

**ATTORNEY-CLIENT PRIVILEGE
EXECUTIVE SUMMARY MEMORANDUM (ESM)**

To: RADM Dixon R. Smith, Commander, Navy Region Southwest
From: Melanie D. Ravan, Senior Counsel, Navy Region Southwest
Date: June 17, 2013
Subj: Finding of No Significant Impact-Final Environmental Assessment for Naval Base Coronado Integrated Natural Resources Management Plan

I. BLUF (Bottom Line Up Front)

A. This Executive Summary Memorandum (ESM) presents your Finding of No Significant Impact (FONSI) for the Final Environmental Assessment (Final EA; April 2013) Naval Base Coronado (NBC) Integrated Natural Resources Management Plan (Final INRMP; May 2013).

B. I respectfully endorse the Final EA/FONSI Package and respectfully request your signature for the FONSI prior to your change of command, before July 2, 2013. (Attachment 1).

C. The Commanding Officer NBC, concurs. (Attachment 2).

II. BACKGROUND

A. To exercise your delegated FONSI authority, the Final EA/FONSI package must include specific information for review prior to signature. This information includes: (1) The EA; (2) Statement of Technical Review; (3) Legal Sufficiency Memorandum; and, (4) FONSI.

B. Your Senior Counsel (Environment and Land Use) is responsible for reviewing the final EA/FONSI package to ensure that:

- (1) Regulatory coordination and consultations are consistent and complete;
- (2) The EA itself contains the necessary information to support a FONSI;
- (3) The FONSI is a reasonable determination in light of the nature of the action, the actions' location and its predicted impacts;
- (4) OPNAV N45 has received the NEPA Notification Letter.

C. The requirements of II. (A-B), above, are met.

III. DISCUSSION

A. The EA's proposed action is implementation of the revised INRMP. The May 2013 INRMP provides for management and stewardship of all natural resources present on the Installation¹, with the exception of Naval Outlying Field San Clemente Island (SCI) which is managed under a separate INRMP. (SCI INRMP FONSI signed out by CNRSW June 10, 2013).

**DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY**

**FINDING OF NO SIGNIFICANT IMPACT FOR THE ENVIRONMENTAL
ASSESSMENT ON THE INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN
AT NAVAL BASE CORONADO, SAN DIEGO COUNTY, CALIFORNIA**

Pursuant to the Council on Environmental Quality Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508) implementing the National Environmental Policy Act (NEPA), Department of the Navy NEPA regulations (32 CFR Part 775), and Chief of Naval Operations Instruction 5090.1C, CH-1, the Department of the Navy (Navy) gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement (EIS) is not required for implementation of the May 2013 Integrated Natural Resources Management Plan (INRMP) for Naval Base Coronado (NBC), San Diego County, California.

A Notice of Availability of the Draft EA and INRMP was published on March 15, 2013 in the San Diego Union Tribune Newspaper. The Draft EA and INRMP were available for public review at the San Diego City Library Central Branch, the San Diego County Library (Imperial Beach, Alpine, and Ramona Branches), the City of Coronado Public Library, and on the Navy Region Southwest public website. The public comment period on the Draft EA and INRMP was from March 15 to March 29, 2013. A comment was received from the City of Coronado, prompting the Navy to respond to the inquiry by official correspondence within the Administrative Record. The response answered the City of Coronado's inquiry on how additional NBC projects, studied as cumulative impacts, would move forward. The Navy affirmed further inter-governmental coordination on these future projects.

Proposed Action: Implementation of the May 2013 INRMP meets statutory requirements of the Sikes Act Improvement Act (SAIA) as well as requirements of pertinent Department of Defense and Navy Instructions. The INRMP also addresses changes to NBC facilities, infrastructure, natural resources, and land use that have occurred since the original 2002 NBC INRMP.

The Proposed Action is to implement the May 2013 INRMP's goals and objectives for management of the military Installation's natural resources. The Proposed Action includes continuing

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NBC's existing natural resource management practices and the addition of new management actions, particularly for the properties that have become a part of NBC since the development and implementation of the prior 2002 INRMP. These properties include Camp Morena, a support property of Camp Michael Monsoor, and two off-site NBC housing areas, Lofgren Terrace and Holly Square Housing Areas. All natural resources management measures in the May 2013 INRMP would be implemented in the context of the Installation's mission support activities and regional conservation management setting.

The Proposed Action would provide the following benefits to the management of natural resources on NBC: use of the May 2013 INRMP in combination with other NBC planning documents; integration of the natural resources program with other NBC military activities; and, provision of explicit goals and objectives under which natural resource projects would be evaluated and conducted.

Existing Conditions: The May 2013 INRMP addresses natural resources management on NBC facilities, including Naval Air Station North Island, Naval Amphibious Base Coronado, Silver Strand Training Complex North, Silver Strand Training Complex South, Naval Outlying Landing Field Imperial Beach, Camp Michael Monsoor, Camp Morena, Remote Training Site Warner Springs, and NBC assigned housing areas.

The May 2013 NBC INRMP addresses all lands owned, leased, withdrawn, or otherwise used for military training by the Installation, with the exception of Naval Auxiliary Landing Field, San Clemente Island and NBC in-water property within San Diego Bay that are managed under separate INRMPs.

In addition to terrestrial resources, the May 2013 NBC INRMP addresses marine resources in the Pacific Ocean up to 274 meters (898 feet) seaward and within the anchorages and training lanes (beyond the mean lower low water line) of the NBC facilities. Natural resource management of the NBC in-water bayside areas that fall under the responsibility of the NBC Commanding Officer are addressed in the San Diego Bay INRMP.

Natural resources on NBC include terrestrial and aquatic vegetation and wildlife. The following Federally-listed threatened, endangered, or candidate species have been observed on NBC. These include the endangered salt marsh bird's-beak

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(*Chloropyron maritimum ssp. Maritimum*), the endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), the endangered Quino checkerspot butterfly (*Euphydryas editha quino*); the endangered arroyo toad (*Anaxyrus californicus*); the endangered Light-footed Clapper Rail (*Rallus longirostris levipes*), the endangered California Least Tern (*Sternula antillarum browni*), the endangered Least Bell's Vireo (*Vireo belli pusillis*), the endangered Stephens' kangaroo rat (*Dipodomys stephensi*); the threatened green sea turtle (*Chelonia mydas*); the threatened Western Snowy Plover (*Charadrius nivosus nivosus*); and the Federal candidate Brand's phacelia (*Phacelia stellaris*). The endangered Nevin's Barberry (*Berberis nevinii*), the threatened Vail Lake Ceanothus (*Ceanothus ophiochilus*), the endangered Slender-horned Spineflower (*Dodecahema leptoceras*), and the endangered Southwest Willow Flycatcher (*Empidonax traillii extimus*), also have the potential to occur on NBC lands.

Numerous other special status species have also been observed on NBC, and include species that are state-listed endangered, threatened, candidate, or California species of special concern, birds on the Federal birds of conservation concern list, and plants identified by the California Native Plant Society as belonging to the Rare Plant Rank list.

Alternatives Analyzed: The following Alternatives are analyzed in the EA.

Alternative 1: Proposed Action (described above).

Alternative 2: No Action Alternative. Natural resources would continue to be managed in accordance with the 2002 INRMP.

The Proposed Action is selected for implementation as it meets the purpose and need of the natural resources management project, fulfills the statutory requirements of the SAIA, and optimizes current and future natural resources management on NBC.

Environmental Effects:

Land Use: The Proposed Action would develop an outdoor recreation plan and create natural resources-based outdoor recreation opportunities. These would result in positive impacts to the quality of life and morale of Navy personnel and their families through the provision of outdoor activities and

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recreational experiences. No significant impacts on land use would occur from implementation of the Proposed Action and beneficial impacts would result to recreational users.

Air Quality: Mechanized activities associated with the Proposed Action could potentially create dust and air emissions. These emissions would be minor, temporary, and local to the project area. Any air permits necessary for specific projects within the 2013 INRMP would be obtained prior to implementation of the project. Therefore, implementation of the Proposed Action would not result in significant impacts on air quality.

Topography, Geology, and Soils: Beneficial impacts to geological resources at NBC would occur from implementation of the 2013 INRMP. Protection of NBC's soil and geological resources would occur through erosion prevention and soil rehabilitation practices. Therefore, implementation of the Proposed Action would not have a significant impact on topography, geology, and soils and would result in beneficial impacts to those resources.

Water Resources: Beneficial effects would occur to water resources from the erosion control measures contained in the 2013 INRMP. The reduction of sediment within the effluent in the storm water drainages that cross NBC facilities would result in improved water quality in regional water bodies. The recovery of unstable drainages would reduce soil erosion and sedimentation of area streams on all NBC properties. The minimization of fertilizer and pesticide use would improve surface water quality by reducing nutrients and pollutants entering waterways and streams. Therefore, no significant impacts on water resources would occur from the implementation of the Proposed Action and beneficial impacts would result for these resources.

Biological Resources: The Proposed Action would result in long-term beneficial effects on biological resources. Native vegetation would benefit from habitat improvement measures such as noxious weed and invasive plant removal and revegetation with native plant species. Beneficial effects to wildlife species, particularly songbirds and small mammals, would occur from the control of feral animal populations on NBC. Long-term, beneficial effects on certain bird and bat species would result from the installation of bird and bat boxes.

FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE ENVIRONMENTAL ASSESSMENT ON THE INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN AT NAVAL BASE CORONADO, SAN DIEGO COUNTY, CALIFORNIA

Implementation of the Proposed Action would also result in long-term, beneficial effects to Federal and State listed threatened and endangered species (and other protected and sensitive species) from the regularly planned surveys for these species on NBC facilities. Therefore, the Proposed Action would not result in significant impacts to biological resources and beneficial impacts would be realized.

Hazardous Materials and Wastes: The Proposed Action would result in long-term, beneficial effects on hazardous materials and waste management because of the reduction in the use of pesticides, rodenticides, and herbicides on NBC properties. Therefore, there would be no significant impact to hazardous materials and waste management with implementation of the Proposed Action and beneficial impacts would be achieved.

Cumulative Impacts: Potential cumulative impacts of the Proposed Action, when added to the impacts of past, present and reasonably foreseeable future projects, are beneficial and no foreseeable adverse impacts would occur to any resource areas.

Finding: Based on the information obtained and science analyzed during preparation of the EA, and in coordination with these agencies during the development of the May 2013 INRMP: (1) United States Fish and Wildlife Service, Carlsbad Field Office; (2) California Department of Fish and Game, South Coast Region Office; (3) National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southwest Region Office, the Navy finds that implementation of the Proposed Action will not significantly affect the quality of the human or natural environment or generate significant controversy.

The EA prepared by the Navy addressing this action is on file and interested parties may obtain a copy by contacting NAVFAC SW, Coastal IPT, GRUE00.KC, 2730 McKean Street, Building 291, San Diego, CA 92136.

6/26/13

Date



RADM Dixon R. Smith, USN
Commander, Navy Region Southwest

FINAL
ENVIRONMENTAL ASSESSMENT
ADDRESSING THE
INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN
FOR
NAVAL BASE CORONADO, SAN DIEGO, CALIFORNIA



JUNE 2013

TITLE PAGE

**FINAL ENVIRONMENTAL ASSESSMENT
ADDRESSING THE
INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN
FOR
NAVAL BASE CORONADO,
SAN DIEGO, CALIFORNIA**

APRIL 2013

Lead Agency: U.S. Navy

Title of Proposed Action: Implementation of an Integrated Natural Resources Management Plan (INRMP) for Naval Base Coronado (NBC), California

Designation: Final Environmental Assessment (EA)

Prepared by: U.S. Navy

Point of Contact: Naval Facilities Engineering Command, Southwest Division
Ms. Kari Coler, Environmental Planner
2730 McKean Street, Bldg 291
San Diego, CA 92136
Phone: (619) 556-9904
Fax: (619) 556-0195

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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
AQCR	Air Quality Control Region
BLM	Bureau of Land Management
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNO	Chief of Naval Operations
CNPS	California Native Plant Society
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DoD	Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
GIS	geographic information system
HCP	Habitat Conservation Plan
INRMP	Integrated Natural Resources Management Plan
MBTA	Migratory Bird Treaty Act
MLLW	mean lower low water
MOU	Memorandum of Understanding
MSCP	Multiple Species Conservation Program
NAAQS	National Ambient Air Quality Standards
NAB	Naval Amphibious Base
NASNI	Naval Air Station North Island
Navy	U.S. Navy
NBC	Naval Base Coronado
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOLF IB	Naval Outlying Landing Field Imperial Beach
NPDES	National Pollutant Discharge Elimination System
OPNAVINST	Chief of Naval Operations Instruction

Pb	lead
PM	particulate matter
PM _{2.5}	particulate matter equal to or less than 2.5 microns in diameter
PM ₁₀	particulate matter equal to or less than 10 microns in diameter
PPV	Public-Private Venture
RCRA	Resource Conservation and Recovery Act
RONA	Record of Non-Applicability
RTSWS	Remote Training Site Warner Springs
SDAB	San Diego Air Basin
SERE	Survival, Evasion, Resistance and Escape
SF	square feet
SIP	State Implementation Plan
SSTC-N	Silver Strand Training Complex North
SSTC-S	Silver Strand Training Complex South
TRNERR	Tijuana River National Estuarine Research Reserve
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VID	Vista Irrigation District
VOC	volatile organic compound

Executive Summary

Proposed Action

The U.S. Navy (Navy) is proposing to implement a revised Integrated Natural Resources Management Plan (INRMP) for Naval Base Coronado (NBC), consistent with the goals and objectives established in the Sikes Act, as amended (16 United States Code [U.S.C.] 670a et seq.), and with guidance and regulations specified in Department of Defense Instruction (DoDI) 4715.03 (*Natural Resources Conservation Program*, 2011), Chief of Naval Operations Instruction (OPNAVINST) 5090.1C CH-1 (*Environmental Readiness Program Manual* (18 July 2011), and Chief of Naval Operations (CNO) *Integrated Natural Resources Management Program Guidance* (2006). The previous INRMP was prepared in May 2002. The revised INRMP would provide natural resources management strategies for NBC into the future. The revised INRMP would include all properties addressed in the 2002 INRMP, and three additional properties: Camp Morena, a support property of Camp Michael Monsoor, and two off-site Naval housing areas that have since been assigned to NBC.

The Proposed Action includes continuing NBC's existing natural resources management prescriptions along with the prescription of several new management actions, particularly for the properties that have become a part of NBC since the 2002 INRMP. The scope of the revised INRMP includes all lands owned, leased, withdrawn, or otherwise used for military training by NBC (see **Table 1-1**), with the exception of Naval Auxiliary Landing Field, San Clemente Island, Parachute Drop Zone at Otay Mesa Area (transferring out of NBC) and portions of San Diego Bay, which are managed under separate INRMPs. All management prescriptions would be integrated and implemented in the context of the installation's mission support needs and regional setting. As a result of the growth in the San Diego region, the impacts of planning and future development in San Diego County and NBC necessitate coordinated planning for land and resource management. Natural resources management on NBC must be integrated with other disciplines, programs, and planning beyond the scope of traditional fish and wildlife management on Navy installations.

Under the Proposed Action, the INRMP would be reviewed and updated annually as needed. Additionally, INRMPs must be reviewed for operation and effect no less than once every 5 years by the installation, the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW). The Proposed Action would have additional benefits including: (1) better integration of the INRMP with other installation planning documents; (2) improved integration of the natural resources program with other NBC activities; (3) explicit goals and objectives under which ongoing and future natural resources projects would be implemented; and (4) a systematic approach to integrated natural resources management by documenting present and future program implementation.

Purpose of and Need for the Project

The purpose of implementing the INRMP is to chart a course for natural resources management on NBC, consistent with the Sikes Act as amended and Department of Defense (DoD) and Navy policy and guidance regarding INRMPs. The purpose of the INRMP is to: initiate an ecosystem-based conservation program that provides for conservation and rehabilitation of natural resources

in a manner that is consistent with the military mission; integrate and coordinate all natural resources management activities; provide for sustainable multipurpose uses of natural resources; and, provide for public access for use of natural resources subject to safety and military security considerations. A majority of the facilities associated with NBC are on restricted military lands and would remain restricted.

The need for implementing an INRMP revision is to address changes to NBC facilities, natural resources, desired natural resources projects and initiatives, and land use patterns in the area that have occurred since 2002. NBC is required to update the 2002 INRMP and initiate management actions for Camp Morena, a support property of Camp Michael Monsoor, and two off-site naval housing areas that have since been assigned to NBC. Both the INRMP and the natural resources program that it supports must meet the guidance and regulations provided in DoDI 4715.03, OPNAVINST 5090.1C CH-1, and the CNO *Integrated Natural Resources Management Program Guidance*. These guidance documents and policies collectively require a plan and management approach consistent with mission support, multipurpose use, integration, ecosystem- or landscape-level management, and environmental compliance and stewardship.

Alternatives Analysis

Reasonable Alternative Screening Factors. Under the National Environmental Policy Act (NEPA), reasonable alternatives to implement a proposed action must be considered in an Environmental Assessment (EA). A range of reasonable alternatives was developed. To be considered reasonable, an alternative must be consistent with the criteria listed as follows:

1. Be based on the principles of ecosystem management.
2. Provide for sustainable multipurpose use of natural resources.
3. Maintain compliance with relevant environmental regulations.
4. Provide for public access for use of natural resources subject to safety and military security considerations.
5. Establish specific natural resources management objectives and timeframes for the Proposed Action.
6. Prevent loss in the capability of military lands to support the military mission of the installation.

Alternatives Analyzed. The Navy's policy is to analyze at least one action alternative in an EA, other than the Proposed Action, unless it would not be practical to do so (OPNAVINST 5090.1C CH-1, section 5-2.3.3.c). For this EA, only the Proposed Action and No Action Alternative were deemed to be reasonable alternatives and were carried forward for detailed analysis.

The Proposed Action would encompass the consideration of a wide variety of resource management practices and projects, depending on current environmental conditions and ecological considerations. Therefore, within the INRMP, there are many possible alternatives for the management of natural resources on the military installation. All resource management objectives in the INRMP would result in beneficial impacts on resources.

No Action Alternative. Under the No Action Alternative, the Navy would not implement a revised INRMP for NBC. The No Action Alternative would result in continued natural resources management as characterized in the 2002 INRMP for NBC. The No Action Alternative does not meet the purpose of and need for the Proposed Action. It does, however, serve as a baseline against which the impacts of the Proposed Action can be evaluated. Under the No Action Alternative, natural resources management would continue as it has since the 2002 INRMP was implemented and would not include management prescriptions for Camp Morena, a support property of Camp Michael Monsoor, or the two off-site naval housing areas that have since become part of NBC. However, since 2002, the installation has established measures and programs for the management of natural resources on these new properties and would continue to ensure they are managed in compliance with Federal, state and local environmental laws and regulations.

Alternatives Considered but Eliminated from Further Detailed Analysis. A compliance-driven management alternative to the Proposed Action was initially considered, which would take a minimal approach to management and only manage natural resources components that are required by laws or regulations. Under this alternative, an ecosystem-based approach would not be implemented; rather, management actions would only be implemented if there was a possibility of violating a law, such as the Clean Water Act (CWA) or the Endangered Species Act (ESA). While it would ensure that NBC would be less likely to receive a notice of violation for noncompliance with natural resource regulations, this alternative would not comply with the intent of the Sikes Act for natural resources management.

The Sikes Act requires that the INRMP be developed to ensure that the management approach for resources is ecosystem-based, and thus goes beyond simple compliance. According to the Sikes Act, the vision of an installation INRMP is to ensure the sustainability of all ecosystems within and near the installation, and to ensure no net loss of the installation's capability to support the military mission. To meet the intent of the Sikes Act, the DoD adopted an ecosystem-based management approach as the basis for future management of DoD lands and waters through applying the principles of adaptive management and through collaborating with internal and external parties (DoDI 4715.03). Therefore, the compliance-driven management alternative would not meet the intent of the Sikes Act and was eliminated from further detailed analysis in this EA.

Summary of Environmental Effects from the Proposed Action and No Action Alternative

Table ES-1 presents a summary of the potential environmental impacts that would occur from implementation of the Proposed Action and the No Action Alternative. A more detailed analysis table is shown in **Section 3.2**.

Cumulative and Other Impacts

Natural resource management objectives for NBC under the Proposed Action would be consistent with and benefit other existing, approved, and proposed plans in the region as discussed in detail in **Section 1.7 of the INRMP**. The primary goal of the INRMP is to provide an adaptive ecosystem-based conservation program that will support the NBC mission and

provide for the sustainability of natural resources. Thus, by design, the Proposed Action would be consistent with the military mission on NBC, including on- and off-installation land uses; on- and off-installation air quality; on- and off-installation topography, geology, and soils; on- and off-installation water resources management; on- and off-installation biological resources management; and in compliance with environmental laws and regulations.

Table ES-1. Summary of Environmental Impacts

Environmental Resource	Proposed Action	No Action Alternative
Land Use	<u>No significant impact.</u> Long-term, minor, beneficial impacts.	<u>No significant impact.</u> Beneficial impacts.
Air Quality	<u>No significant impact.</u> Short-term, minor impacts on air quality.	<u>No significant impact or incremental beneficial impacts.</u>
Topography, Geology, and Soils	<u>No significant impact.</u> Long-term, minor, beneficial effects and short-term, negligible effects on soils.	<u>No significant impact.</u> Beneficial impacts.
Water Resources	<u>No significant impact.</u> Long-term, minor, beneficial effects on water supply and surface water quality.	<u>No significant impact.</u> Beneficial impacts.
Biological Resources	<u>No significant impact.</u> Long-term, minor to moderate, beneficial effects on vegetation. Long-term, minor, beneficial effects on wildlife and protected and sensitive species.	<u>No significant impact.</u> Beneficial impacts.
Hazardous Materials and Wastes	<u>No significant impact.</u> Long-term, minor, beneficial effects.	<u>No significant impact.</u>

Implementation of the Proposed Action, when considered with other ecosystem-based management planning programs being implemented in the San Diego region, would provide beneficial, cumulative effects on the region's land use; topography, geology, and soils; water resources; biological resources; and hazardous materials and waste management.

The potential greenhouse gas (GHG) emissions resulting from implementation of the Proposed Action would primarily be from motorized vehicles transporting personnel and materials to and from work sites. The potential effects of GHG emissions are by nature global and cumulative, as most individual sources of GHG emissions are not large enough to have an appreciable effect on global climate change. Therefore, an appreciable impact on global climate change would only occur when GHG emissions associated with the alternatives are combined with GHG emissions from other man-made activities on a global scale.

