 260, or 243. Written notification to both offices must be made within five calendar days and include the collection date and time, location of the butterfly(s), and any other pertinent information. Care must be taken in handling in handling dead specimens to preserve biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

(1) The Navy and the Service should collaborate and support research to contribute to our understanding of Quino checkerspot butterfly primary host plant utilization in higher elevation areas such as La Posta MWTF.

(2) The Navy and the Service should collaborate and support research to contribute to our understanding of Quino checkerspot butterfly diapuase locations.

(3) The Navy should authorize The Nature Conservancy to utilize any funds remaining from the Buffer Acquisition effort for acquisition of Quino habitat in the immediate vicinity of La Posta MWTF.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on Land Withdrawal and Operations at Naval Special Warfare, La Posta Mountain Training Facility. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take isexceeded (more than 61.85 acres); (2) new information reveals effects of the proposed action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the proposed action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation. This Opinion is based on the level of use and types of use outlined in the EA. Accordingly, if use of La Posta Mountain Warfare Training Facility exceeds the levels of use identified in this Opinion or if other types of uses are proposed, the Navy should seek re-initiation. In addition, some activities remain undefined in the Opinion; i.e. the locations for fuelbreaks and the number and locations of trails proposed for relocation are not identified. When fuelbreak locations or other aspects of installation development and management are determined, the Navy should initiate informal consultation to determine if re-initiation of formal consultation is necessary.

We look forward to working cooperatively with you to incorporate an effective conservation program for Quino checkerspot butterfly into the next revision of the Naval Base Coronado Integrated Natural Resources Management Plan.

If you have any questions regarding this biological opinion, please contact Sandy Vissman of this office at (760) 431-9440 extension 274.

Sincerely,

Therese O'Rourke

Therese O'Rourke
Assistant Field Supervisor

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Personal Communications

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