The effects of the Proposed Action, when added to the effects from the cumulative projects, are minor and not large enough to have an appreciable effect on GHGs and climate change. Therefore, no significant cumulative impacts on GHG and global climate change would occur from implementation of the Proposed Action.

**FINAL
ENVIRONMENTAL ASSESSMENT ADDRESSING THE
INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN FOR NAVAL BASE CORONADO**

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- A. List of Proposed INRMP Projects for NBC
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1. Purpose of and Need for the Proposed Action

This Environmental Assessment (EA) describes and analyzes the U.S. Navy's (Navy) proposal to implement the revised Integrated Natural Resources Management Plan (INRMP) for Naval Base Coronado (NBC), California. This section presents background information, a description of the location and facilities of NBC, the purpose of and need for implementing the Proposed Action, a statement of the decision to be made, an overview of resource areas analyzed, and a summary of the agency and public coordination.

1.1 Introduction

The Navy is proposing to implement the revised INRMP for NBC, to be consistent with the goals and objectives established in the Sikes Act, as amended (16 United States Code [U.S.C.] 670a et seq.), and with guidance and regulations specified in Department of Defense Instruction (DoDI) 4715.03 (*Natural Resources Conservation Program*, 2011), Chief of Naval Operations Instruction (OPNAVINST) 5090.1C CH-1 (*Environmental Readiness Program Manual*, 18 July 2011), and the Chief of Naval Operations (CNO) *Integrated Natural Resources Management Program Guidance* (U.S. Navy 2006a). The revised INRMP would provide natural resources management strategies for NBC into the future and would include all properties addressed in the 2002 INRMP, as well as Camp Morena, a support property of Camp Michael Monsoor, and two off-site naval housing areas. None of these properties were addressed in the 2002 INRMP.

1.2 Location and Facilities of NBC

NBC is located in San Diego County, California, and is comprised of eight main properties, as shown in **Figure 1-1**. The NBC facilities covered under the INRMP include Naval Air Station North Island (NASNI), Naval Amphibious Base (NAB) Coronado, Silver Strand Training Complex North (SSTC-N), Silver Strand Training Complex South (SSTC-S), Naval Outlying Landing Field Imperial Beach (NOLF IB), Camp Michael Monsoor, Camp Morena, Remote Training Site Warner Springs (RTSWS), and five naval housing areas.

The first four of the NBC facilities border the Pacific Ocean. Portions of NASNI occur in both the city of San Diego and the city of Coronado. NAB Coronado, SSTC-N, and SSTC-S occur entirely in the city of Coronado. Portions of NOLF IB occur both in the city of San Diego and the city of Imperial Beach. The remaining properties, which include Camp Michael Monsoor, Camp Morena, and RTSWS, are located in the unincorporated portion of San Diego County (Camp Michael Monsoor, approximately 80 kilometers [50 miles] east of San Diego, Camp Morena, approximately 84 kilometers [52 miles] east of San Diego, and RTSWS, approximately 72 kilometers [45 miles] northeast from San Diego).

The NBC INRMP includes all lands owned, leased, withdrawn, or otherwise used for military training by the NBC (see **Table 1-1**) consortium, with the exception of Naval Auxiliary Landing Field, San Clemente Island and NBC in-water property within San Diego Bay which are managed under separate INRMPs. In addition to terrestrial resources, this INRMP addresses marine resources in the Pacific Ocean up to 274 meters (898 feet) seaward and within the anchorages and training lanes (beyond the mean lower low water line) of the NBC facilities. The

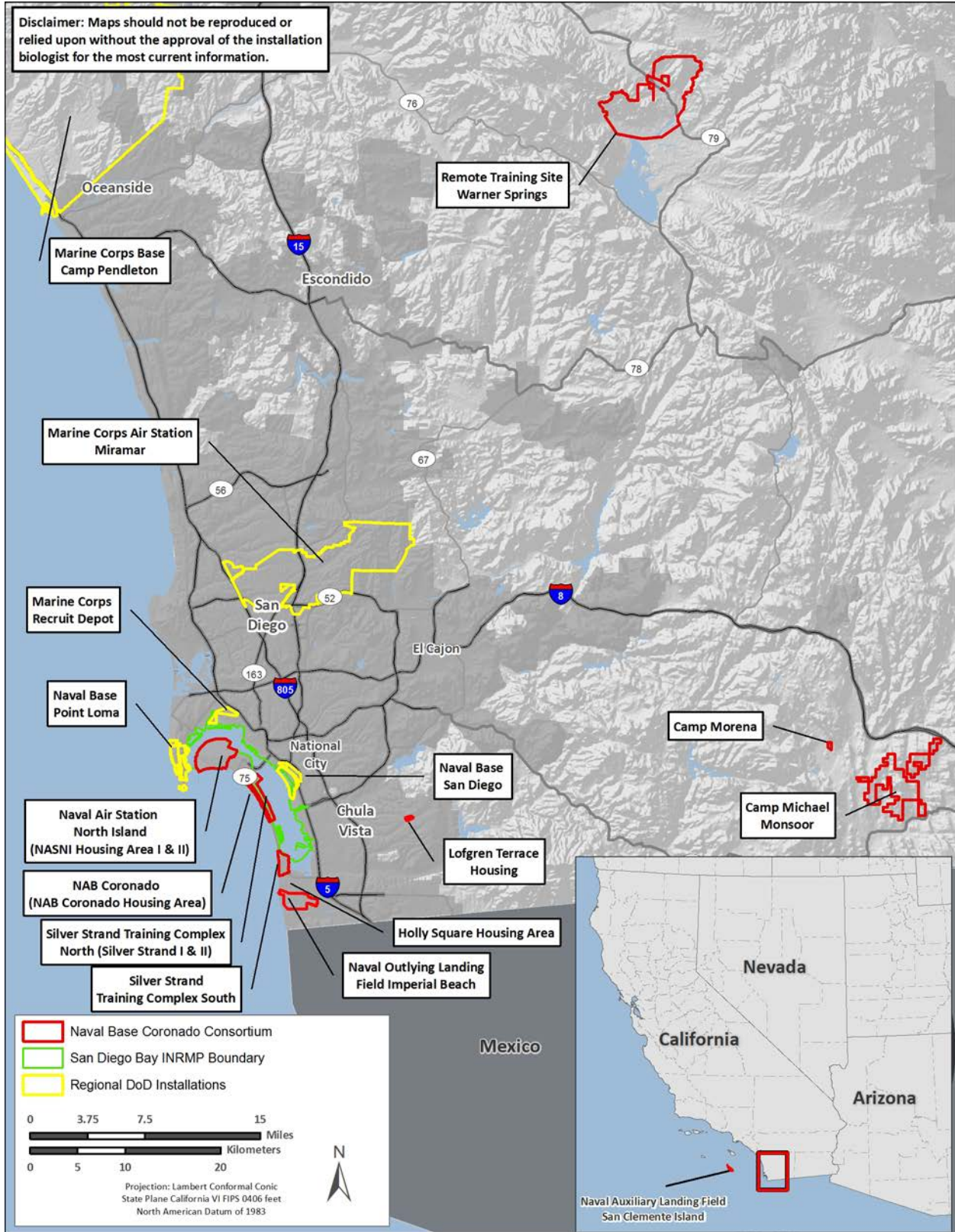


Figure 1-1. Naval Base Coronado General Location Map

natural resources management for the NBC in-water bayside areas, although still under the responsibility of the NBC Commanding Officer, is covered within the San Diego Bay INRMP.

Table 1-1. Naval Base Coronado Facilities

Facility Name	Previous Name	Acreage ¹
San Clemente Island ²		36,200
Remote Training Site Warner Springs (RTSWS) ³	Survival, Evasion, Resistance and Escape (SERE) School	12,544
Camp Michael Monsoor ⁴	La Posta Mountain Warfare Training Facility	5,554
Naval Air Station North Island (NASNI)		2,803
Naval Outlying Landing Field Imperial Beach (NOLF IB)		1,295
Naval Amphibious Base (NAB) Coronado and Silver Strand Training Complex North (SSTC-N) ^{5&6}		1,000.8
Silver Strand Training Complex South (SSTC-S)	Naval Radio Receiving Facility	548
Camp Morena ⁷		62.49
Lofgren Terrace Housing Area		34.7
Holly Square Housing Area		0.6
Total Managed Acreage		60,042.59

1. The most current list of real estate transactions is available on NFADS.
2. San Clemente Island is covered under a separate INRMP.
3. Includes expanded acreage for facility as of August 2010, 1,743 hectares (4,307 acres) was leased from Vista Irrigation District for a total of 2,228 leased hectares (5,505 leased acres). Under the new Special Use Permit, the U.S. Navy replaced U.S. Forest Service (USFS) Area of Activity land to the east of the SERE compound with 1,250 hectares (3,091 acres) of USFS Area of Activity land southwest of the SERE compound. RTSWS exclusive use of USFS land remains at 24 hectares (60 acres). In addition, a right-of-way agreement allows training to take place on 246 hectares (609 acres) of BLM land.
4. 1,370 hectares (3,385 acres) proposed for withdrawal from Bureau of Land Management for exclusive use by the Navy; an additional 878 hectares (2,169 acres) are available to the Navy for mountain warfare training activities under a right-of-way access authorization from the Bureau of Land Management.
5. Acreage for housing areas included in total acreage for facility.
6. Includes 42 hectares (257 acres) leased from the state of California.
7. Supports Camp Michael Monsoor.

1.2.1 Naval Air Station North Island

NASNI is located just north of and adjacent to the city of Coronado. Bound by San Diego Bay to the north and east, and the Pacific Ocean to the west, NASNI consists of 1,134 hectares (2,803 acres)—970 hectares (2,397 acres) of land and 164 hectares (406 acres) of water (see **Figure 1-2**). The installation occurs on the northernmost end of a tombolo sand-spit that connects the island of Coronado to the city of Imperial Beach. The elevation of NASNI ranges between 0 and 9 meters (0 and 30 feet) above mean sea level (AMSL) and the terrain is flat.

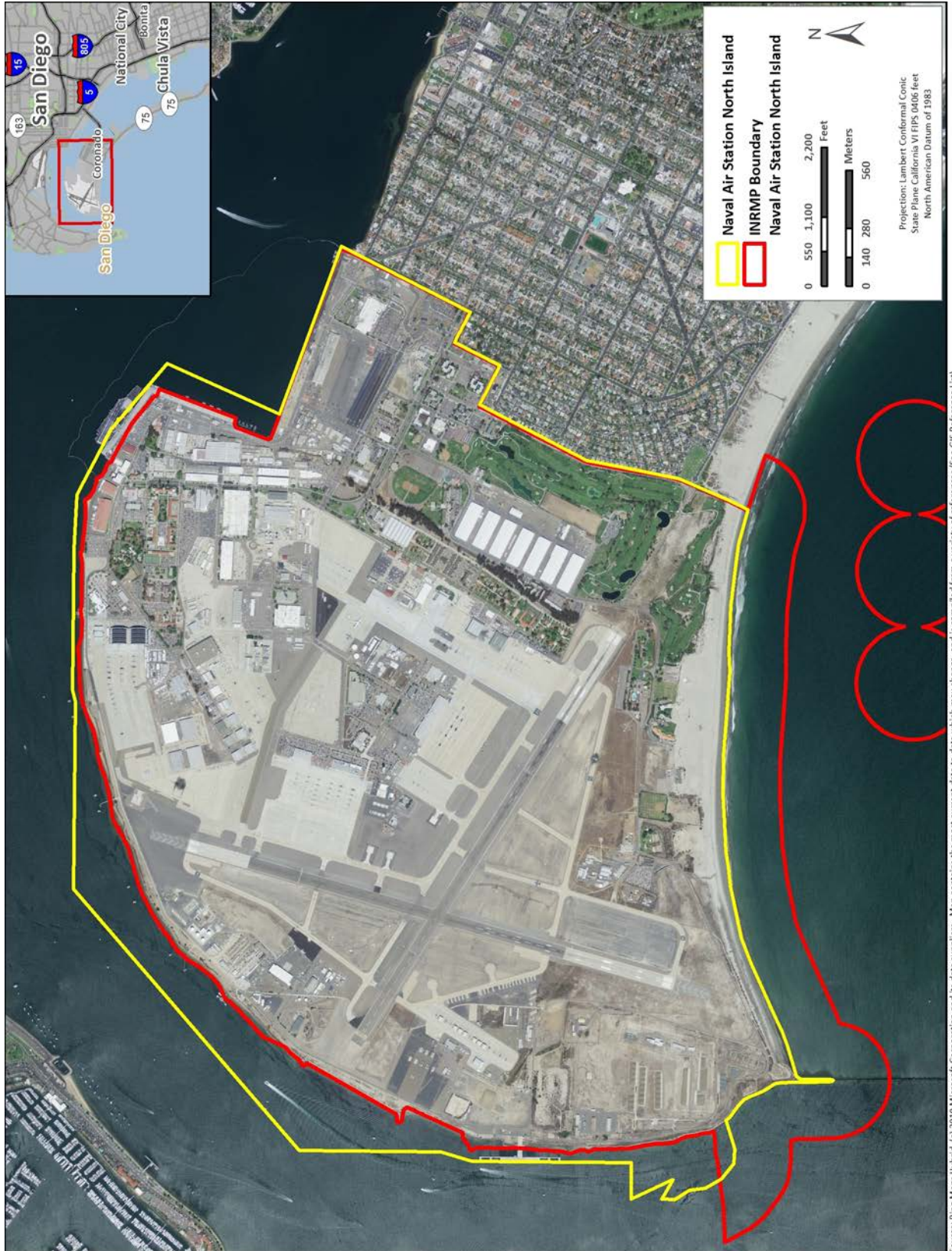


Figure 1-2. Naval Air Station North Island Location

The majority of current land use at NASNI is in the form of developed areas and structures. Military land use on NASNI includes air operations, air facilities, water facilities and other facilities for supply, weapons, administration, and command and control. Significant areas are dedicated to residential housing and community support services and a variety of services and facilities are provided for outdoor recreation. Aviation safety zones and ordnance safety areas have been designated, which typically restrict certain types of land use that are incompatible with the mission of the facility.

There are many buildings representing supply, medical clinics, administrative, command and control, and military housing and community support. NASNI also operates the airfields at NOLF IB and Naval Auxiliary Landing Facility San Clemente Island. The aircraft circulation system at NASNI consists of two runways, Runway 11/29 and Runway 18/36. These runways are oriented approximately at right angles to each other and connected through an extensive taxiway system. Fixed wing landings and takeoffs use Runway 11/29. Runway 18/36 is used for additional fixed-wing takeoffs and rotary-wing operations. Aircraft maintenance facilities are housed in a series of aircraft maintenance hangars and associated parking aprons.

1.2.2 Naval Amphibious Base Coronado and Silver Strand Training Complex

NAB Coronado is located adjacent to the Silver Strand Highway (SR-75), within the city of Coronado, approximately 4.3 kilometers (2.7 miles) south (and across the Bay) from the city of San Diego and 2 miles southwest of NASNI. The administrative and pier areas of NAB Coronado are approximately 125 hectares (310 acres) in size. The NAB Coronado beach training areas overlap with SSTC-N beach training areas. NAB tenants use SSTC, Marine Corps Base Camp Pendleton, San Clemente Island, and other NBC installations for operations and training (U.S. Navy 2010a). **Figure 1-3** shows the location of NAB Coronado and SSTC-N.

NAB Coronado is primarily a developed area and contains more than 170 buildings. Land use within the boundaries of NAB Coronado is divided into 10 categories: activities; training; maintenance; supply; medical; administration; housing; community support; recreation; and utilities. Turner Field is a helicopter landing pad on NAB Coronado that is used for training. This facility is near the eastern edge of NAB Coronado; the pad is used as a staging area for helicopter casts, special patrol insertion/extraction, and other waterborne activities that require loading/unloading personnel or equipment.

Operational facilities are primarily concentrated along the north bayside area of NAB Coronado. This area includes 21 permanent berthing piers for the watercraft used for amphibious training, such as landing craft, high-speed patrol boats, training barges, causeways and warping tugs. In addition, the piers serve as an area for limited training activities, including practice dives, boat maneuvers, and docking (U.S. Navy 2010a).

SSTC is situated on a 9.1 kilometer-long (6-mile-long) sand spit that connects the city of Coronado to the city of Imperial Beach and separates the Pacific Ocean to the west from San Diego Bay to the east. At its northernmost point, this narrow strip of land begins approximately 3.2 kilometers (2 miles) southwest of NASNI, where it overlaps NAB Coronado beachfront, and ends approximately 2 kilometers (1.3 miles) north of NOLF IB. The SSTC site, adjacent to and just south of NAB Coronado, includes a total of 620 hectares (1,534 acres), with an elevation of

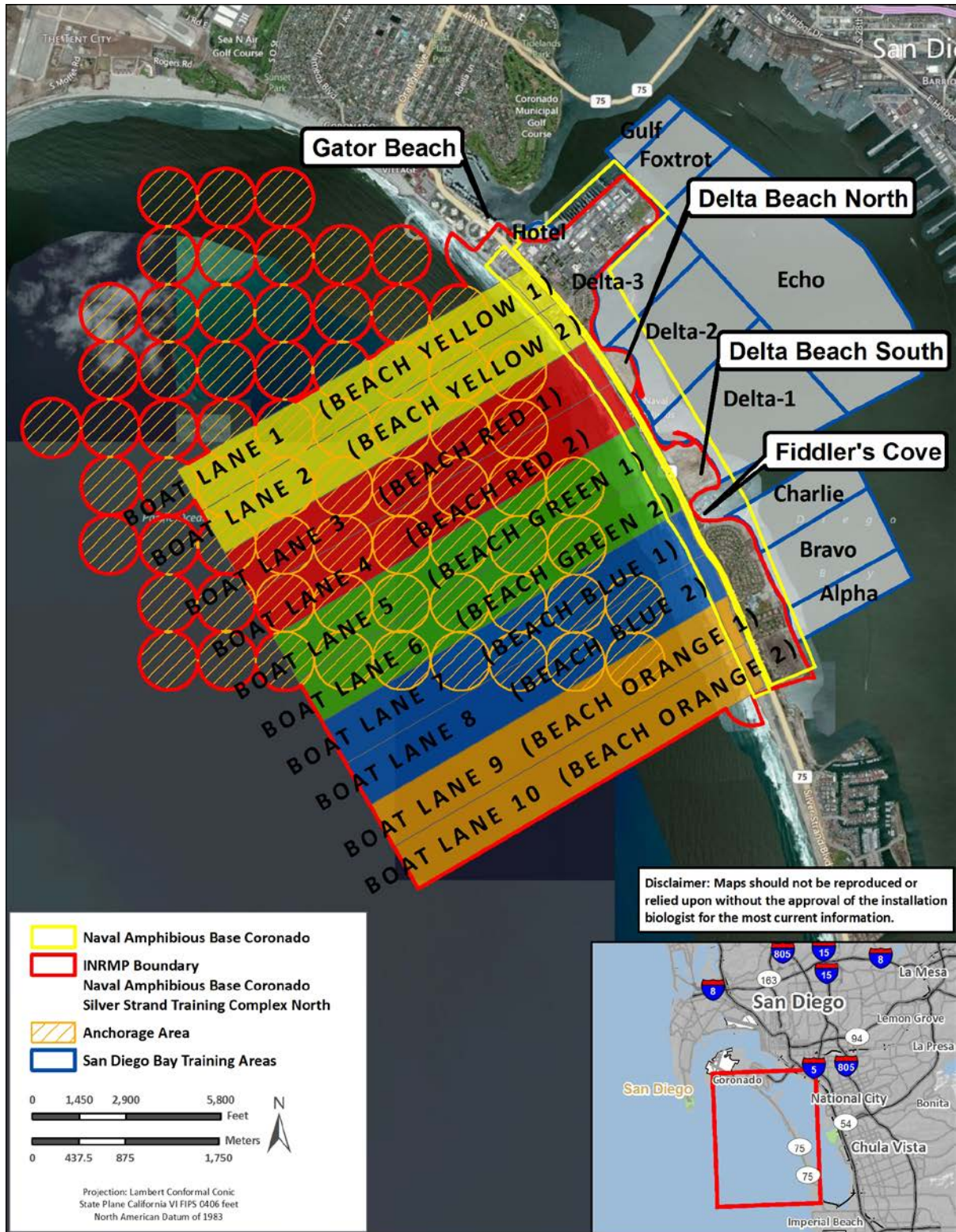


Figure 1-3. Naval Amphibious Base Coronado and Silver Strand Training Complex North Location

0 to 3 meters (0 to 10 feet) above mean sea level. The Silver Strand Highway (SR-75) runs along the entire length of the strand (U.S. Navy 2010a).

The training areas of SSTC-N total 405 hectares (1,002 acres); 301 hectares (745 acres) of land owned by the Federal government, and approximately 104 hectares (257 acres) leased from the state of California. In addition, a portion of the water off-shore along both the Pacific Ocean and San Diego Bay sides of SSTC-N is owned and used for training. SSTC-S (formerly Naval Radio Receiving Facility) consists of approximately 221 hectares (548 acres) of mostly undeveloped Federal land down to the high tide line with additional offshore training areas leased from the State of California (U.S. Navy 2010a). **Figure 1-4** shows the location of SSTC-S.

Land uses on SSTC-S include supply/storage functions (near Bunkers 99 and 100); military recreation facilities including an athletic field, playing courts, showers, a clubhouse, and picnic facilities (near Bunkers 98 and 99); and four former military family housing units (located along the southern boundary) that are now used for administrative purposes (U.S. Navy 2010a). A multi-use facility located on land containing training infrastructure for use primarily by Naval Special Warfare and Explosive Ordnance Disposal forces, the Kaufman Drop Zone is located at the southeastern corner of SSTC-S. A helipad is located adjacent to Building 902. The Young Men's Christian Association leases 18 hectares (45 acres) in the southwest corner of SSTC-S for Camp Surf, a summer camp for youth. Camp Surf is not in the operations and training footprint of SSTC-S.

1.2.3 Navy Outlying Landing Field Imperial Beach

NOLF IB is located in the Tijuana River Valley approximately 2.4 kilometers (1.5 miles) north of the United States/Mexico border, 16 kilometers (10 miles) south of downtown San Diego, and within Imperial Beach. It is approximately 16 kilometers (10 miles) south of NASNI, and 12 kilometers (7.5 miles) south of NAB Coronado. The operational portion of the 524 hectares (1,295-acre) NOLF IB is the fence-lined Ream Field, which includes 115 hectares (283 acres) of over flight easements generally south and west of the airfield. NOLF IB includes 112 hectares (276 acres) of roads and developed areas (see **Figure 1-5**) and 98 fenced-in hectares (242 fenced-in acres) of mowed grasslands in and around the landing field. Additionally, 52 hectares (128 acres) are leased for agriculture and grazing, 10 hectares (25 acres) are leased to the Department of Labor Job Corps Center, and the U.S. Border Patrol maintains offices and detention facilities onsite. The remaining portion of the site is managed by the U.S. Fish and Wildlife Service (USFWS) as a part of the Tijuana River National Estuarine Research Reserve (TRNERR)/Tijuana Slough National Wildlife Refuge.

The Pacific Ocean is less than 0.8 kilometers (0.5 mile) to the west of Ream Field and riverine inlets of the Tijuana Estuary tidal flats extend inland from the coast and adjacent to the airfield. As a result, much of the NOLF IB property is at or just above sea level. Runway elevation at the airfield is approximately 8 meters (26 feet) AMSL. The terrain surrounding NOLF IB is flat to the north and west of the station, with low coastal foothills and mesas approximately 2.4 kilometers (1.5 miles) south and 6.4 kilometers (4 miles) east of the airfield.

NOLF IB is bound to the north, east, and northeast by the highly developed and mostly residential city of Imperial Beach. I-5 is a 10-lane major freeway that passes 2.3 kilometers (1.4 miles) northwest of NOLF IB in a general north/south direction. Access to NOLF IB is

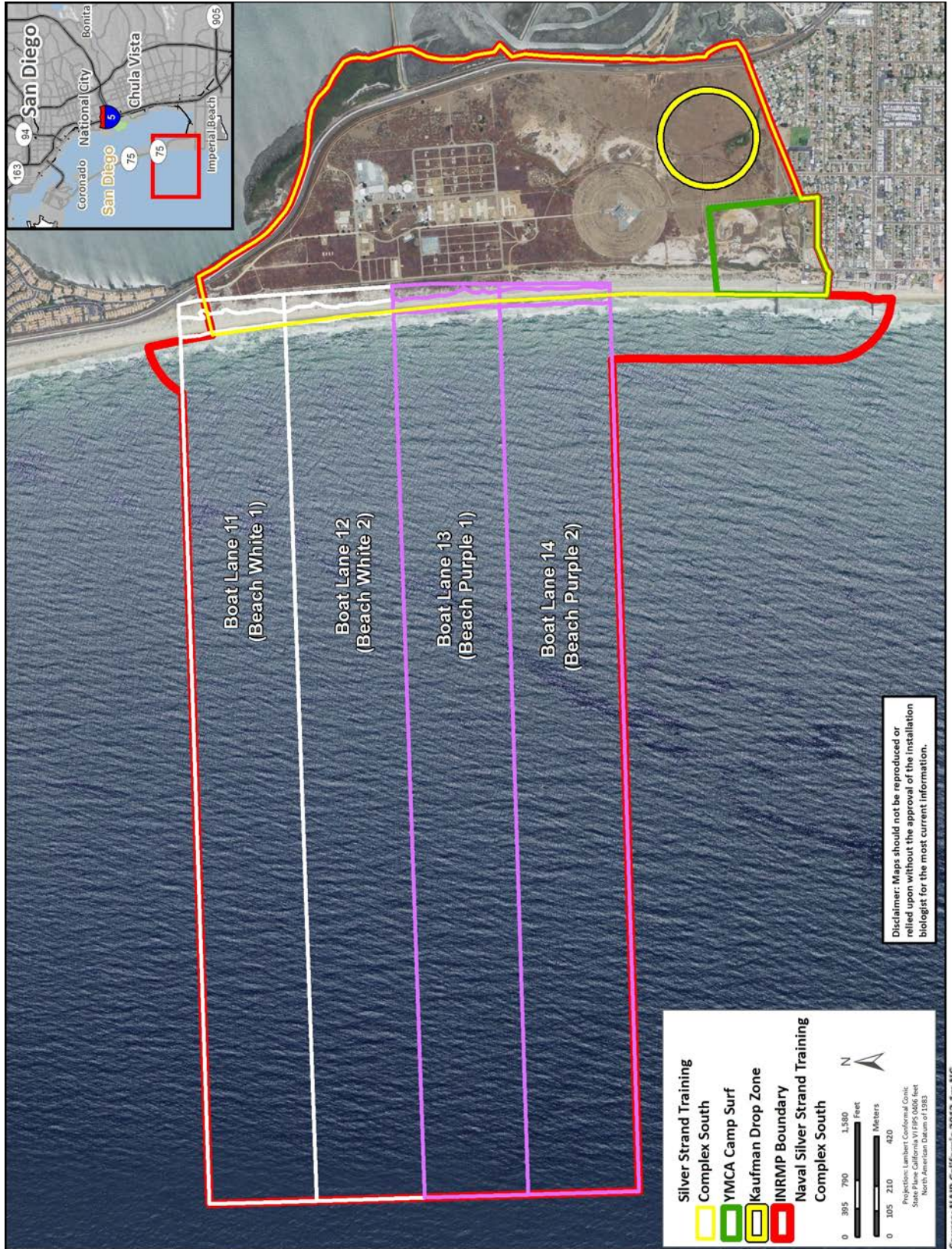


Figure 1-4. Silver Strand Training Complex South Location

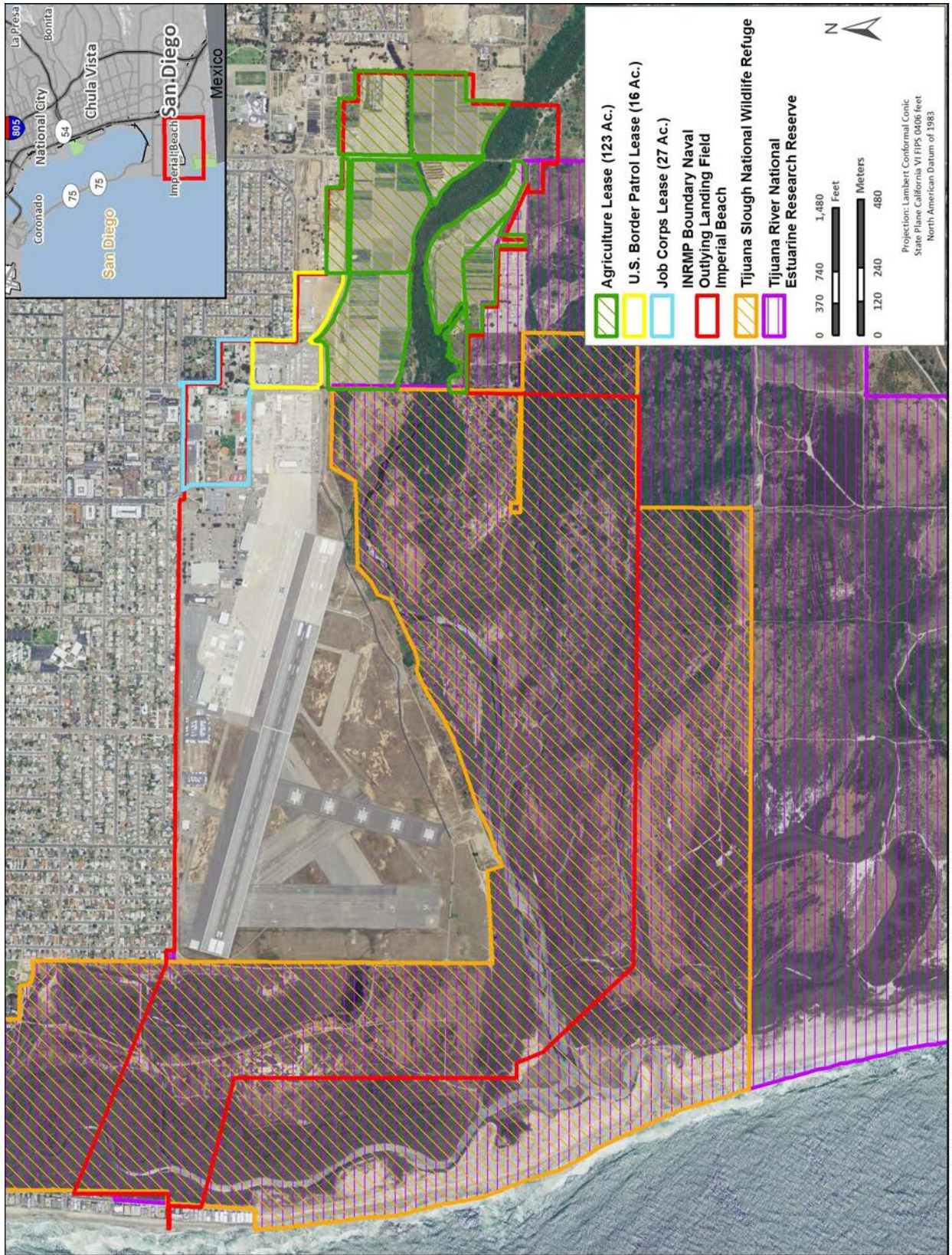


Figure 1-5. Naval Outlying Landing Field Imperial Beach Location

primarily from 13th Street, by way of Palm Avenue, via I-5. The primary entry control point for NOLF IB is located on Iris Avenue (U.S. Navy 2010a).

NOLF IB is composed primarily of two areas. The first is enclosed within a fenced area and includes two runways and five helicopter pads. Although one of the runways is 1,524 meters (5,000 feet) long and capable of supporting numerous aircraft, NOLF IB is used almost exclusively by helicopters. There are no aircraft permanently assigned to NOLF IB. U.S. Navy helicopters based out of NASNI conduct landing practice and lift training operations on a daily basis. The second area is the overflight easement portions, which are designated Accident Potential Zones and are used primarily for agricultural purposes. The actual property boundaries for the U.S. Navy portion of the Refuge are currently being reviewed.

1.2.4 Camp Michael Monsoor

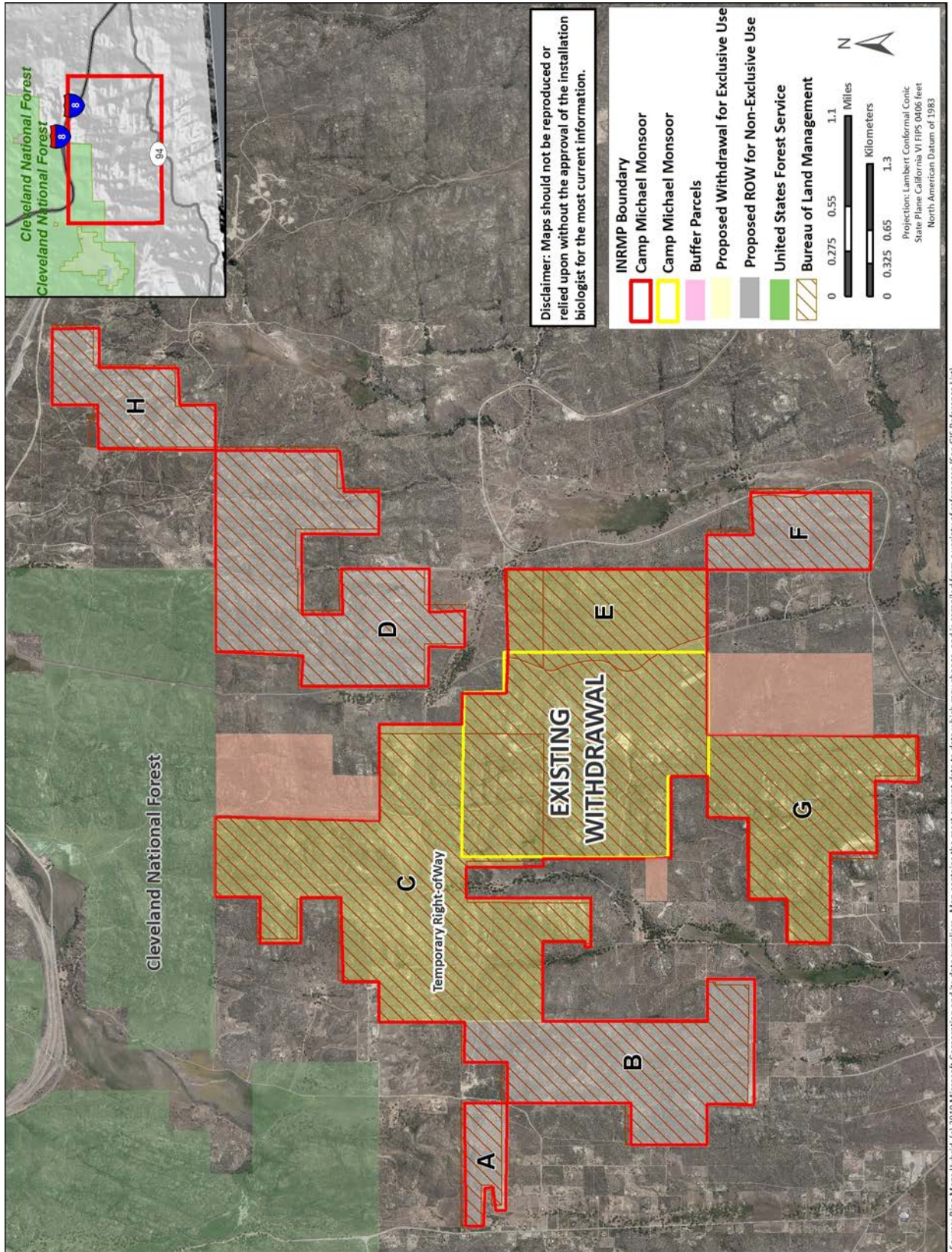
Camp Michael Monsoor (formerly Mountain Warfare Training Facility, La Posta) consists of 2,248 hectares (5,554 acres) in San Diego County, approximately 92 kilometers (57 miles) east of San Diego and 8 kilometers (5 miles) northeast of the community of Campo (see **Figure 1-6**).

Four parcels (totaling 1,370 hectares [3,385 acres]) are currently being considered for transfer of administrative jurisdiction from the Bureau of Land Management (BLM) to the Navy. These four parcels, including the Existing Withdrawal, are being proposed for exclusive use. Five additional parcels of BLM land (totaling 878 hectares [2,169 acres]) are being proposed to change to nonexclusive use by the Navy through a right-of-way authorization from the BLM for the purposes of conducting training (see **Figure 1-6**) (U.S. Navy 2008c).

A purchase of 124.4 hectares (220 acres) of land contiguous to the existing withdrawal was made (2006) by The Nature Conservancy from a private landowner using a combination of funding from DoD, the state of California, and The Nature Conservancy in accordance with the “Buffer Lands Initiative Memorandum of Understanding.” These parcels were purchased to act as a buffer from incompatible land use around Camp Michael Monsoor. The Buffer Lands Initiative MOU precludes the use of this acquisition land to offset military impacts within the boundaries of the installation.

The terrain at Camp Michael Monsoor is characterized by steeply sloping mountains reaching elevations of 1,189 meters (3,900 feet). Adjacent properties include undeveloped Cleveland National Forest land to the north and BLM land to the south, east, and west. Multiple privately-owned parcels of land abut Camp Michael Monsoor to the southwest, southeast, and northeast. Discontiguous portions of the Campo Indian Reservation are located less than 5 kilometers (3 miles) to the southwest and east of the site, while the La Posta Indian Reservation is located about 5 kilometers (3 miles) northeast. Predominant land uses in the general area include rural residential, agriculture, and recreation (U.S. Navy 2008c).

Facilities at Camp Michael Monsoor include a microwave dish, a telescope dome, seven buildings used for administration and storage, a range complex, and a helipad, along with other support facilities (U.S. Navy 2008b). Several buildings are on the hill around the microwave dish and are used as offices, classrooms, and storage space. In addition, existing buildings



Source: Bing Maps Hybrid, (c) 2010 Microsoft Corporation and its data suppliers, Map contains the most current data to date which may change, and is compiled from a variety of references [See GIS Reference List].

Figure 1-6. Camp Michael Monsoor Location

include a couple of range buildings, close quarters combat, and a maintenance shed which are located around the gate near the shooting range.

In 2011 the USFWS issued a Biological Opinion in regards to the construction of P-781. This project will result in 23.2 acres (9 hectares) of permanent impacts, 14.1 acres (5 hectares) temporary impacts, and a 4 acre (1 hectare) construction buffer. This project includes 1) road improvements (e.g., road widening); 2) above-ground power poles extending from the “Existing Withdrawal” to the proposed development in Parcel C; 3) structures that comprise the Multi Structure Training Complex; and 4) a fire suppression system consisting of an access road, two 50,000 gallon water tanks, and above-ground water pipes (USFWS 2011).

1.2.5 Camp Morena

Camp Morena is located in the county of San Diego approximately 8 kilometers (5 miles) northwest of Camp Michael Monsoor and approximately 84 kilometers (52 miles) east of the city of San Diego. The 25-hectare (62-acre) property comprises three land parcels on the north side of Morena Reservoir, two of which have been owned by the city of San Diego since 1912. The Lake Morena County Park borders Camp Morena on the southwest side. The park is open to the public for camping, picnicking, hiking, and fishing activities. The Cleveland National Forest surrounds Camp Morena on the north and east and is accessible to the public for recreational uses (see **Figure 1-7**) (U.S. Navy 2010a).

The California Army National Guard vacated the camp in October 2004 in conjunction with the expiration of the lease agreement between the state of California and the city of San Diego. In December 2004, the Navy retained a year-to-year license with the city to occupy and utilize the camp. The duration of the current lease covers a 10-year period from 1 January 2012 to 31 December 2022 (U.S. Navy 2012c).

The immediate need and current use of Camp Morena is to provide administrative offices, classroom training, galley, berthing and storage spaces to support Camp Michael Monsoor operations and other training exercises. Basic maintenance and construction needed to maintain the facilities will also be conducted (U.S. Navy 2012c).

1.2.6 Remote Training Site Warner Springs

RTSWS is located on portions of the Cleveland National Forest, Vista Irrigation District (VID) lands, and BLM lands in northern, inland San Diego County, approximately 72 kilometers (45 miles) northeast from San Diego (U.S. Navy 2010e). The nearest community, Warner Springs, is 13 kilometers (8 miles) southeast on Highway 79. The U.S. Navy entered into a 1972 Memorandum of Understanding (MOU) with the U.S. Forest Service (USFS) for exclusive use of 24 hectares (60 acres) where RTSWS structures are located, and 1,982 hectares (4,900 acres) for nonexclusive training as a “Bivouac and Problem Area.” An additional 484 hectares (1,197 acres) have been leased for use by the U.S. Navy from VID (U.S. Navy 2010e) (see **Figure 1-8**). The VID is a local governmental agency formed as a State of California Special District to provide water to much of northern San Diego County in California (U.S. Navy 2010a).

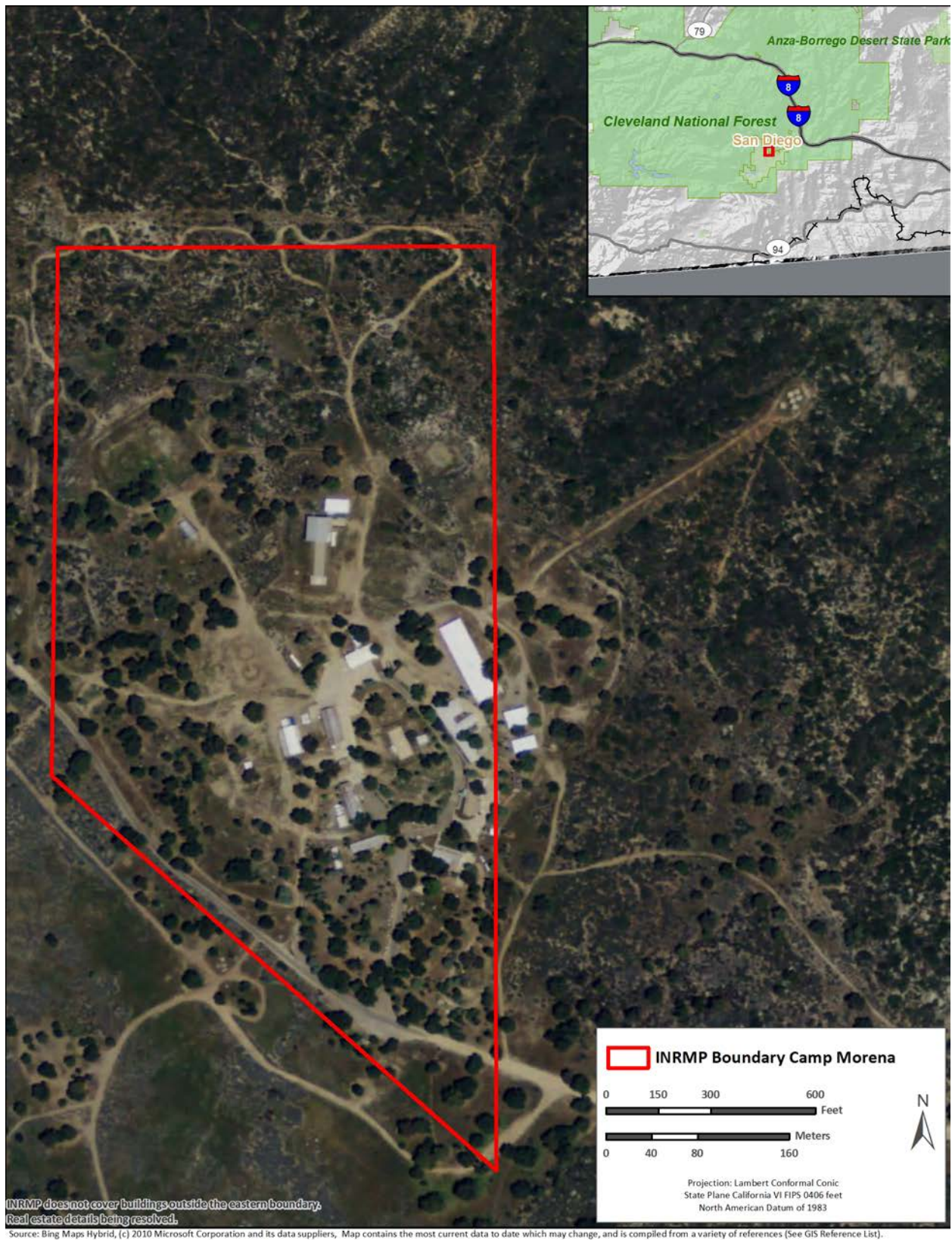


Figure 1-7. Camp Morena Location

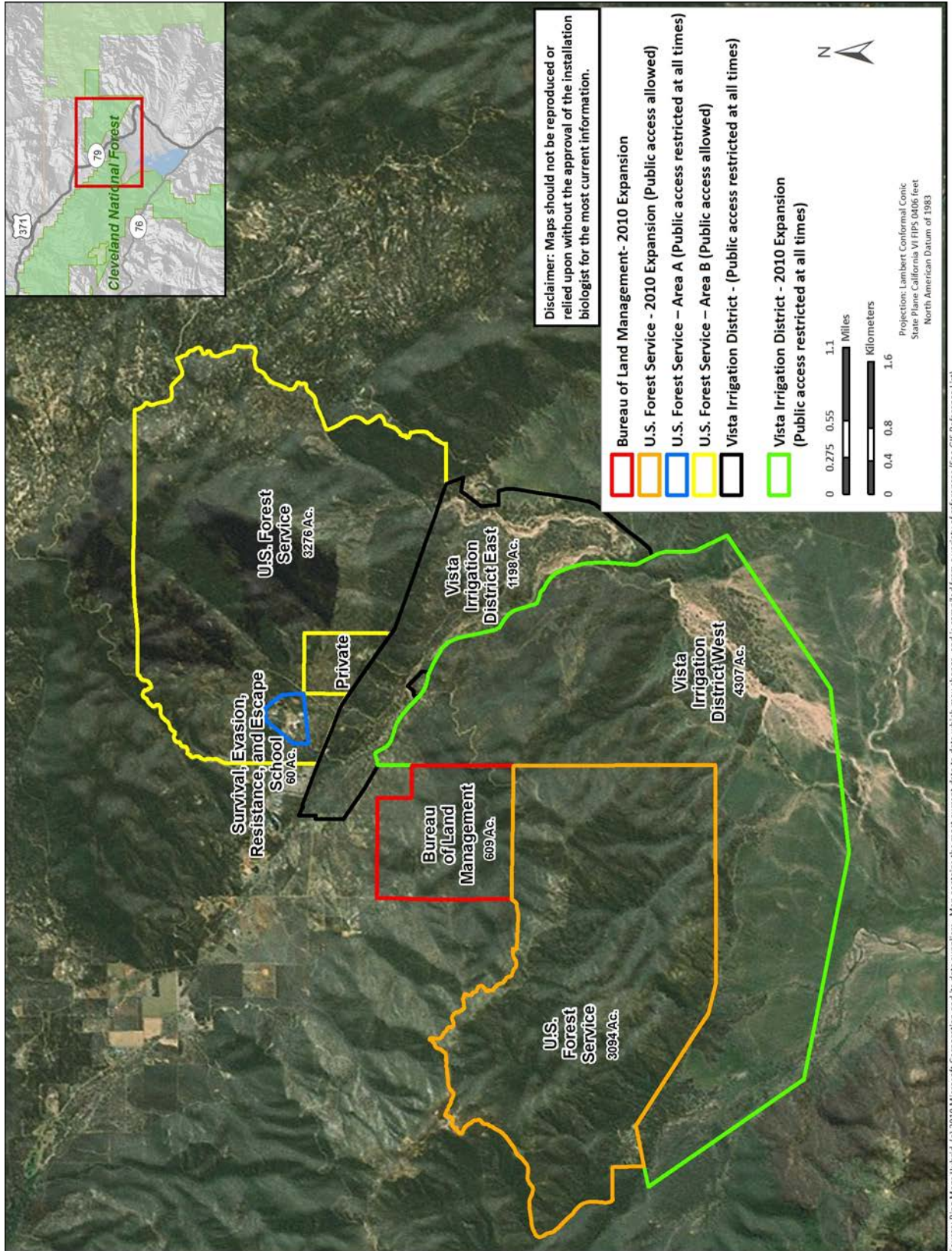


Figure 1-8. Remote Training Site Warner Springs Location

A geographic expansion and increase of training activities has been proposed by the U.S. Navy for RTSWS. A final Environmental Assessment dated May 2010 outlines the proposed expansion. Specifically, the proposed changes consist of:

- The expansion and realignment of RTSWS, which would occur on land owned by the VID, BLM, and USFS
- An increase in Survival, Evasion, Resistance and Escape (SERE) student annual throughput
- Accommodation of future training requirements of the NSW, 1st Marine Special Operations Battalion, and I Marine Expeditionary Force Experimentation Group Tactical Exercise Control Group, and other units that are occasional users of the RTSWS.

Prior to the expansion, RTSWS was approximately 2,492 hectares (6,158 acres). With the geographic expansion and realignment, an additional 1,743 hectares (4,307 acres) was leased from the VID for a total of 2,228 leased hectares (5,505 leased acres). The land use agreement between the USFS and the U.S. Navy changed from an MOU to a Special Use Permit. Under the new Special Use Permit, the U.S. Navy exchanged USFS Area of Activity land to the east of the SERE compound for 1,250 hectares (3,091 acres) of USFS Area of Activity land south of the SERE compound. RTSWS exclusive use of USFS land remains at 24 hectares (60 acres). In addition, a right-of-way agreement allows training to take place on 246 hectares (609 acres) of BLM land. This expansion increased the size of RTSWS by 2,584 hectares (6,386 acres); bringing the total size to 5,076 hectares (12,544 acres) (U.S. Navy 2010e) (see **Figure 1-8**).

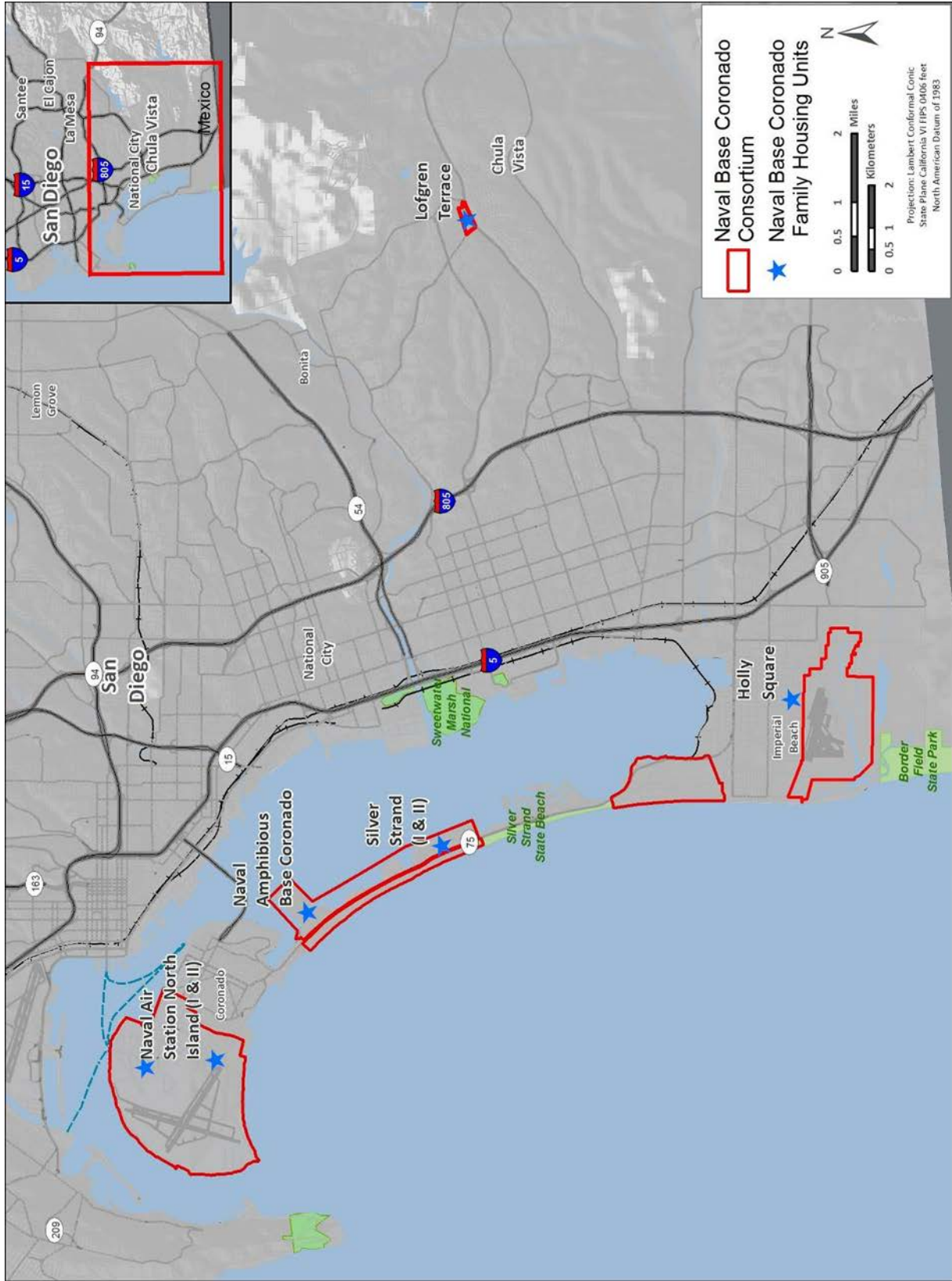
The principal SERE compound at the RTSWS is located on Cleveland National Forest land and consists of a headquarters with an administrative building, several staff barracks buildings, a wastewater treatment plant, and a training compound (consisting of several small structures). There are no additional structural facilities at other locations on the RTSWS. There are 10 permanent party personnel stationed at the RTSWS but none live at the RTSWS full time (U.S. Navy 2010e).

1.2.7 Navy Housing Areas

The U.S. Navy entered into a partnership with Lincoln Property Company/Clark Realty Capital, LLC in 2001 to develop, build, and manage homes on U.S. Navy property under a 50-year ground lease. The National Defense Authorization Act for Fiscal Year 1996 gave the Navy legal authority to work with the private sector to build and renovate family housing. The goal has been to leverage private investment to construct or renovate family housing faster and cheaper than by previous direct U.S. Navy-managed means.

There are five U.S. Navy-managed housing areas that came under NBC jurisdiction in 2006 under a Public-Private Venture (PPV). The family housing areas are located throughout the San Diego Metro Region (see **Figure 1-9**).

Lincoln Military Housing provides landscaping and grounds maintenance for U.S. Navy Housing areas. Pest management in housing areas on DoD property will be conducted in compliance with DoD directives and in accordance with the installation Integrated Pest Management Plan.



Source: ESRI StreetMap USA 2007, Bing Maps Hybrid, (c) 2010 Microsoft Corporation and its data suppliers. Map contains the most current data to date which may change, and is compiled from a variety of references (See GIS Reference List).

Figure 1-9. Naval Base Coronado Housing Unit Locations

Lincoln Military Housing that is not located on DoD property is not required to comply with DoD directives and the Integrated Pest Management Plan but must comply with all Federal, state and local regulations.

1.3 Purpose and Need for the Project

The purpose of implementing the INRMP is to chart a course for natural resources management on NBC, consistent with the Sikes Act as amended and Department of Defense (DoD) and Navy policy and guidance regarding INRMPs. The purpose of the INRMP is to: initiate an ecosystem-based conservation program that provides for conservation and rehabilitation of natural resources in a manner that is consistent with the military mission; integrate and coordinate all natural resources management activities; provide for sustainable multipurpose uses of natural resources; and provide for public access for use of natural resources subject to safety and military security considerations. A majority of the facilities associated with NBC are on restricted military lands and would remain restricted.

The need for implementing an INRMP revision is to address changes to NBC facilities, natural resources, desired natural resources projects and initiatives, and land use patterns in the area that have occurred since 2002. NBC is required to update the 2002 INRMP and initiate management actions for Camp Morena, a support property of Camp Michael Monsoor, and off-site naval housing areas that have since been assigned to NBC. Both the INRMP and the natural resources program that it supports must meet the guidance and regulations provided in DoDI 4715.03, OPNAVINST 5090.1C CH-1, and the CNO *Integrated Natural Resources Management Program Guidance*. These guidance documents and policies collectively require a plan and management approach consistent with mission support, multipurpose use, integration, ecosystem- or landscape-level management, and environmental compliance and stewardship.

1.4 Decision to be Made

The decision to be made as a result of the analysis in this EA is whether or not an Environmental Impact Statement (EIS) needs to be prepared. An EIS would need to be prepared if it is determined that the Proposed Action would have significant impacts on the human or natural environment. Should an EIS be deemed unnecessary, an alternative from this EA may be selected for implementation. The alternative selected would be documented in a Finding of No Significant Impact (FONSI).

1.5 Scope of Analysis

1.5.1 Resource Areas Analyzed

This EA examines the potential effects of the Proposed Action and No Action Alternative on six resource areas: land use; air quality; topography, geology, and soils; water resources; biological resources; and hazardous materials and wastes. These were identified as being potentially affected by the Proposed Action and include applicable critical elements of the human environment that are mandated for review by Executive Order (EO), regulation, or policy.

1.5.2 Resource Areas Minimally or Not Impacted

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1501–1508), the evaluation of environmental impacts should focus on significant environmental issues. Impacts should be discussed in proportion to their significance, with only a brief discussion of issues that are other than significant. Some environmental resources and conditions that are often analyzed in an EA have been omitted from detailed analysis in this EA. **Table 1-2** provides the basis for such exclusions.

Table 1-2. Resource Areas Minimally or Not Impacted

Resource Area	Reason Minimally or Not Impacted
Noise	Noise from Proposed Action activities would primarily be generated from the equipment and vehicles temporarily used in the resource conservation work. Noise would be minimal and short-term and would not result in a significant impact to nearby sensitive receptors (such as housing on the installation).
Airspace Management	The Proposed Action and No Action Alternative are land-based. The use or modification of airspace would not occur and no hazards to air navigation, or obstructions, would be introduced.
Coastal Zone Management	The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C Section 1451) encourages coastal states to be proactive in managing coastal zone uses and resources. CZMA established a voluntary coastal planning program and participating states submit a Coastal Management Plan to the National Oceanic and Atmospheric Administration for approval. Under the CZMA, Federal agency actions within or outside the coastal zone that affect any land or water use or natural resource of the coastal zone shall be carried out in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved state management programs. Each state defines its coastal zone in accordance with the CZMA. Excluded from any coastal zone are lands the use of which by law is subject solely to the discretion of the Federal government or which is held in trust by the Federal government (16 U.S.C 1453). Due to the programmatic nature of this INRMP, no consultation with the California Coastal Commission is required at this time. There are, however, specific actions/projects discussed within the INRMP that may require additional environmental analysis, per NEPA, prior to being implemented. If and when such projects are to be carried forward, the Navy would, as necessary, engage in consultation with the California Coastal Commission should the project have potential to affect any coastal use or resource (even if conducted entirely within a Federal enclave).
Cultural Resources	Compliance with Section 106 of the National Historic Preservation Act for the NBC INRMP is accomplished through conformance with the 36 CFR 800 process, and is the responsibility of NBC. The potential for effects on historic properties for the NBC INRMP and any future and emergent implementation projects, as outlined in Chapter 8 of the NBC INRMP, are to be considered on an individual basis as separate undertakings and require review by authorized NBC cultural resource personnel. Pursuant to 36 CFR 800, such efforts include determining: 1) the area of potential effect; 2) the identification of historic properties within the area of potential effect; and, 3) the effect on historic properties within the area of potential effect.

Resource Area	Reason Minimally or Not Impacted
Socioeconomic Resources and Environmental Justice	The Proposed Action and No Action Alternative would not contain projects that result in changes to socioeconomic conditions or disproportionately affect off-installation minority or low-income populations. Therefore, there would be no impact to socioeconomic resources or environmental justice issues.
Traffic and Transportation Systems	Traffic from the Proposed Action and No Action Alternative would primarily be generated from vehicles temporarily used in the resource conservation work. Traffic would be minimal and short-term; therefore, there would be no impact on either traffic or transportation systems.
Infrastructure and Utilities	No modification of or impacts on infrastructure or utilities would occur as a result of the implementation of the Proposed Action or No Action Alternative on NBC. Therefore, there would be no impact on infrastructure or utilities.
Public Health, Safety, and Protection of Children	Safety concerns that arise as a result of the Proposed Action and No Action Alternative may include the safety of field crews during various hazardous weather or wildlife interactions or the spraying of herbicides and pesticides. Staff would hold a safety briefing prior to each field day to avoid injury in the field. Herbicides and pesticides are handled and applied in accordance with Federal and state laws. Therefore, there would be no impact on public safety or health.
Visual Resources	NBC is situated in an area with ample visual resources including sight lines to San Diego harbor, downtown, and the Pacific Ocean. The INRMP does not contain projects that would disrupt these visual resources. No adverse effects on visual resources will result from the implementation of the Proposed Action or No Action Alternative on NBC.
Public Services	The Proposed Action and No Action Alternative would not impact public services. Public services (e.g., schools, police, fire, emergency medical services) are associated with the project footprint, but they would not be managed any differently and would not be impacted as a result of the Proposed Action or No Action Alternative on NBC.

1.6 Intergovernmental Coordination, Public and Agency Participation

The Navy will coordinate with the USFWS, the California Department of Fish and Wildlife (CDFW), the National Oceanic and Atmospheric Administration (NOAA), and other Federal, state, and local agencies, as part of the INRMP revision process. Materials relating to interagency coordination and public involvement will be included as **Appendix M of the INRMP**.

A Notice of Availability (NOA) announcing the availability of the Draft INRMP and Draft EA was published in a local newspaper on March 15, 2013 to initiate a 15-day public review period. The NOA solicited comments on the Draft EA and involved the public in the decision-making process. The Draft INRMP and Draft EA was made available at the Navy Region Southwest Web site: <http://www.navyregionsouthwest.com/> and at the San Diego City Library Central Branch; the San Diego County Library, Imperial Beach, Alpine, and Ramona Branches; and the Coronado Public Library. An NOA for the Final INRMP and Final EA will also be published in a local newspaper upon signature of the FONSI.

A comment was received from the city of Coronado after the public comment period. The commenter asked when the environmental review/analysis would be completed on some of the potential projects listed in the cumulative impacts section of the Draft EA. The Navy responded by sending a response letter to the city that provided them with answers to their questions about the timelines of these other projects.

2. Description of the Proposed Action and Alternatives

This section describes the Proposed Action and alternatives, including the No Action Alternative. The NEPA process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action. In addition, CEQ regulations specify the inclusion of a No Action Alternative against which potential impacts can be compared.

2.1 Reasonable Alternative Screening Factors

A range of reasonable alternatives was considered, consistent with the criteria listed below:

1. Be based on the principles of ecosystem management.
2. Provide for sustainable multipurpose use of natural resources.
3. Maintain compliance with relevant environmental regulations.
4. Provide for public access for use of natural resources subject to safety and military security considerations.
5. Establish specific natural resources management objectives and timeframes for the Proposed Action.
6. Prevent loss in the capability of military lands to support the military mission of the installation.

The Proposed Action and the No Action Alternative were the only alternatives deemed reasonable and consistent with the screening factors. The Proposed Action in itself encompasses consideration of a wide-variety of resource management practices and projects (i.e. alternate actions) that can be implemented in the future, depending on environmental conditions and ecological considerations at the time. Also, all resource management objectives in the revised INRMP would only result in beneficial effects to area resources, as “good environmental stewardship” is the purpose of the INRMP.

In addition, early participation in the development of the Proposed Action by the USFWS and the CDFW ensured the mutual agreement among these parties on the natural resources management goals/objectives and projects that are stated in the INRMP. For these reasons, only the Proposed Action and the No Action Alternative were carried forward for detailed analysis in this EA.

2.2 Description of the Proposed Action and Alternatives

2.2.1 Proposed Action

Under the Proposed Action, the Navy proposes to implement the revised INRMP for NBC, which would integrate ecosystem management of NBC’s natural resources under a single INRMP. The Proposed Action would: (1) implement an ecosystem-based conservation program; (2) integrate and coordinate all natural resource management activities, including specific projects and routine program operations; (3) provide a provision for the sustainable

multi-purpose use of natural resources; and (4) provide a provision for public access to non-restricted military lands. The revised INRMP was developed and would be implemented to be consistent with the military use of the properties and the goals and objectives established in the Sikes Act, as amended. The Navy will implement recommendations in the INRMP within the framework of regulatory compliance, national Navy mission obligations, anti-terrorism and force protection limitations, and funding constraints. All actions contemplated in the INRMP are subject to the availability of funds properly authorized and appropriated under Federal law.

Following implementation, the revised INRMP would be reviewed and updated annually as needed and reviewed for operation and effect no less than once every 5 years. The Proposed Action includes continuing some of NBC's existing natural resources management prescriptions along with the prescription of several new management actions for property that has become a part of NBC since the 2002 INRMP. A list of proposed INRMP projects to be implemented at NBC is included in **Appendix C of the INRMP**. All management prescriptions would be integrated and implemented in the context of NBC's mission support needs and regional setting.

As a result of the growth in the San Diego region, the impacts of planning and future development in San Diego County and NBC necessitate coordinated planning for land and resource management. Natural resources management must be integrated with other disciplines, programs, and planning beyond the scope of traditional fish and wildlife management on Navy installations. The INRMP includes projects that would benefit the following:

- Watershed Management
- Habitat Management
- Fish and Wildlife Management
- Special Status Species Management
- Exotic and Invasive Species Management
- Grounds and Landscape Maintenance
- Pest Management
- Outdoor Recreation and Public Access
- Law Enforcement of Natural Resources Laws and Regulations
- Environmental Awareness and Outreach
- Geographic Information System (GIS) Management, Database Management, Data Integration, Access and Reporting.

Besides meeting the project's purpose and need, the Proposed Action would have additional benefits that include: (1) better integration of the INRMP with other installation planning documents; (2) improved integration of the natural resources program with other NBC activities; (3) an explicit goal and objectives under which ongoing and future natural resources projects would be implemented; and, (4) a systematic approach to integrated natural resources management by documenting present and future program implementation. NBC has developed a management goal that is consistent with DoD, Navy, and installation-specific policies and guidance on how natural resources should be managed, sustained, and rehabilitated, where applicable. The goal is as follows:

The NBC INRMP goal is to provide an adaptive ecosystem-based conservation program that will support the NBC mission and provide for the sustainability of natural resources.

NBC has developed a set of objectives that support this goal, and is proposing an array of projects and management actions to support each objective (see **Appendix C of the INRMP**). The proposed projects and management actions include both newly proposed initiatives and ongoing initiatives carried over from the 2002 INRMP. This array of projects contributes to the objectives and goal for management of NBC's natural resources, consistent with DoD and Navy guidance concerning the Sikes Act, multipurpose use, ecosystem- and landscape-level management, and support of the military mission.

2.2.2 No Action Alternative

Under the No Action Alternative, the Navy would not implement a revised INRMP for NBC. The No Action Alternative would result in continued natural resources management as characterized in the 2002 INRMP for NBC. The No Action Alternative does not meet the purpose of and need for the Proposed Action, because an integrated, ecosystem-based conservation program for all NBC facilities would not be implemented in accordance with updated DoD and Navy INRMP guidelines; because the NBC footprint has increased and changed; and because additional Special Status Species information was acquired, including new observations of Quino checkerspot butterfly (*Euphydryas editha quino*).

It does, however, serve as a baseline against which the impacts of the Proposed Action can be evaluated. Under the No Action Alternative, natural resources management would continue as it has since the 2002 INRMP was implemented and would not include management prescriptions for Camp Morena, support property of Camp Michael Monsoor, or the two off-site naval housing areas that have since become part of NBC.

2.3 Alternatives Considered but Not Carried Forward for Detailed Analysis

A compliance-driven management alternative to the Proposed Action was initially considered, which would take a minimal approach to management and only manage natural resources components that are required by laws or regulations. Under this alternative, an ecosystem-based approach would not be implemented; rather, management actions would only be implemented if there was a possibility of violating a law, such as the Clean Water Act (CWA) or the Endangered Species Act (ESA). While it would ensure that NBC would be less likely to receive a notice of violation for noncompliance with natural resource regulations, this alternative would not comply with the intent of the Sikes Act for natural resources management.

The Sikes Act requires that the INRMP be developed to ensure that the management approach for resources is ecosystem-based, and thus goes beyond simple compliance. According to the Sikes Act, the vision of an installation INRMP is to ensure the sustainability of all ecosystems within and near the installation, and to ensure no net loss of the installation's capability to support the military mission. To meet the intent of the Sikes Act, the DoD adopted an ecosystem-based management approach as the basis for future management of DoD lands and waters through applying the principles of adaptive management and through collaborating with internal and external parties (DoDI 4715.03). Therefore, the compliance-driven management alternative would not meet the intent of the Sikes Act and was eliminated from further detailed analysis in this EA.

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3. Affected Environment and Environmental Consequences

3.1 Introduction

This section describes the environmental resources and conditions most likely to be affected by the Proposed Action and alternatives and provides information to serve as a baseline from which to identify and evaluate environmental and socioeconomic consequences likely to result from implementation of the Proposed Action and alternatives. Baseline conditions represent current conditions. In compliance with NEPA, CEQ guidelines, and 32 CFR Part 775, the description of the affected environment focuses on those resources and conditions potentially subject to impacts.

This section also presents an analysis of the potential direct and indirect impacts that would be expected on the affected environment from implementation of each alternative.

3.2 Summary of Environmental Consequences

Table 3-1 provides an overview of potential impacts under the Proposed Action and No Action Alternative, separated by resource area.

3.3 Land Use

3.3.1 Definition of the Resource

The term “land use” refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws. However, there is no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, “labels,” and definitions vary among jurisdictions.

The two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. Tools supporting land use planning include written master plans, management plans, policies, and zoning regulations. In appropriate cases, the location and extent of a proposed action needs to be evaluated for its potential effects on a project site and adjacent land uses. The foremost factor affecting a proposed action in terms of land use is its compliance with any applicable land use or zoning regulations. Other relevant factors include matters such as existing land use at the project site and the types of land uses on adjacent properties.

3.3.2 Existing Conditions

Naval Air Station North Island (NASNI): The majority of current land use at NASNI is in the form of developed areas and structures. Military land use on NASNI includes air operations, air facilities, water facilities and other facilities for supply, weapons, administration, and command and control. Significant areas are dedicated to residential housing and community support

Table 3-1. Summary of Environmental Consequences from the Proposed Action and No Action Alternative

Resource Area	Proposed Action	No Action Alternative
Land Use	<ul style="list-style-type: none"> The Proposed Action would develop an outdoor recreation plan that may create natural resources-based outdoor recreation opportunities resulting in the improvement of the quality of life and morale for Navy personnel and their families through provision of quality recreational experiences while sustaining ecosystem integrity. Therefore, no significant impacts on land use would occur. 	<ul style="list-style-type: none"> The No Action Alternative would result in a continuation of impacts from the 2002 INRMP and would result in a beneficial impact on land use patterns at NBC by ensuring the compatibility of environmental management efforts with future land use planning actions that may be necessary to meet the military mission for NBC. Therefore, no significant impacts on land use would occur.
Air Quality	<ul style="list-style-type: none"> Mechanized activities associated with the Proposed Action would potentially create dust and gaseous emissions from use of equipment. These emissions would be temporary and local to the project area. There would be no major source of air pollution under the revised INRMP. Any air permits necessary for specific projects in the INRMP would be obtained prior to implementation of the project. Therefore, implementation of the Proposed Action would not result in significant impacts on air quality. 	<ul style="list-style-type: none"> The No Action Alternative would result in a continuation of the 2002 INRMP and would result in no significant impacts or beneficial impacts on local or regional air quality. NBC activities that currently generate air emissions would not change. Therefore, no significant impacts to air quality would occur.
Topography, Geology, and Soils	<ul style="list-style-type: none"> No significant impacts on topography or geology at NBC would occur from the implementation of the INRMP. The protection of soil resources from erosion through prevention and control practices, and from rehabilitation of degraded soil resources would occur under the Proposed Action. Therefore, implementation of the Proposed Action would not have a significant impact on topography, geology, or soils. 	<ul style="list-style-type: none"> The No Action Alternative would result in a continuation of the 2002 INRMP and would result in beneficial impacts on topography, geology, or soils on the NBC facilities. The 2002 INRMP provides specific recommendations for mapping eroded areas and implementing a soil erosion control program to conserve existing natural areas from disturbance that could degrade soils. Management efforts to stabilize soils and decrease erosion on steep slopes and along streams and drainage ways would not be implemented on properties not included in the 2002 INRMP; however, the installation has established measures and programs for the management of topography, geology, and soils to ensure they are in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts would occur. Therefore, there would be no significant impacts to topography, geology and soils.

Resource Area	Proposed Action	No Action Alternative
Water Resources	<ul style="list-style-type: none"> • No significant effects on water supply would occur under the Proposed Action. • Under the Proposed Action, the prevention and control of soil erosion on NBC facilities would occur. The reduction of sediment within the effluent from urban storm water drainages that cross NBC facilities would result in improved water quality in San Diego Bay. The assistance in recovery of unstable drainages, where necessary, on NBC facilities would reduce soil erosion and sedimentation within the streams. • The reduction in storm water entering streams would reduce impacts on surrounding floodplains. The minimization of fertilizers and pesticides applied on NBC would improve surface water quality by reducing nutrients and pollutants entering waterways in streams. Therefore, no significant impacts on water resources would occur. 	<ul style="list-style-type: none"> • The No Action Alternative would result in a continuation of the 2002 INRMP and would result in beneficial impacts on water resources on the NBC facilities addressed in that plan. The implementation of sediment- and erosion-control best management practices (BMPs) was a management strategy within the 2002 INRMP; therefore, NBC would continue to implement these projects as necessary under the No Action Alternative. • Management efforts to implement sediment- and erosion-control BMPs on facilities not addressed in the 2002 INRMP would follow established measures and programs for the management of water resources to ensure they are in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts would occur. Therefore, there would be no significant impacts to water resources.
Biological Resources (Vegetation)	<ul style="list-style-type: none"> • Long-term, beneficial effects on native vegetation would result from the Proposed Action due to the implementation of habitat improvement projects such as noxious weed/invasive plant removal and revegetation with native plant species. 	<ul style="list-style-type: none"> • The No Action Alternative would result in a continuation of the 2002 INRMP and would result in beneficial impacts on biological resources on the NBC facilities addressed in that plan. Management strategies, such as invasive vegetation removal and revegetation with native species, are prescribed in the 2002 INRMP. • These vegetation management strategies would not be implemented on the NBC facilities not addressed in the 2002 INRMP; however, the installation has established programs for the management of vegetation to ensure they are in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts would occur. Therefore, there would be no significant impacts to vegetation.

Resource Area	Proposed Action	No Action Alternative
Biological Resources (Wildlife)	<ul style="list-style-type: none"> • Long-term, beneficial effects on wildlife would result from the implementation of habitat improvement projects to protect habitats, removal of invasive vegetation, and revegetation with native plants. Long-term, minor, beneficial effects on wildlife species, particularly songbirds and small mammals, would occur from the control of feral animal populations on NBC. • Long-term, beneficial impacts on targeted habitats and populations would result from habitat and wildlife population surveys. 	<ul style="list-style-type: none"> • The No Action Alternative would result in a continuation of the 2002 INRMP and would result in beneficial impacts on biological resources on the NBC facilities addressed in that plan. Management strategies, such as feral animal control are prescribed in the 2002 INRMP. • These wildlife management strategies would not be implemented on the NBC facilities not addressed in the 2002 INRMP; however, the installation has established measures and programs for the management of wildlife to ensure they are in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts would occur. Therefore, there would be no significant impacts to wildlife.
Biological Resources (Special Status Species)	<ul style="list-style-type: none"> • Long-term, beneficial effects on potential federally and state-listed threatened and endangered species and other protected and sensitive species would occur from regular (approximately every 2 years) surveys for these species on NBC facilities. 	<ul style="list-style-type: none"> • The No Action Alternative would result in a continuation of the 2002 INRMP and would result in beneficial impacts on biological resources on the NBC facilities addressed in that plan. Management strategies, such as surveys for protected and sensitive species, are prescribed in the 2002 INRMP. • These protected species management strategies would not be implemented on the NBC facilities not addressed in the 2002 INRMP; however, the installation has established measures and programs for the management of protected species to ensure they are in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts would occur. Therefore, there would be no significant impacts to special status species.
Hazardous Materials and Wastes	<ul style="list-style-type: none"> • Long-term, minor, beneficial effects on hazardous materials and waste management would occur from the reduction in use of pesticides, rodenticides, and herbicides on NBC facilities. 	<ul style="list-style-type: none"> • The No Action Alternative would result in a continuation of the 2002 INRMP and would result in no significant impacts on hazardous materials and waste management on the NBC facilities addressed in that plan. No significant impacts on hazardous materials and wastes would occur from off peninsula facilities. • Existing natural resources management activities and associated use of hazardous materials occurring on NBC facilities would remain unchanged from the 2002 INRMP. NBC facilities not addressed in the 2002 INRMP would continue use of hazardous materials per compliance requirements. Therefore, there would be no significant impacts from hazardous materials.

services and a variety of services and facilities are provided for outdoor recreation. Aviation safety zones and ordinance safety areas have been designated, which typically restrict certain types of land use that are incompatible with the mission of the facility.

Naval Amphibious Base Coronado (NAB) and Silver Strand Training Complex – North (SSTC-N): NAB Coronado is primarily a developed area and contains more than 170 buildings. Land use within the boundaries of NAB Coronado is divided into 10 categories: activities; training; maintenance; supply; medical; administration; housing; community support; recreation; and utilities. Turner Field is a helicopter landing pad on NAB Coronado that is used for training. This facility is near the eastern edge of NAB Coronado; the pad is used as a staging area for helicopter casts, special patrol insertion/extraction, and other waterborne activities that require loading/unloading personnel or equipment. The training areas of SSTC-N total 405 hectares (1,002 acres), 301 hectares (745 acres) of land owned by the Federal government, and approximately 104 hectares (257 acres) leased from the state of California. In addition a portion of the water off-shore along both the Pacific Ocean and San Diego Bay sides of SSTC-N is owned and used for training by the Navy.

Silver Strand Training Complex-South (SSTC-S): Land uses on SSTC-S include supply/storage functions (near Bunkers 99 and 100); military recreation facilities including an athletic field, playing courts, showers, a clubhouse, and picnic facilities (near Bunkers 98 and 99); and four former military family housing units (located along the southern boundary) that are now used for administrative purposes (U.S. Navy 2010a). A multi-use facility located on land containing training infrastructure for use primarily by Naval Special Warfare and Explosive Ordnance Disposal forces, the Kaufman Drop Zone is located at the southeastern corner of SSTC-S. A helipad is located adjacent to Building 902. The Young Men's Christian Association also leases 18 hectares (45 acres) of southwest corner of SSTC-S along the Pacific Ocean for Camp Surf, a summer camp for youth. Camp Surf is not in the operations and training footprint of SSTC-S.

Navy Outlying Landing Field Imperial Beach (NOLF IB): As an extension of NASNI, NOLF IB is comprised of an airfield and an overflight easement and used for helicopter landing practice and lift training air operations. The landing field also provides siting facilities for government tenants including the Department of Labor, Job Corps Training Center, Space and Naval Warfare Systems Center Pacific, and the Defense Reutilization Management Office (CNIC 2011). A portion of the TRNERR and Tijuana Slough National Wildlife Refuge are located on NOLF IB and provides recreational and interpretive opportunities (U.S. Navy 2010c). The U.S. Border Patrol, Department of Labor, and DRMO maintain leases on the installation, and there are agricultural and grazing leases as well.

Camp Michael Monsoor: Camp Michael Monsoor is a Naval Special Warfare Command facility used to conduct mountain warfare and other Special Warfare training (U.S. Navy 2008c). The training area and facilities are managed by Naval Special Warfare Group One to conduct special warfare operations and provide operational and administrative control. Adjacent properties include undeveloped Cleveland National Forest land to the north and BLM land to the south, east, and west. Multiple privately-owned parcels of land abut Camp Michael Monsoor to the southwest, southeast, and northeast. Discontiguous portions of the Campo Indian Reservation are located less than 5 kilometers (3 miles) to the southwest and east of the site, while the La Posta Indian Reservation is located about 5 kilometers (3 miles) northeast. Predominant land uses in the general area include rural residential, agriculture, and recreation (U.S. Navy 2008c).

Camp Morena: The immediate need and current use of Camp Morena is to provide administrative offices, classroom training, galley, berthing and storage spaces to support Camp Michael Monsoor operations and other training exercises. Basic maintenance and construction needed to maintain the facilities will also be conducted (U.S. Navy 2012c). The Lake Morena County Park borders Camp Morena on the southwest side. The Cleveland National Forest surrounds Camp Morena on the north and east and is accessible to the public for recreational uses (U.S. Navy 2010a).

Remote Training Site Warner Springs (RTSWS): RTSWS is located on portions of the Cleveland National Forest, VID lands, and BLM lands in northern, inland San Diego County, approximately 72 kilometers (45 miles) northeast from San Diego (U.S. Navy 2010e). The nearest community, Warner Springs, is 13 kilometers (8 miles) southeast on Highway 79. The U.S. Navy entered into a 1972 MOU with the USFS for exclusive use of 24 hectares (60 acres) where RTSWS structures are located, and 1,982 hectares (4,900 acres) for nonexclusive training as a “Bivouac and Problem Area.” An additional 484 hectares (1,197 acres) have been leased for use by the U.S. Navy from VID (U.S. Navy 2010e).

Holly Square Housing Area: This housing area is managed by NBC and is located north of NOLF IB.

Lofgren Terrace Housing Area: This housing area is managed by NBC and is located in the city of Chula Vista; east of I-805, west of State Route 125 and south of State Route 54.

3.3.3 Environmental Consequences

3.3.3.1 Proposed Action

The Proposed Action would be compatible with existing NBC land uses and adjacent uses. Proposed natural resources management actions would not introduce any new land uses that would be incompatible with existing land uses, either on- or off-site. Implementation of the INRMP would ensure that natural resources continue to support the NBC mission and future growth, development, and redevelopment activities planned for the installation. The INRMP integrates natural resources management with other installation plans and activities. It also establishes goals that represent a long-term vision for the health and quality of NBC’s natural resources. Any future changes in mission, training activity, or technology should be analyzed to assess its impact on natural resources. As new installation plans and Navy guidance and regulations are developed, they will be integrated with the goals and management actions of the INRMP. The INRMP will be reviewed, assessed, and modified as needed on an annual basis to ensure continued integration with other management plans or changes in military mission or environmental conditions.

The Proposed Action would develop an outdoor recreation plan that may create natural resources-based outdoor recreation opportunities (subject to compatibility with mission requirements) resulting in the improvement of the quality of life and morale for Navy personnel and their families through provision of quality recreational experiences while sustaining ecosystem integrity. The Proposed Action would also develop and implement best management practices for grounds maintenance and establish monitoring metrics to ensure management

strategies are meeting goals and objectives of the INRMP. Therefore, no significant impacts on land use would occur.

3.3.3.2 No Action Alternative

Under the No Action Alternative, the military mission, on-installation land use, and land use on adjacent properties occurring on NBC facilities would remain unchanged from the 2002 INRMP. There would be no net loss of available land and operational carrying capacity. New landscaping practices, such as removal of exotics or invasive weeds and restoration of degraded areas, enhance the appearance of the affected area but would not result in an adverse impact to the current land use. The revised INRMP accommodates existing uses, including compatible uses such as regional irrigation, air operations, and shoreline construction. Overall land use beneficial impacts would occur. Therefore, no significant impacts would occur to land use by implementing the No Action Alternative.

3.4 Air Quality/Climate Change

3.4.1 Definition of the Resource

In accordance with Clean Air Act (CAA) requirements, the air quality in a given region or area is measured by the concentration of criteria pollutants in the atmosphere. The air quality in a region is a result of not only the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the topological “air basin,” and the prevailing meteorological conditions.

Ambient Air Quality Standards. Under the CAA, the U.S. Environmental Protection Agency (USEPA) developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for six criteria pollutants that have been determined to affect human health and the environment. The NAAQS represent the maximum allowable concentrations for ozone, measured as either volatile organic compounds (VOCs) or total nitrogen oxides, carbon monoxide, nitrogen dioxide, sulfur oxides, respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [PM_{10}] and particulate matter equal to or less than 2.5 microns in diameter [$PM_{2.5}$]), and lead (Pb) (40 CFR Part 50). The CAA also gives the authority to states to establish air quality rules and regulations. The state of California has adopted the NAAQS and promulgated additional California Ambient Air Quality Standards (CAAQS) for criteria pollutants. The CAAQS are more stringent than the Federal primary standards.

Attainment versus Nonattainment and General Conformity. The USEPA classifies the air quality in an air quality control region (AQCR), or in subareas of an AQCR, according to whether the concentrations of criteria pollutants in ambient air exceed the NAAQS. Areas within each AQCR are therefore, designated as either “attainment,” “nonattainment,” “maintenance,” or “unclassified” for each of the six criteria pollutants. Attainment means that the air quality within an AQCR is better than the NAAQS; nonattainment indicates that criteria pollutant levels exceed NAAQS, maintenance indicates that an area was previously designated nonattainment but is now attainment, and an unclassified air quality designation by USEPA

means that there is not enough information to classify an AQCR appropriately, so the area is considered attainment.

The General Conformity Rule applies only to significant actions in nonattainment or maintenance areas. This rule requires that any Federal action meet the requirements of a State Implementation Plan (SIP) or Federal Implementation Plan. More specifically, CAA conformity is ensured when a Federal action does not cause a new violation of the NAAQS; contribute to an increase in the frequency or severity of violations of NAAQS; or delay the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS.

Greenhouse Gas Emissions. The potential impacts from proposed greenhouse gas (GHG) emissions are by nature global and cumulative, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other man-made activities on a global scale. GHGs are analyzed in **Section 4.3** of this EA.

3.4.2 Existing Conditions

NBC is in San Diego County, which is within the San Diego Intrastate AQCR. The San Diego area is in the San Diego County Air Pollution Control District and is subject to its rules and regulations. The San Diego County Air Pollution Control District is responsible for implementing and enforcing local, state, and Federal air quality regulations in the 4,200-square-mile San Diego Air Basin (SDAB), which encompasses all of San Diego County.

The air quality in San Diego County has been characterized by USEPA as a nonattainment area for ozone (nitrogen oxides and VOCs) and a maintenance area for carbon monoxide. San Diego County is classified by the USEPA as unclassified/attainment for all other criteria pollutants (USEPA 2010). The California Air Resources Board has designated the SDAB as a nonattainment area for 8-hour ozone, PM₁₀, and PM_{2.5} and as unclassified/attainment for all other criteria pollutants (CARB 2009a).

The SDAB is currently designated as nonattainment for both the 24-hour and the state annual PM₁₀ standards. The air basin is also designated as nonattainment for the state annual PM_{2.5} standard (CARB 2009b). The PM₁₀ emission inventory includes only primary particulate matter (PM). On an annual average basis, directly emitted PM₁₀ emissions contribute approximately 70 percent of the ambient PM₁₀ in the SDAB (CARB 2009c). The PM_{2.5} emission inventory includes only primary PM. On an annual average basis, directly emitted PM_{2.5} emissions contribute approximately 50 percent of the ambient PM_{2.5} in the SDAB (CARB 2009c).

3.4.3 Evaluation Standards

The environmental consequences on local and regional air quality conditions near a proposed Federal action are determined based upon the increases in regulated pollutant emissions relative to existing conditions and ambient air quality. Specifically, the impact in NAAQS “attainment”

and “non-attainment” areas would be considered significant if the net increases in pollutant emissions from the Federal action would result in any one of the following scenarios:

- Cause or contribute to a violation of any national or state ambient air quality standard
- Expose sensitive receptors to substantially increased pollutant concentrations
- Represent an increase of 10 percent or more in an affected AQCR emissions inventory
- Exceed any Evaluation Criteria established by a SIP or permit limitations.

3.4.4 Environmental Consequences

3.4.4.1 Proposed Action

Mechanized activities associated with the Proposed Action would potentially create dust and gaseous emissions from use of equipment. These emissions would be temporary and local to the project area. Project staff driving to and from the project site would create emissions; however, this would also be temporary and localized. There would be no major source of air pollution under the revised INRMP. Any air permits necessary for specific projects in the INRMP would be obtained prior to implementation of the project. A Record of Non-Applicability has been completed for this project (**Appendix B**).

The Proposed Action would also develop specifications and standards for reseeding/revegetation of disturbed sites, thereby reducing dust associated with other projects. Therefore, implementation of the Proposed Action would not result in significant impacts on air quality.

3.4.4.2 No Action Alternative

Under the No Action Alternative, the activities that currently generate air emissions would remain unchanged from the 2002 INRMP.

The 2002 INRMP would not result in a substantial change in the emissions-generating equipment used for a range of activities. Ongoing activities, including landscape trimming, mowing or pruning, habitat restoration, soil erosion control efforts, or stream channel maintenance projects would either be enhanced to incrementally reduce emissions or would remain the same. No new activities are proposed that would expose people to localized air pollutant concentrations. An incremental reduction in emissions could result from proposed installation of shade trees near buildings or erosion prevention efforts (U.S. Navy 2002a).

Proposed habitat restoration measures provide for manual removal of invasive and exotic plants where feasible and use of chemical or mechanical applications only when necessary. The No Action Alternative is considered to be consistent with the SIP and would be consistent with the air quality management planning efforts of the Air Pollution Control District (U.S. Navy 2002a).

Therefore, no significant impacts on local or regional air quality would occur from the No Action Alternative.

3.5 Topography, Geology, and Soils

3.5.1 Definition of the Resource

Geological resources consist of the Earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography and physiography, geology, soils, and geologic hazards.

Topography and physiography pertain to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features. Geology is the study of the Earth's composition and provides information on the structure and configuration of surface and subsurface features. Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential affect their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

3.5.2 Existing Conditions

3.5.2.1 NASNI

Topography. NASNI and the Coronado Peninsula are basically flat, with an average elevation of 6.1 meters (20 feet) AMSL. Much of NASNI's coastline consists of artificial structures such as sea walls and piers. The beach, which occurs along the southern boundary, slopes gradually to the toe of a low bluff in the southeast portion of NASNI (U.S. Navy 2006c).

Geology. NASNI is situated on a low-lying section of Quaternary-Tertiary terrace deposits and scattered deposits of recent alluvium, which is an erosion remnant within the larger geomorphic province known as the coastal plain of Southern California (U.S. Navy 2006c).

Soils. Soils of the central and eastern portions of NASNI are composed primarily of medium dense to very dense native materials. The remainder of the area is comprised of fill materials dredged from the Bay. The USDA Natural Resources Conservation Service (NRCS) mapped three soil types on NASNI (NRCS 2011): marina loamy coarse sand; made land; and coastal beaches.

3.5.2.2 NAB Coronado and Silver Strand Training Complex North (SSTC-N)

Topography. Silver Strand peninsula, which lies between San Diego Bay and the Pacific Ocean, is generally level. The average elevation of Silver Strand peninsula, including SSTC-N, is also about 3 meters (10 feet) AMSL, and the elevation rarely exceeds 4.6 meters (15 feet) AMSL (DoN WESTDIV 1989 and U.S. Navy 2010a).

Geology. SSTC-N is underlain by the Quaternary-age Bay Point Formation and surficial deposits of natural beach sands and dredge fill soils. The Bay Point Formation is composed of marine, lagoon, and nonmarine sources of poorly consolidated fine- and medium-grained, pale

brown, fossiliferous sandstone (USDA 1973). Beach deposits are composed of unconsolidated sand and silt derived from many sources as a result of longshore drifts and alluvial discharges from major stream courses (U.S. Navy 2010a).

Soils. NAB Coronado soils are comprised of fill material dredged from San Diego Bay. The NRCS mapped four soil types on NAB Coronado and SSTC-N (NRCS 2011): marina loamy coarse sand; made land; coastal beaches; and tidal flats.

3.5.2.3 Silver Strand Training Complex South

Topography: SSTC-S is located on an isthmus of land with the Pacific Ocean to the west and San Diego Bay to the east. Most of SSTC-S lies on a plateau at an elevation of about 9 meters (30 feet) AMSL, from which the terrain slopes gradually down toward the Pacific Ocean to the west and toward the tidelands of San Diego Bay to the east. A few small depressions on SSTC-S form seasonal pools and waterfowl habitats during the winter (U.S. Navy 2010a).

Geology. The geology of SSTC-S is the same as NAB Coronado (see **Section 3.5.2.2**) (U.S. Navy 2010a).

Soils. The mapped soil types, which cover approximately 80 percent of the facility, are characterized as being moderately well-drained with clay subsoil developed in sandy marine sediments, to somewhat excessively drain and derived from weakly consolidated to non-coherent eolian sand (NRCS 2011). The NRCS mapped four soil types on SSTC-S (NRSC 2011): marina loamy coarse sand; huerhuero loam; coastal beaches; and tidal flats.

3.5.2.4 NOLF IB

Topography. NOLF IB is situated within the coastal plain of the Pacific Ocean. The installation is very flat with very little change in elevation. Tidal flats are situated in the western portion of the installation along the Tijuana River (U.S. Navy 2006e).

Geology. In the late Cenozoic, tectonic uplift raised alluvial terraces to several hundred feet above modern sea levels. What is now the Tijuana River presumably cut through these terraces, although the floodplain suggests that flows were not consistently large. In the Holocene, a rising sea began to reclaim the exposed margins of the coastal shelf. With flooding, most of the coastal embayments filled with sediment. Without continuous river flow and scouring, their mouths closed between flood seasons (NERRS 2009).

Soils. The soil of the NOLF IB airfield area is primarily composed of Huerhuero-Urban land complex soils, while the Tijuana Estuary area is primarily composed of Tidal Flats and Chino silt loams. The NRCS mapped four soil types on NOLF IB (NRCS 2011): huerhuero-urban land complex; tidal flats; chino silt loam; huerhuero loam; and ramona sandy loam.

3.5.2.5 Camp Michael Monsoor

Topography. The topography in Camp Michael Monsoor consists of rugged, mountainous terrain with steep slopes, sheer rock cliffs, and frequent rock outcroppings. Elevations range

between 975 and 1,219 meters (3,200 and 4,000 feet) AMSL. Drainage from the intermontane valleys ultimately flows into Campo Creek to the south (U.S. Navy 2008c).

Geology. This portion of the batholith is characterized by large concentrically zoned plutons of immediate composition with deep levels of emplacement and associated high grade metamorphic rocks. The La Posta pluton is the largest of these plutons, consisting of leucocratic hornblende-biotite tonalite in the outer zones to granodiorite inward, and has experienced little deformation or alteration (U.S. Navy 2008c).

Soils. Soils in Camp Michael Monsoor consist of Mottsville-Calpine and the Tollhouse-La Posta Rock land association (U.S. Navy 2008c).

3.5.2.6 Camp Morena

Topography. Camp Morena is situated in the foothills of the southern portion of the Cleveland National Forest. The majority of the site is relatively flat and slopes from north to south. The elevation on Camp Morena is approximately 939 meters (3,080 feet) AMSL and the property generally slopes up to a 1,170-meter (3,840-foot) peak located just off the property to the east.

Geology. The northern undeveloped portion of Camp Morena is rocky and consists of several small hills. The southern section is less rocky (U.S. Navy 2009c).

Soils. Two soil types are mapped within Camp Morena: Bancas stony loam and Mottsville loamy course sand (U.S. Navy 2009c).

3.5.2.7 Remote Training Site Warner Springs

Topography. RTSWS is situated within the Peninsular Ranges of Southern California, which is one of the largest geologic units in western North America. RTSWS includes the Aguanga Ridge, which is one of a three-part range including Palomar Mountain and Agua Tibia Mountain to the northwest (U.S. Navy 2007a).

Geology. The RTSWS installation is located on the eastern side of a trending valley bounded by a broad ridge to the east and the eastern foothills of Palomar Mountain to the west. The ridge behind the facility rises to elevations of 1,280 to 1,341 meters (4,200 to 4,400 feet). Many small canyons cut by intermittent streams dot the hillside to the north and east of the installation (U.S. Navy 2009e). One fault occurs southeast of the RTSWS. The Elsinore fault zone branches slightly, with one section, Elsinore-Julian section running through Lake Henshaw and the other section running southwest of Lake Henshaw (MACTEC 2010).

Soils. The soils of the RTSWS installation are primarily Tollhouse rocky coarse sandy loams, Sheephead rocky fine sandy loams, Mottsville loamy course sands, Ramona gravelly sandy loam, La Posta rocky loamy coarse sand, rough broken land, and others.

3.5.2.8 Holly Square and Lofgren Housing Areas

Topography. Holly Square is immediately north of NOLF IB, and is situated within the coastal plain of the Pacific Ocean. The installation is very flat with very little change in elevation.

Lofgren Terrace sits along the northern side of Telegraph Canyon with moderate, south facing slopes with an average elevation of about 150 meters (500 feet) AMSL and fewer than 50 feet in elevation change.

Geology. The closest geologic fault to the Holly Square Housing is the Newport-Inglewood-Rose Canyon fault zone, Silver Strand section. This fault occurs over 500 meters (1,640 feet) offshore, and over 3,000 meters (9,842 feet) from the housing location (EDAW, Inc. 2002). There is one fault zone, which branches into three different sections near the Lofgren Terrace. The three sections of the La Nacion fault zone occur to the west of Lofgren Terrace in over 1,000 meters (3,281 feet) to the west of Discovery Park and Independent Park (EDAW, Inc. 2002).

Soils. The soil type at the Holly Square housing area is Huerhuero-Urban Land Complex, which occurs on marine terraces has slopes of 2 to 9 percent. Soils for the Lofgren Terrace housing area include: diablo clay; diablo-urban land complex; and salinas clay loam.

3.5.3 Environmental Consequences

3.5.3.1 Proposed Action

No new structures are proposed that would increase the exposure of people or structures to significant seismic risk. Management actions would not substantially alter unique geologic or topographic features at any of the NBC complexes, nor would resource management actions disturb subsurface formations where unique paleontological resources could be located. The protection of soil resources from erosion through prevention and control practices, and from rehabilitation of degraded soil resources would occur under the Proposed Action. Therefore, implementation of the Proposed Action would not result in significant impacts on topography, geology, or soils. There would be some beneficial impacts from rehabilitation of areas with degraded soils.

3.5.3.2 No Action Alternative

Under the No Action Alternative, NBC would continue to implement specific strategies in accordance with the 2002 INRMP for mapping existing eroded areas and implementing a soil erosion control program to conserve existing natural areas from disturbance that could degrade soils. Additionally, management policies include measures to revegetate existing denuded or eroded soils. None of the 2002 INRMP activities would result in the destruction of subsurface formations affecting paleontological resources. The No Action Alternative would therefore not increase the seismic risk to humans, nor would implementation be expected to adversely affect on-site soils or paleontological resources.

The revised INRMP would include all properties addressed in the 2002 INRMP, and three additional properties: Camp Morena, a support property of Camp Michael Monsoor, and two off-site naval housing areas that have since been assigned to NBC. For those properties not covered in the revised INRMP, the installation has established measures and programs for the management of topography, geology, and soils to ensure they are managed in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts to

topography or geology would occur. Therefore, no significant impacts would occur to topography or geology by implementing the No Action Alternative.

3.6 Water Resources

3.6.1 Definition of the Resource

Water resources are natural and man-made sources of water that are available for use by and for the benefit of humans and the environment. Hydrology concerns the distribution of water-to-water resources through the processes of evapotranspiration, atmospheric transport, precipitation, surface runoff and flow, and subsurface flow. Hydrology is affected by climatic factors such as temperature, wind direction and speed, topography, and soil and geologic properties.

Groundwater. Groundwater consists of subsurface hydrologic resources. It is an essential resource that functions to recharge surface water and is often used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater typically can be described in terms of its depth from the surface, aquifer or well capacity, water quality, surrounding geologic composition, and recharge rate. Groundwater quality and quantity are regulated under several statutes and regulations.

Surface Water. Surface water resources generally consist of wetlands, lakes, rivers, and streams. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale. The CWA (33 U.S.C. § 1251 et. seq., as amended) establishes Federal limits through the National Pollutant Discharge Elimination System (NPDES) on the amounts of specific pollutants that are discharged to surface waters to restore and maintain the chemical, physical, and biological integrity of the water. The NPDES program regulates the discharge of point (i.e., end of pipe) and nonpoint sources (i.e., storm water) of water pollution. The U.S. Army Corps of Engineers (USACE) has regulatory authority over waters of the United States. The term “waters of the United States” has broad meaning under the CWA and incorporates deepwater aquatic habitats and special aquatic habitats (including wetlands). Waters of the United States are areas regulated under the CWA and also include coastal and inland waters, lakes, rivers, ponds, streams, intermittent streams, vernal pools, and waters that if degraded or destroyed could affect interstate commerce. Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands. Therefore, even an inadvertent encroachment into wetlands or non-wetland waters of the United States resulting in displacement or movement of soil or fill materials has the potential to be viewed as a violation of the CWA if an appropriate permit has not been issued by the USACE.

Wetlands. Wetlands are land areas saturated with water, either permanently or seasonally, which take on characteristics distinguishing themselves as distinct ecosystems. The primary factor that distinguishes wetlands is the characteristic vegetation adapted to its unique soil conditions. The USEPA and USACE are responsible for making jurisdictional determinations and regulating wetlands and waters of the United States under Section 404 of the CWA. These agencies assert jurisdiction over (1) traditional navigable waters, (2) wetlands adjacent to navigable waters, (3) nonnavigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g.,

typically 3 months), and (4) wetlands that directly abut such tributaries. Additionally, non-relatively permanent tributaries, or ephemeral drainages, that are determined to have a “significant nexus” to traditional navigable water of the United States can be considered jurisdictional under the CWA. The significant nexus evaluation must consider flow characteristics and functions of the tributary to determine if it has a significant effect on the chemical, physical, and biological integrity of downstream traditional navigable waters (EPA 2008).

Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits for the discharge of dredged or fill materials into the waters of the United States, including wetlands. Per Section 401 of the CWA, any applicant for a Federal license or permit to conduct any activity, including the construction or operation of facilities that could result in any discharge into the navigable waters, is required to provide the licensing or permitting agency a water quality certification from the state in which the discharge originates or will originate.

Floodplains. Floodplains are areas of low-level ground present along rivers, stream channels, large wetlands, or coastal waters. Floodplain ecosystem functions include natural moderation of floods, flood storage and conveyance, groundwater recharge, and nutrient cycling. Floodplains also help to maintain water quality and are often home to a diverse array of plants and animals. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Flood potential is evaluated by the Federal Emergency Management Agency, which defines the 100-year floodplain as the area that has a 1 percent chance of inundation by a flood event in a given year. Certain facilities inherently pose too great a risk to be in either the 100- or 500-year floodplain, such as hospitals, schools, or storage buildings for irreplaceable records. Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to human health and safety.

3.6.2 Existing Conditions

3.6.2.1 NASNI

Wetlands and non-wetland jurisdictional waters of the United States, as defined by USACE, were identified during a planning level delineation on NASNI in 2005. A total of 0.08 hectare (0.2 acres) of wetlands and 26.0 hectare (64.3 acres) of non-wetland jurisdictional waters of the United States were delineated on NASNI. In addition, 0.04 hectare (0.1 acres) of wetlands and 1.1 hectare (2.7 acres) of non-wetland waters of the United States were considered exempt from USACE jurisdiction due to a lack of connection to navigable waters (U.S. Navy 2006c).

Wetland habitat on NASNI includes patches of hydrophytic vegetation within the two tidally influenced coastal brackish marsh channels on the south part of the installation. Positive indicators of all three wetland parameters were observed at these locations and the channels connect directly to the Pacific Ocean (U.S. Navy 2006c).

Non-wetland waters of the United States delineated on NASNI include the majority of the brackish channels (beyond the wetland habitat), the beach from the high tide line to the open water, and the open waters of the ocean and San Diego Bay. USACE regulatory jurisdiction

extends within a zone of 3 nautical miles of the limits of land, including bays and harbors, and therefore applies to open water on the San Diego Bay and ocean side within the limits of NASNI (U.S. Navy 2006c).

The water hazards on the Sea 'N Air Golf Course on NASNI and a small wetland found near the helicopter wash area on the airfield are considered exempt from USACE jurisdiction due to the lack of connection to navigable waters (U.S. Navy 2006c).

The 100-year floodplain on NASNI corresponds roughly to the 3-meter (10-foot) AMSL contour line. Water is expected to reach this level only with the simultaneous occurrence of a 100-year storm, an extremely high tide, or a seismic tidal wave (U.S. Navy 2006c).

3.6.2.2 NAB and SSTC-N

A jurisdictional delineation for wetlands and non-wetland waters of the United States has not been completed for NAB Coronado and SSTC-N. At NAB Coronado and SSTC-N, jurisdictional wetland boundaries have been approximated based on the approximate acreage of salt marsh and from the National Wetland Inventory. No information is available regarding location or extent of non-wetland waters of the United States on NAB Coronado and SSTC-N.

NAB Coronado and SSTC-N are susceptible to flooding from local storm runoff or seismic ocean waves due to its low-lying, flat terrain (U.S. Navy 2010a). Portions of NAB Coronado and SSTC-N are within the 100-year floodplain. The 100-year flood is defined as the largest flood with a recurrence interval of 100 years or less, based on current topography, recorded precipitation, and tidal surge. The 100-year floodplain is the zone that would be subject to flooding during a 100-year storm event, combined with a very high tide or seismic ocean wave. SSTC is susceptible to flooding from local storm runoff or seismic ocean waves due to its low-lying, flat terrain (U.S. Navy 2010a).

3.6.2.3 SSTC-S

A planning level delineation performed on SSTC-S in 2002 identified 24.1 hectares (59.6 acres) of jurisdictional wetlands (mostly non-tidal Pickleweed) and 11.3 acres of non-wetland waters of the United States on the installation (U.S. Navy 2010a). SSTC-S is susceptible to flooding from local storm runoff or seismic ocean waves due to its low-lying, flat terrain (U.S. Navy 2010a).

3.6.2.4 NOLF IB

A total of 205.7 hectares (508.2 acres) of USACE jurisdictional wetlands and non-wetland waters of the United States were found on NOLF IB during a planning level delineation conducted in 2009-2010. Vernal pool hydrology information was also recorded, a total of 0.2 hectares (0.45 acres) of vernal pools were recorded. Many non-wetland inclusions occur throughout the higher-elevation portions of the study area. Where these were large enough to be separately mapped, these totaled 14,914 square feet (1,358.6 square meters). Non-jurisdictional ditches excavated in uplands totaled 7,171 feet (2,186 meters) in length. Section 10 and non-wetland waters of the United States total 19 hectares (47.1 acres). These include intertidal

mudflats, tidal channels, small ponds associate with a historic quarry, and other open water areas. All Section 10 areas are coincident with Section 404 jurisdictional areas.

Portions of the estimated floodplain of the Tijuana River occur on NOLF IB property and periodic flooding has affected the agricultural fields there. A flood in January/February of 1980 resulted in \$15 million of damage in the Tijuana River Valley. Historically notable flooding has occurred in 1993, 2008, and 2009 that required people and their animals to be rescued. Agricultural fields that once existed in the area have been altered by these flood events, and are now filled in with riparian scrubs and woodlands. Wild animals living in these areas must be capable of escaping these periodic floods (U.S. Navy 2011c).

3.6.2.5 Camp Michael Monsoor

A jurisdictional delineation was conducted on Camp Michael Monsoor Parcel C in July 2004. No wetlands were identified. Unnamed ephemeral drainages (i.e., likely to contain water only after a storm event) were identified, but due to a lack of downstream connection to navigable waters, the drainages were determined to be isolated. Subsequently, a project specific delineation was conducted in 2010 on Parcel C for the proposed upgrades that required construction of a new training facility and the related infrastructure, and the repair existing roads on Camp Michael Monsoor. During the 2010 survey, no jurisdictional wetlands were identified, however, approximately 903 square feet (<0.1 acre) of potential USACE jurisdictional waterways were delineated. Seven non-wetland drainages were identified. Two drainages were identified as potential non-wetland waters of the U.S. that drain toward Campo Creek, which is located approximately 4 kilometers (2.5 miles) from the site. The other five principal ephemeral drainages were determined to be isolated (U.S. Navy 2012).

3.6.2.6 Camp Morena

Drainages determined to be non-wetland waters of the United States and regulated by the USACE were identified at Camp Morena. These drainages did not contain water during the time of the survey and were determined to be ephemeral. The drainages ranged from 0.3 to 0.9 meters (1 to 3 feet) in width and 0.15 to 0.9 meters (0.5 feet to 3 feet) in depth. These drainages are located in the middle and southern portions of Camp Morena and are supported by seasonal runoff from the slopes to the north. The drainages on the western and middle portion of Camp Morena are segmented with areas of sheet flow (i.e., unconfined surface flow) in between defined channels. All drainages were surface channels except for a 10.4-meter (34-foot)-long section that is culverted under Corral Canyon Road in the southeastern portion of Camp Morena. The underground culvert would also be considered jurisdictional by USACE. For the purposes of determining jurisdiction, the Morena Reservoir is assumed to be a Traditional Navigable Water. A significant nexus to a Traditional Navigable Water is assumed for all potential jurisdictional features observed, given the close proximity to the reservoir. The total length of all drainages on Camp Morena is 559.3 meters (1,835 feet) and the total area is 0.02 hectares (0.05 acres) (U.S. Navy 2009c).

3.6.2.7 Remote Training Site Warner Springs

A 2006 planning level delineation of the 60-acre existing SERE compound and 90-acre adjacent Cleveland National Forest land originally intended for inclusion in the SERE compound in the Cleveland National Forest documented 4.1 acres of jurisdictional waters and wetlands in the drainages that flow into the San Luis Rey River. Most of the jurisdictional waters are also wetlands. Due to the narrow, linear nature of the waters and many of the wetlands, the acreage of waters and wetlands is believed to be the maximum estimate. Drainages were often less than 0.6 meters (2 feet) across, with a linear wetland community no more than 0.6 meters (2 feet) wide. Occasional benches, seeps and meadows occurred where slope gradient lessened or stream flow was impaired in some way, or bedrock prevented water penetration into the soil. It is likely that 100-year floodplains for the San Luis Rey River and the West Fork of the San Luis Rey River occur within RTSWS.

3.6.2.8 Holly Square Housing Area

Based on a natural resources survey conducted in 2009, no surface water resources occur within the Holly Square housing area. No wetlands or non-wetland waters of the United States occur within the Holly Square housing area (U.S. Navy 2009f).

3.6.2.9 Lofgren Terrace Housing Area

Based on a natural resources survey conducted in 2009, no surface water resources occur within the Lofgren Terrace housing area. No wetlands or non-wetland waters of the United States occur within the Lofgren Terrace housing area (U.S. Navy 2009f).

3.6.3 Environmental Consequences

3.6.3.1 Proposed Action

No significant, adverse impacts on water supply would occur from water conservation actions associated with the Proposed Action. Beneficial impacts of water conservation include reduced pressure on regional water resources and better preparedness for extreme events, such as drought, fires, and other disasters.

Under the Proposed Action, sedimentation in surface waters downstream of NBC facilities would be prevented or controlled due to a reduction in soil erosion. Therefore, long-term, beneficial impacts on water resources would result. The reduction of sediment within the effluent from urban storm water drainages that cross NBC facilities would improve water quality in San Diego Bay. The improvement of unstable drainages, where necessary, on the NBC facilities would improve water quality due to a reduction in soil erosion and sedimentation within the streams.

The implementation of Low Impact Development practices and technologies in future improvements on NBC would minimize the amount of storm water runoff from impervious surfaces and associated pollutants (e.g., petroleum products) that reaches waterways on and downstream of NBC. The reduction in storm water entering streams would reduce impacts on

surrounding floodplains. The minimization of fertilizers and pesticides applied on NBC using integrated pest management techniques (as described in **Section 3.8.3.1**) would improve surface water quality by reducing nutrients and pollutants entering waterways in streams and the potential for future eutrophication in waterways. Herbicide and pesticide use would be closely controlled and applied in a manner consistent with Federal and state laws. To ensure effective use of herbicides and pesticides and reduce the likelihood of runoff, they would be applied days before a known rain event.

Therefore, implementation of the Proposed Action would not result in significant impacts on water resources, but rather, beneficial impacts to water quality as improvement projects are implemented.

3.6.3.2 No Action Alternative

Beneficial impacts on water resources would occur from the implementation of the No Action Alternative. The implementation of sediment- and erosion-control BMPs is a management strategy identified in the 2002 INRMP. Under the No Action Alternative, NBC would continue to implement sediment- and erosion-control BMPs in accordance with the 2002 INRMP.

The revised INRMP would include all properties addressed in the 2002 INRMP, and three additional properties: Camp Morena, a support property of Camp Michael Monsoor, and two off-site naval housing areas that have since been assigned to NBC. For those properties not covered in the revised INRMP, the installation has established measures and programs for the management of water resources in these areas to ensure they are managed in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts to water resources would occur. Therefore, no significant impacts would occur to water resources by implementing the No Action Alternative.

3.7 Biological Resources

3.7.1 Definition of the Resource

Biological resources include native or naturalized plants and animals and the habitats (e.g., grasslands, forests, and wetlands) in which they exist. Protected and sensitive biological resources include the following:

- ESA-listed species (threatened or endangered) and those candidate species proposed for ESA-listing as designated by the USFWS (terrestrial and freshwater organisms) or National Marine Fisheries Service (NMFS) (marine organisms).
- Species that are state-listed by the CDFW as endangered, threatened, or candidates under the California Endangered Species Act (CESA).
- Other special status species (not state-listed under CESA), including CDFW species of special concern, California Native Plant Society (CNPS) rare plants, CDFW fully protected species, and birds of conservation concern (as identified by the American Bird Conservancy or National Audubon Society).

- Migratory birds, protected under the Migratory Bird Treaty Act (MBTA) of 1918, as amended, and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*.
- Marine mammals, protected under the Marine Mammal Protection Act of 1972, as amended.
- Bald and Golden Eagles protected under the Bald and Golden Eagle Protection Act.
- Critical habitats (designated by USFWS and NMFS), essential fish habitat (EFH) (designated by regional fishery management councils with NMFS assistance), and other sensitive habitats.

3.7.2 Existing Conditions

3.7.2.1 NASNI

Vegetation

NASNI is primarily urbanized and includes developed areas, a golf course, and a maintained airfield. The airfield is mowed regularly and is surrounded by ruderal habitat that is dominated by nonnative herbaceous species. Three natural vegetation communities are present on NASNI: saltgrass series, cattail series, and sand verbena-beach bursage series. Detailed information on each of the terrestrial vegetation communities found on NASNI is included in **Section 4.2.3.1 of the INRMP**.

Marine habitats within the San Diego Bay are categorized by depth with respect to the tides, then by substrate, water clarity, and other factors. Habitat types within the San Diego Bay at NASNI include deep subtidal, moderately deep subtidal, shallow subtidal, intertidal, and artificial shoreline structures. Detailed information on marine habitats within the San Diego Bay at NASNI are included in **Section 4.2.3.3 of the INRMP**.

Marine habitats within the offshore area along the Pacific Ocean include moderately deep subtidal, shallow subtidal and intertidal zone with portions classified as Subtidal/Hard Bottom/Cobble/Understory algae and adjacent habitat within the region of influence as Subtidal/Hard Bottom/ Boulder/Rock Reef/kelp Bed ecotypes (the latter associated with Point Loma). The algal communities such as kelp beds add structure in shallow water, fostering a richer species assemblage. Detailed information on marine habitats along the Pacific Ocean at NASNI are included in **Section 4.2.3.3 of the INRMP**.

Eelgrass is a perennial marine flowering aquatic plant that provides habitat for several varieties of fish and invertebrates in the San Diego Bay. Eelgrass beds occur within the San Diego Bay and along the southwestern shores of NASNI.

Wildlife

The diversity of invertebrate species on NASNI is high. Crab spiders (family Thomisidae), jumping spiders (family Salticidae), lynx spiders (family Oxyopidae), tarantula hawks (*Pepsis* sp.), and the endemic sand spiders of the genus *Lutica* (family Zodariidae) were found during 2002 surveys. A total of 18 butterfly species were also observed (U.S. Navy 2006c).

Marine invertebrate species observed within these types of habitats during surveys conducted in 2010 include tube-dwelling anemone (*Pachycerianthus fimbriatus*), sea pen (*Stylatula elongate*), sponges (*Aplysina fistularis*, *Tetilla mutabilis*), bryozons (*Thalamoporella californica*), barnacle (*Balanus* spp.), native oyster (*Ostrea lurida*), mussel (*Mytilus* spp.), Pacific jewel box (*Pseudochama exogyra*), tunicate (*Styela* spp.), yellow sponge (*Aplysina fistularis*), and red invasive bryozoans (*Watersipora* spp.) (U.S. Navy 2011a).

During 2005 surveys of the San Diego Bay, there were 58 species of fish collected. Topsmelt (*Atherinops affinis*) was the most abundant species followed by deepbody anchovy (*Anchoa compressa*), slough anchovy (*Anchoa delicatissima*), Northern anchovy (*Engraulis mordax*), and shiner perch (*Cymatogaster aggregata*). In 1998 the Pacific Fishery Management Council delineated and designated essential fish habitat (EFH) in San Diego Bay for coastal pelagic species and Pacific Coast Groundfish.

The only reptile documented on NASNI is the common side-blotched lizard (*Uta stansburiana*). No amphibian species were detected on NASNI during the 2005 amphibian surveys (U.S. Navy 2006c).

A total of 76 bird species were observed on NASNI during the 2005 natural resources surveys. Waterbirds commonly occurring at the beach near Zuniga Point include California Brown Pelicans (*Pelecanus occidentalis californicus*), Double-crested Cormorants (*Phalacrocorax auritus albociliatus*), Marbled Godwits (*Limosa fedoa*), Sanderlings (*Calidris alba*), Forster's Terns (*Sterna forsteri*), Elegant Terns (*Sterna elegans*), and Willets (*Catoptrophorus semipalmatus*). Gull species observed on NASNI include Heermann's Gull (*Larus heermanni*), Ring-billed Gull (*Larus delawarensis*), California Gull (*Larus californicus*), and Western Gull (*Larus occidentalis*) (U.S. Navy 2006c).

A pair of Ospreys (*Pandion haliaetus*), the only raptor observed to nest on NASNI during the 2005 survey, was observed nesting on a tall light pole near Tower Three athletic field. Other raptors observed foraging on NASNI include Cooper's Hawks (*Accipiter cooperii*), Red-tailed Hawks (*Buteo jamaicensis*), a Red-shouldered Hawk (*Buteo lineatus elegans*), and a Peregrine Falcon (*Falco peregrinus anatum*) (U.S. Navy 2006c).

Common species in open areas on NASNI, particularly near the golf course and ruderal areas near the airfield, include Anna's Hummingbird (*Calypte anna*), California Horned Larks (*Eremophila alpestris actia*), Black Phoebe (*Sayornis nigricans*), Killdeer (*Charadrius vociferus*), and House Finch (*Carpodacus mexicanus frontalis*). Other bird species observed within the golf course area include European Starling (*Sturnus vulgaris*), Bullock's Oriole (*Icterus bullockii*), Northern Flicker (*Colaptes auratus*), and Song Sparrow (*Melospiza melodia*). Wintering species observed in the ornamental trees on the golf course include Yellow-rumped Warbler (*Dendroica coronata*) and Orange-crowned Warbler (*Oreothlypis celata*). Great Egrets (*Ardea alba*), Great Blue Herons (*Ardea herodias*), Willets, and other species were occasionally observed using and resting at the edge the ponds (U.S. Navy 2006c).

Three mammal species were observed during the 2005 natural resources surveys, including San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), California ground squirrel (*Spermophilus beecheyi*), and California sea lions (*Zalophus californianus*). No bats were

detected during the 2005 natural resources inventories; however, bats are expected to occur on NASNI (U.S. Navy 2006c).

Marine mammals known to occur in the waters near NASNI include members of two orders, Order Cetacea, which includes whales; dolphins; and porpoises, and Order Carnivora, which includes true seals; sea lions; and fur seals. Approximately 41 marine mammal species are known to occur within southern California waters based on NMFS Stock Assessment Reports (Carretta et al. 2007, DoN 2008). Of these, only two year-round species are expected to be found within the NASNI area. These include the California sea lion and Pacific harbor seal (*Phoca vitulina richardii*). Detailed information on wildlife at NASNI is included in **Section 4.2.4 of the INRMP**.

Special Status Species

Special status species include those species that are federally or state-listed endangered, threatened, candidate, or California species of special concern; birds on the Federal birds of conservation concern list; and plants identified by the CNPS as belonging to the Rare Plant Rank list of 1B. In addition, those migratory bird species that have been determined to be of the highest “concern” to the DoD and that have been identified on the DoD Partners in Flight Priority Species list have been included.

Federally Listed and Candidate Species

Two federally listed species, the threatened Western Snowy Plover (*Charadrius alexandrinus nivosus*) and the endangered California Least Tern (*Sternula antillarum browni*) and one candidate species, Brand’s phacelia (*Phacelia stellaris*) are known to occur on NASNI. Additionally, one federally listed species, the green sea turtle (*Chelonia mydas*), has the potential to pass through off-shore of NASNI and occurs in areas managed by the San Diego Bay INRMP. Species specific information on these federally listed species is available in **Section 4.2.5.1 of the INRMP**.

Table 3-2 includes the federally listed species observed on NASNI during natural resources surveys.

Table 3-2. Federally Listed Species Observed on Naval Base Coronado

Common Name	Scientific Name	Federal Status	State Status	Other Status	Known Location
Plants					
Salt marsh bird’s-beak	<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	FE	SE	CNPS 1B.2	SSTC-S, NOLF IB
Brand’s phacelia	<i>Phacelia stellaris</i>	FC		CNPS 1B.1	NASNI, NAB Coronado and SSTC-N
Invertebrates					
San Diego fairy shrimp	<i>Branchinecta sandiegonensis</i>	FE	–	–	SSTC-S, NOLF IB

Common Name	Scientific Name	Federal Status	State Status	Other Status	Known Location
Quino checkerspot butterfly	<i>Euphydryas editha quino</i>	FE	–	–	Camp Michael Monsoor, RTSWS
Amphibians and Reptiles					
Arroyo toad	<i>Anaxyrus californicus</i>	FE	SSC	–	RTSWS
Green sea turtle ¹	<i>Chelonia mydas</i>	FT	–	–	NASNI, NAB Coronado and SSTC-N, SSTC-S
Birds ²					
Western Snowy Plover	<i>Charadrius nivosus nivosus</i>	FT, BCC	SSC	–	NASNI, NAB Coronado and SSTC-N, SSTC-S, NOLF IB
Light-footed Clapper Rail	<i>Rallus longirostris levipes</i>	FE	SE, CFP	–	NASNI, NAB Coronado and SSTC-N, SSTC-S, NOLF IB
California Least Tern	<i>Sternula antillarum browni</i>	FE	SE, CFP	–	NASNI, NAB Coronado and SSTC-N, SSTC-S, NOLF IB
Least Bell's Vireo	<i>Vireo belli pusillis</i>	FE	SE	–	NOLF IB
Mammals					
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>	FE	ST	–	RTSWS

Source: U.S. Navy 2006c, CNPS 2010

Note: ¹ The green sea turtle is known to occur on the bayside NASNI, NAB Coronado and SSTC-N, SSTC-S. Additionally this species has the potential to occur on the Ocean side of these same installations. ² Birds are named using the American Ornithologists' Union nomenclature.

Key:

BCC = USFWS Bird of Conservation Concern

CFP = California Fully Protected Species

FT = Federally Threatened

FE = Federally Endangered

FC = Federal Candidate Species

ST = State Threatened

SE = State Endangered

SSC = State Species of Concern

Other Special Status Species

Other special status species on NASNI that have focused management in the INRMP include:

- Nuttall's lotus (*Lotus nuttallianus*), a CNPS List 1B species, is prevalent on northern NASNI and is commonly found in the sand verbena-beach bursage habitat, ruderal areas, and even in the cracks of the pavement near the developed areas.
- Coast woolly-heads (*Nemacaulis demudata* var. *denudate*) were observed and mapped during the 2004/2005 rare plant surveys (U.S. Navy 2006). This species is located along the beach and sand verbena-beach bursage in the southern portion of the NASNI, and throughout the installation in sandy ruderal habitat.

- Western Burrowing Owls (*Athene cunicularia hypugea*), which have been monitored by the U.S. Navy for many years with numbers varying from about 8 to 30 pairs (Garcia and Conway 2007). Burrowing owl nests from 1990-2011 were primarily in the southern and western portions of NASNI.
- San Diego black-tailed jackrabbit, which is commonly observed on NASNI, primarily in the ruderal habitats. They are occasionally observed on the beach and in the sand verbena-beach bursage habitat as well.

Detailed information on other special status species at NASNI is included in **Section 4.2.5.2 of the INRMP**.

3.7.2.2 NAB Coronado and SSTC-N

Vegetation

SSTC-N is located on an isthmus of land with the Pacific Ocean to the west and San Diego Bay to the east. NAB Coronado is primarily composed of developed lands and coastal beaches, which are used for U.S. Navy training exercises. One small area of salt marsh habitat is found on the Bay side of Delta Beach, and portions of the Pacific side beach area still retain some patches of disturbed coastal dune vegetation. Disturbed and successional upland habitats occur in the upland fill areas of NAB Coronado.

NAB Coronado and SSTC-N are considered to be in the south coast subdivision of the California Floristic Province. Plants of the coastal strand habitats, such as along the beaches and dunes of NAB Coronado's and SSTC-N's shores, are typically well-adapted to the sandy soils that occur there, with low water-holding capacity, low fertility, low humus content, and high concentrations of sea salts (Schoenherr 1992 and Holland and Keil 1995). Detailed information on each of the terrestrial vegetation communities found on NAB Coronado and SSTC-N is included in **Section 5.2.3.1 of the INRMP**.

Marine habitats within the San Diego Bay are categorized by depth with respect to the tides, then by substrate, water clarity, and other factors. Bayside habitat types within the San Diego Bay at NAB Coronado and SSTC-N include deep subtidal, moderately deep subtidal, shallow subtidal, intertidal zone, and artificial shoreline structures, as described below:

- Deep subtidal (deeper than 6 meters [-20 feet] mean lower low water [MLLW]) describes the surface water, water column, and sediments for areas greater than 6 meters in depth. The MLLW number is the level at which coastal flooding commonly occurs.
- Moderately deep subtidal (-4 to -6 meters [-12 to -20 feet] MLLW) describes habitat that extends from the approximate lower depth of most eelgrass to approximate edge of the shipping channel.
- Shallow subtidal zone (-2.2 to -12 feet [-7 to -4 meters] MLLW) is separated into unvegetated and vegetated shallow soft bottom habitats approximately 0.8 to 4.8 hectares (2 to 12 feet) below the intertidal zone.

- Intertidal (+2.4 to -0.7 meters [+7.8 to -2.2 feet] MLLW) habitat encompasses the area between high and low tides and is subject to varying degrees of tidal submergence.
- Artificial shoreline structures include hard structures used to protect developed sites along the bay. Pier pilings, bulkheads, rock riprap, floating docks, sea walls, mooring systems, and berelict ships/ship parts that form extensive artificial habitat in the northern and central portions of the bay and to lesser extent in the southern bay.

Marine habitats within the offshore area along the Pacific Ocean include moderately deep subtidal, shallow subtidal, and intertidal with portions classified as Subtidal/Hard Bottom/Cobble/Understory algae and adjacent habitat within the region of influence as Subtidal/Hard Bottom/ Boulder/Rock Reef/kelp Bed ecotypes (the latter associated with Point Loma). The algal communities such as kelp beds add structure in shallow water, fostering a richer species assemblage. The basic habitat data for nearshore ocean area is provided by the San Diego Nearshore Program, as reported from surveys in 2002. General descriptions of the existing oceanside habitats have been provided below.

- Moderately deep subtidal (-4 to -6 meters [-12 to -20 feet] MLLW) describes habitat that extends from the approximate lower depth of most eelgrass to approximate edge of the shipping channel.
- Shallow subtidal zone (-2.2 to -12 feet [-7 to -4 meters] MLLW) is separated into unvegetated and vegetated shallow soft bottom habitats approximately 0.8 to 4.8 hectares (2 to 12 feet) below the intertidal zone.
- Intertidal (+2.4 to -0.7 meters [+7.8 to -2.2 feet] MLLW) habitat encompasses the area between high and low tides and is subject to varying degrees of tidal submergence.

Detailed information on marine habitats at NAB Coronado and SSTC-N are included in **Section 5.2.3.3 of the INRMP**.

Eelgrass is a perennial marine flowering aquatic plant that provides habitat for several varieties of fish and invertebrates in the San Diego Bay. Eelgrass beds also provide protective cover for juvenile fish. Approximately 100.3 hectares (248 acres) of eelgrass beds are currently located in patches along the bayside shore of SSTC-N.

Wildlife

Surveys on some terrestrial portions of SSTC-N detected common invertebrates such as various kelp flies (Families *Coelopidae* and *Anthomyidae*), dune silverfish (Family *Lepismatidae*), leaf beetles (Family *Chrysomelidae*), and snout beetles (Family *Curculionidae*) (U.S. Navy 2010a). Funnel web weavers (Family *Agelenidae*), wolf spiders (Family *Lycosidae*), trapdoor spiders (Family *Ctenizidae*), and the endemic sand spiders of the genus *Lutica* (Family *Zodariidae*) were also found. Tarantula hawks (*Pepsis* sp.) can be seen flying around the dunes hunting for spiders (U.S. Navy 2010a).

Marine invertebrate species observed during surveys conducted in 2010 include tube-dwelling anemone (*Pachycerianthus fimbriantus*), sea pen (*Stylatula elongate*), sponges (*Aplysina fistularis*, *Tetilla mutabilis*), bryozons (*Thalamoporella californica*), barnacle (*Balanus* spp.),

native oyster (*Ostrea lurida*), mussel (*Mytilus* spp.), Pacific jewel box (*Pseudochama exogyra*), tunicate (*Styela* spp.), yellow sponge (*Aplysina fistularis*), and red invasive bryozoans (*Watersipora* spp.) (U.S. Navy 2010c).

Submerged fish habitats within the San Diego Bay near NAB Coronado and SSTC-N include deep (9.0 hectares [22.3 acres]), moderately deep (397.7 hectares [982.7 acres]), shallow (342.4 hectares [846.2 acres]), and intertidal (13.1 hectares [32.4 acres]) habitat types.

Some lizards such as the western fence lizard (*Sceloporus occidentalis*), alligator lizard (*Elgaria multicarinata webbi*), and side-blotched lizard are frequently observed around buildings. The California Species of Special Concern silvery legless lizard (*Anniella pulchra pulchra*) has been reported on SSTC-N, but was not recorded in recent surveys (U.S. Navy 2010a).

The shallow water and shoreline provide roosting, foraging, and nesting areas for ducks, terns, shorebirds, pelicans, cormorants, gulls, herons, raptors (such as Ospreys [*Pandion haliaetus*] and Northern Harriers [*Circus cyaneus*]), and various passerines in the surrounding vegetation (U.S. Navy 2010a). Mammal burrows at NAB Coronado are occasionally used by the Western Burrowing Owl during winter migration (U.S. Navy 2010a).

The sandy beaches and disturbed dunes on SSTC-N provide nesting habitat for species including the Western Snowy Plover, California Least Tern, Horned Lark, and Killdeer. In addition, Black-bellied Plover, Least Sandpiper, American Pipit, Western Meadowlark, House Finch, other shorebirds, gulls, and terns loaf and forage on the sandy beaches and dunes of SSTC-N. Dunes and the adjacent beaches support specialized invertebrate fauna, such as tiger beetles, sand spiders, robber flies, kelp flies, and ants, which provide a food source for several shorebird species (U.S. Navy 2010a).

The mudflats on the Bay side of NAB Coronado and SSTC-N provide valuable habitat to several species of shorebirds, particularly at low tide. In San Diego Bay, an observer at low tide may see Spotted Sandpipers, Willets, Ruddy Turnstones (*Arenaria interpres*), Short-billed Dowitchers, Long-billed Dowitchers (*Limnodromus scolopaceus*), Red Knots (*Calidris canutus*), Sanderlings, Western Sandpipers, Least Sandpipers, Dunlins (*Calidris alpina*), Black-bellied Plovers, Semipalmated Plovers (*Charadrius semipalmatus*), Killdeers, Black-necked Stilts (*Himantopus mexicanus*), or American Avocets (*Recurvirostra americana*). Birds using the mudflats include the threatened Western Snowy Plover, and the Western Sandpiper (*Calidris mauri*), which forage on the mudflats during low tide. The endangered California Least Tern, other Terns, and Black Skimmer forage in the waters over submerged mudflats during high tide (USFWS 1995).

Mammals are found year-round on all properties of the SSTC. The native habitats and developed areas harbor populations of small mammals that are a food source for raptors and other carnivores. The only sensitive mammal confirmed in the area is the San Diego black-tailed jackrabbit, which is a CDFW species of special concern. It is common at SSTC beaches, grasslands, open scrub, and ruderal areas. California ground squirrels are common. Feral cats, are controlled because they represent a threat to federally listed nesting birds. The Virginia opossum and striped skunk also occur (U.S. Navy 2010a).

Marine mammals known to occur in the waters near NAB Coronado and SSTC-N include members of two orders (U.S. Navy 2010a), Order Cetacea, which includes whales; dolphins; and

porpoises, and Order Carnivora, which includes true seals; sea lions; and fur seals. Approximately 41 marine mammal species are known to occur within southern California waters based on NMFS Stock Assessment Reports (Carretta et al. 2007, DoN 2008). Of these, only eight species are expected to be found within the NAB Coronado and SSTC marine region. These include the California sea lion (*Zalophus californianus*), Pacific harbor seal (*Phoca vitulina*), bottlenose dolphin (*Tursiops truncatus*), the eastern North Pacific gray whale (*Eschrichtius robustus*), long-beaked common dolphin (*Delphinus capensis*), short-beaked common dolphin (*D. delphis*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), and Risso's dolphin (*Grampus griseus*).

Detailed information on wildlife at NAB Coronado and SSTC-N is included in **Section 5.2.4 of the INRMP**.

Special Status Species

Federally Listed and Candidate Species

Three federally listed species, the threatened Western Snowy Plover (*Charadrius alexandrinus nivosus*), endangered Light-footed Clapper Rail (*Rallus longirostris levipes*), and the endangered California Least Tern (*Sterna antillarum browni*), and one proposed species Brand's phacelia (*Phacelia stellaris*), are known to occur on NAB Coronado and SSTC-N. Additionally, one federally listed species, the endangered green sea turtle, has the potential to occur off-shore of NAB Coronado and SSTC-N. Species specific information on these federally listed species is available in **Section 5.2.5.1 of the INRMP**.

Table 3-2 includes the federally listed species observed on NAB Coronado and SSTC-N during natural resources surveys.

Other Special Status Species

Other special status species on NAB Coronado and SSTC-N that have focused management in the INRMP include:

- Nuttall's lotus is prevalent on NAB Coronado and SSTC-N and is commonly found in the sand verbena-beach bursage habitat, ruderal areas, and even in the cracks of the pavement near the developed areas.
- Coast woolly-heads are known to occur on Delta Beach North and South of NAB Coronado.
- Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*) has been observed on several installations of NBC, including NAB Coronado and SSTC-N.
- The San Diego black-tailed jackrabbit has been observed at SSTC-N, being managed on Delta North and South and sometimes occurring on the ocean side of SSTC-N.

Detailed information on other special status species at NAB and SSTC-N is included in **Section 5.2.5.2 of the INRMP**.

3.7.2.3 SSTC-S

Vegetation

SSTC-S is located on an isthmus of land with the Pacific Ocean to the west and San Diego Bay to the east. The vegetation communities of SSTC-S have been significantly altered by clearing and invasion of nonnative species; however, portions of the installation still support native communities. Eleven native vegetation communities are present on SSTC-S: pickleweed series, pickleweed/saltgrass series, spikerush series, bulrush-cattail series, California sagebrush series, California buckwheat series, coyote brush series, coast prickly-pear series, sand verbena-beach bursage series, freshwater pond, and San Diego Mesa vernal pools. The most abundant plant communities on SSTC-S are nonnative and include California annual grassland series and iceplant series. Other land cover types include coastal beaches, ruderal habitat, open water, and developed land (U.S. Navy 2004b).

Detailed information on each of the terrestrial vegetation communities found on SSTC-S is included in **Section 6.2.3.1 of the INRMP**.

Marine habitats within the San Diego Bay are categorized by depth with respect to the tides, then by substrate, water clarity, and other factors. Habitat types within the San Diego Bay at SSTC-S include deep subtidal, moderately deep subtidal, shallow subtidal, intertidal zone, and artificial shoreline structures.

Marine habitats within the offshore area along the Pacific Ocean include moderately deep subtidal, shallow subtidal, and intertidal zone with portions classified as Subtidal/Hard Bottom/Cobble/Understory algae and adjacent habitat within the region of influence as Subtidal/Hard Bottom/ Boulder/Rock Reef/kelp Bed ecotypes (the latter associated with Point Loma). The algal communities such as kelp beds add structure in shallow subtidal habitat, fostering a richer species assemblage. Detailed information on marine habitats at SSTC-S are included in **Section 6.2.3.3 of the INRMP**.

Approximately 100.3 hectares (248 acres) of eelgrass beds are currently located in patches along the bayside shore of SSTC-N and north of SSTC-S. In central San Diego Bay, these beds extend from 0 to -3 meters (0 to -10 feet) MLLW.

Wildlife

Common invertebrate species observed at SSTC-S during the 2001 to 2002 natural resources inventory include kelp flies of the families Coelopidae (genus *Coelopa*) and Anthomyidae (genus *Fucellia*), dune silverfish (family *Lepismatidae*), leaf beetles (family *Chrysomelidae*), and snout beetles (family *Curculionidae*). Funnel web weavers (family *Agelenidae*), wolf spiders (family *Lycosidae*), trapdoor spiders (family *Ctenizidae*), and the endemic sand spiders of the genus *Lutica* (family *Zodariidae*) were found. Tarantula hawks (*Pepsis* sp.), of the spider wasp family (*Pompilidae*), can be seen flying around dunes hunting for spiders.

A total of 10 butterfly species were observed during surveys. Common butterfly species include: common white (*Pieris protodice*), painted lady (*Vanessa cardui*), common hairstreak (*Strymon*

melinus pudica), marine blue (*Leptotes marina*), and fiery skipper (*Hylephila phyleus*) (U.S. Navy 2004b).

Five sensitive invertebrate species were observed at SSTC-S: San Diego fairy shrimp, globose dune beetle, two species of tiger beetle (*Cincindela latesignata latesignata* and *C. hirticollis gravida*), and wandering skipper (U.S. Navy 2004b).

Marine invertebrate habitat on the bayside of SSTC-S consists primarily of marshy areas with a few riprap and sandy beach areas. Marine invertebrate species observed within these types of habitats during surveys conducted in 2010 include tube-dwelling anemone (*Pachycerianthus fimbriatus*), sea pen (*Stylatula elongate*), sponges (*Aplysina fistularis*, *Tetilla mutabilis*), bryozons (*Thalamoporella californica*), barnacle (*Balanus* spp.), native oyster (*Ostrea lurida*), mussel (*Mytilus* spp.), Pacific jewel box (*Pseudochama exogyra*), tunicate (*Styela* spp.), yellow sponge (*Aplysina fistularis*), and red invasive bryozoans (*Watersipora* spp.) (U.S. Navy 2010).

The San Diego Bay supports an abundant population of coastal marine, and juvenile fish species, and a large number of fish nurseries.

A total of five common amphibian and reptile species were observed on-site. These species include: Pacific tree frog, Western fence lizard, side-blotched lizard, San Diego alligator lizard, and San Diego gopher snake (*Pituophis catenifer annectens*). No sensitive amphibian or reptile species were found during the 2001–2002 surveys at SSTC-S (U.S. Navy 2010a).

Raptors present in all habitats at SSTC-S include Red-tailed Hawk, Northern Harrier (*Circus cyaneus*), Cooper's Hawk, and American Kestrel (*Falco sparverius*). The nearby annual grasslands, open scrub, and open water areas provide good-quality foraging sites for the raptor species (U.S. Navy 2004b).

Native habitats and their ability to support a diversity of bird species are dependent on quality, habitat size and diversity, and the degree of fragmentation. Grassland habitats support a number of grassland birds and provide foraging habitat for raptors. Beaches and coastal dunes support a variety of native and migrant shorebirds. A total of 95 bird species were observed during the 2001–2002 natural resources surveys at SSTC-S (U.S. Navy 2004b).

The diversity of mammal species on SSTC-S is low due to lack of undisturbed habitat. A total of five mammal species were observed during the 2001–2002 natural resources surveys. Of these species, only the San Diego black-tailed jackrabbit is considered a special status species (U.S. Navy 2004b). In the central portion of SSTC-S, mammals use the California boxthorn and cactus patches for protection and cover and forage in the adjacent salt pan. Coyotes (*Canis latrans*) are known to occur regularly on the SSTC-S (2006 USDA). No bat species were identified during surveys (U.S. Navy 2004b).

Marine mammals known to occur in the waters near SSTC-S include members of two orders (U.S. Navy 2010a), Order Cetacea, which includes whales; dolphins; and porpoises, and Order Carnivora, which includes true seals; sea lions; and fur seals. Approximately 41 marine mammal species are known to occur within southern California waters based on NMFS Stock Assessment Reports (Carretta et al. 2007, DoN 2008). Of these, eight species are expected to be found within the SSTC-S marine region. These include the California sea lion, Pacific harbor seal,

bottlenose dolphin, the Eastern North Pacific gray whale, long-beaked common dolphin, short-beaked common dolphin, Pacific white-sided dolphin, and Risso's dolphin. Due to the physical topography of SSTC-S, marine mammal occurrence is low (U.S. Navy 2010a). The Navy conducts surveys in the bay for marine mammals on a quarterly basis.

Detailed information on wildlife at SSTC-S is included in **Section 6.2.4 of the INRMP**.

Special Status Species

Federally Listed and Candidate Species

Five federally listed species, the federally listed endangered salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*), endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), threatened Western Snowy Plover (*Charadrius alexandrinus nivosus*), endangered Light-footed Clapper Rail (*Rallus longirostris levipes*), and the endangered California Least Tern (*Sterna antillarum browni*) are known to occur on SSTC-S. Additionally, one federally listed species the threatened green sea turtle has the potential to occur off-shore of SSTC-S. Species specific information on these federally listed species is available in **Section 6.2.5.1 of the INRMP**.

Table 3-2 includes the federally listed species observed on SSTC-S during natural resources surveys.

Other Special Status Species

Other special status species on SSTC-S that have focused management in the INRMP include:

- Variegated dudleya (*Dudleya variegata*) is found in the coast prickly-pear series and California annual grassland series that border salt marsh habitat near the radio facility. The occurrence of variegated dudleya on SSTC-S is the last population on the immediate coast in California (U.S. Navy 2010a).
- Nuttall's lotus is prevalent on SSTC-S and is commonly found in the sand verbena-beach bursage habitat, ruderal areas, and even in the cracks of the pavement near the developed areas (U.S. Navy 2010a).
- Coast woolly-heads is located along the beach and sand verbena-beach bursage in the southern portion of SSTC-S, and throughout the Station in sandy ruderal habitat (U.S. Navy 2010a).
- San Diego black-tailed jackrabbit breeds throughout the year and is commonly observed on SSTC-S, primarily in the ruderal habitats (U.S. Navy 2010a).

Detailed information on other special status species at SSTC-S is included in **Section 6.2.5.2 of the INRMP**.

3.7.2.4 NOLF IB

Vegetation

The vegetation of NOLF IB encompasses a wide range of communities, including grasslands, coastal scrub, riparian scrub, riparian woodland, and marshes. A total of 25 distinct vegetation alliances and mapping units were identified at NOLF IB plus 12 additional land cover types. Riparian vegetation represents the largest proportion of NOLF IB's vegetation, covering 19.3 percent of the area, primarily in the form of Arroyo Willow (*Salix lasiolepis*) woodlands. Marshes, both salt and freshwater, represent 15 percent, grasslands cover approximately 21 percent, and upland scrub 5 percent. Roads and developed areas represent 24 percent of the survey area, while 9 percent is agricultural fields (U.S. Navy 2011c).

Detailed information on each of the terrestrial vegetation communities found on NOLF IB is included in **Section 7.2.3.1 of the INRMP**.

Wildlife

During surveys conducted in 2009, a total of 173 insect (and other terrestrial invertebrates) taxa that represented 19 invertebrate orders and 103 families (see **Appendix F of the INRMP** for a complete list) were documented. The greatest number of families was found in the Diptera (flies) with 24 families and 30 taxa, followed by the Hymenoptera (ants, bees, and wasps) with 22 families and 36 taxa, and the Coleoptera (beetles) with 13 Families and 25 taxa. The Hemiptera (true bugs), Homoptera (aphids and plant hoppers), and Lepidoptera (moths and butterflies) were each represented by eight families, with 16, 30, and 19 taxa, respectively (U.S. Navy 2011c).

Surveys for aquatic invertebrates were conducted in 2009 on NOLF IB. In total 13 taxa of aquatic invertebrates, including three Arthropoda (*Callinassa californiensis*, *Hemigrapsus nudus*, *Pachygrapsus crassipes*, *Portunus xantusii xantusii*) and eight Mollusca (*Musculista senhousi*, *Mytilus edulis*, and *Crassostrea virginica*, *Tagelus californianus*, *Macoma nasuta*, *Protothaca spp.*, *Cerithidea californica*, and *Nassarius tegula*) (U.S. Navy 2011c).

In 2009 surveys for fish were conducted within the water courses of NOLF IB. A total of five species representing four families were documented. The dominant species recorded were the arrow goby (*Clevelandia ios*) and the California krillfish (*Fundulus parvipinnis*) which made up 61 percent and 34 percent of all documented species. Topsmelt (*Atherinops affinis*) was the next most abundant fish species at 4 percent of the total catch. The remaining 1 percent was comprised of the California halibut (*Paralichthys californicus*) and the longjaw mudsucker (*Gillichthys mirabilis*) (U.S. Navy 2011c).

Twenty-one herpetofauna species were observed on NOLF IB in the combined 2000 and 2002 herpetological surveys (U.S. Navy 2006e). In addition, surveys were conducted in 2009, a total of seven reptiles and three amphibians were observed. The African clawed-frog (*Xenopus laevis*), an introduced species, was the only new documented species on NOLF IB (U.S. Navy 2011c).

The ornithological survey conducted on NOLF IB in 2002 recorded 2,977 individual birds representing 118 species and 3 sub-species. A total of 53 species appeared to be breeding within the study area. Species were observed in three distinct habitats on NOLF IB, identified as estuarine, riparian, and agricultural/human-influenced (U.S. Navy 2006e). In addition, surveys were conducted in 2009, in total 132 distinct species and two subspecies of savannah sparrow were observed. Twenty-two of the 134 total species and subspecies are considered sensitive species by either the Federal government or the state of California (U.S. Navy 2011c).

The most recent general mammal surveys were conducted 2009, in total five large mammal species and 14 small mammal species (including bats) were recorded. New species not previously observed or documented include: coyote (*Canis latrans clepticusscat*), striped skunk (*Procyon lotor psora*), domestic dog (*Canis lupus familiaris*), domestic cat (*Felis silvestris catus*), California pocket mouse (*Chaetodipus californicus*), black rat (*Rattus rattus*), big brown bat (*Eptesicus fuscus*), western red bat (*Lasturus blossevillii*), Mexican free-tailed bat (*Tadarida brasiliensis*), and Yuma Myotis (*Myotis yumanensis*) (U.S. Navy 2011c).

Detailed information on wildlife at NOLF IB is included in **Section 7.2.4 of the INRMP**.

Special Status Species

Federally Listed and Candidate Species

Six federally listed species, the federally listed endangered salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*), endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*), threatened Western Snowy Plover (*Charadrius alexandrinus nivosus*), endangered Light-footed Clapper Rail (*Rallus longirostris levipes*), endangered California Least Tern (*Sterna antillarum browni*), and the endangered Least Bell's Vireo (*Vireo belli pusillis*) are known to occur on NOLF IB. Additionally, one federally listed species, endangered Southwest Willow Flycatcher (*Empidonax traillii extimus*), has the potential to occur on NOLF IB.

Species specific information on these federally listed species is available in **Section 7.2.5.1 of the INRMP**.

Table 3-2 includes the federally listed species observed on NOLF IB during natural resources surveys.

Other Special Status Species

Other special status species on NOLF IB that have focused management in the INRMP include:

- Western Burrowing Owls are observed regularly on NOLF during migration and overwinter on site. This species has nested at NOLF IB although nesting has been infrequent in the last decade. The most recent successful nesting attempt was documented in 2006 (Pers. Comm. Shepherd 2011).
- Belding's Savannah Sparrow was observed during general avian surveys conducted in 2009. This subspecies is endemic to the salt marshes of southern California and was

observed throughout the estuary and Border Field State Park, adjacent to NOLF IB (U.S. Navy 2011c).

- San Diego black-tailed jackrabbit is known to occur on NOLF IB and is fairly abundant in upland coastal sage on the property (U.S. Navy 2011c).

Detailed information on other special status species at NOLF IB is included in **Section 7.2.5.2 of the INRMP**.

3.7.2.5 Camp Michael Monsoor

Of all the parcels on Camp Michael Monsoor, only the withdrawal parcels proposed for exclusive use (i.e., the existing withdrawal and Parcels C, E, and G) were surveyed for habitat assessments, and vegetation mapping April, May, and June of 2004. Vegetation and habitat assessments have only been conducted for the portions of Camp Michael Monsoor. Biological features of the right-of-way parcels have been assessed in general terms by reviewing existing regional data, interpreting aerial photographs, and by extrapolating from the survey data collected for the exclusive use parcels (U.S. Navy 2008c).

Vegetation

Nineteen vegetation communities and land cover types were mapped within the exclusive use areas (the existing withdrawal and Parcels C, E, and G) of Camp Michael Monsoor in 2004. Camp Michael Monsoor is dominated by chamise series, with approximately 59 percent of the installation being covered by this vegetation community. Other major vegetation communities on Camp Michael Monsoor include birchleaf mountain-mahogany series (4 percent), chamise-bigberry manzanita series (4 percent), chaparral whitethorn series (6 percent) holly-leaf cherry series (9 percent), and scrub oak-chamise series (6 percent) (U.S. Navy 2008c).

No habitat assessments were conducted for the right-of-way parcels (i.e., Parcels A, B, D, F, and H). However, a review of aerial photographs indicates that these parcels support similar vegetation communities and topographic features as the exclusive use area. The chamise series is expected to be the most common vegetation series within the right-of-way area, occupying large contiguous areas, with the holly-leaf cherry series and chaparral whitethorn series the most common series occurring in the areas of rock outcrops (U.S. Navy 2008c).

Detailed information on each of the terrestrial vegetation communities found on Camp Michael Monsoor is included in **Section 8.2.3.1 of the INRMP**.

Wildlife

Terrestrial invertebrates were documented throughout the various plant communities in the exclusive use area during the 2004 biological surveys, including 34 species of butterflies; harvester ant (*Pogonomyrmex* sp.); Jerusalem cricket (*Stenopelmatus fuscus*); dentate stink beetle (*Eleodes dentipes*); and species of tick, dragonfly, and grasshopper. The Quino checkerspot butterfly, federally listed as endangered, was also documented within the exclusive use area.

No amphibian species were documented during the 2004 biological surveys in the exclusive use area. Reptile species observed within the exclusive use area include relatively common species (U.S. Navy 2008c).

Camp Michael Monsoor supports a variety of resident and migratory bird species, with 48 species documented within the exclusive use area during the 2004 biological surveys. Migratory bird species on Camp Michael Monsoor use the natural open space within the exclusive use area as a temporary stopover point during the winter or summer seasons, while other migratory species likely nest within the exclusive use area (U.S. Navy 2008c).

Representative mammal species observed directly or detected indirectly by sign (e.g., tracks, scat, or fur) within the exclusive use area during the 2004 biological surveys include the mountain lion (*Puma concolor*), bobcat (*Felis rufus*), coyote, and mule deer (*Odocoileus hemionus*) (U.S. Navy 2008c).

Detailed information on wildlife at Camp Michael Monsoor is included in **Section 8.2.4 of the INRMP**.

Special Status Species

Federally Listed and Candidate Species

One federally listed species, the endangered Quino checkerspot butterfly (*Euphydryas editha quino*), is known to occur on Camp Michael Monsoor. The Quino checkerspot butterfly has been observed within the exclusive use area of Camp Michael Monsoor. The Quino checkerspot butterfly was observed during the April 2004 surveys within a 202.3 hectares (500 acres) survey area. Specifically, the Quino checkerspot butterfly was observed within the development footprint of Camp Michael Monsoor. Larval host plants are known to occur within the Camp. The primary host plant detected within Camp Michael Monsoor was Coulter's snapdragon (*Antirrhinum coulterianum*) (U.S. Navy 2008c).

Species specific information on these federally listed species is available in **Section 8.2.5.1 of the INRMP**.

Table 3-2 includes the federally listed species observed on Camp Michael Monsoor during natural resources surveys.

Other Special Status Species

Other special status species on Camp Michael Monsoor that have focused management in the INRMP include:

- Black-chinned Sparrow (*Spizella atrogularis*) has been documented and is known to occur on both Camp Michael Monsoor and Camp Morena.
- Gray Vireo (*Vireo vicinior*) has been documented in the immediate vicinity of Camp Michael Monsoor and is likely to occur on the installation.

Detailed information on other special status species at Camp Michael Monsoor is included in **Section 8.2.5.2 of the INRMP**.

3.7.2.6 Camp Morena

Vegetation

The northern undeveloped portion of the property is rocky and consists of several small hills vegetated mostly with shrubs. The southern section is less rocky and vegetated with oak and ornamental trees with a shrub or non-native grassland understory (U.S. Navy 2009c). Eight vegetation community/land cover types were identified on Camp Morena during the 2008 vegetation mapping survey (U.S. Navy 2009c).

Detailed information on each of the terrestrial vegetation communities found on Camp Morena is included in **Section 8.2.3.2 of the INRMP**.

Wildlife

A total of 21 butterflies have been documented on Camp Morena, 17 species of which were observed during the 2009 Quino checkerspot butterfly surveys. No adult or immature Quino checkerspot butterflies were detected. The butterfly survey was the only invertebrate survey conducted on Camp Morena to date (U.S. Navy 2009c).

A total of 11 reptile species were detected during the 2009 herpetofauna surveys, including three special status species (U.S. Navy 2009c).

Avian species richness (i.e., total species detected) was found to be moderate at Camp Morena. In total, 49 bird species were detected within Camp Morena or the immediate vicinity during the 2008 and 2009 bird surveys. These included year round residents, winter-only species, breeding species, and species that are strictly migratory through the area. None of the species detected have a special status (U.S. Navy 2009c).

In total, 12 mammal species were detected at Camp Morena during the 2009 ocular and small mammal trapping surveys. All are common and widespread species associated with the habitats occurring on and adjacent to Camp Morena (U.S. Navy 2009c).

Detailed information on wildlife at Camp Morena is included in **Section 8.2.4 of the INRMP**.

Special Status Species

Federally Listed and Candidate Species

No federally listed species were documented during natural resources surveys of Camp Morena.

Other Special Status Species

Other special status species on Camp Morena that have focused management in the INRMP include:

- Black-chinned Sparrow has been documented and is known to occur on both Camp Michael Monsoor and Camp Morena.

Detailed information on other special status species at Camp Morena is included in **Section 8.2.5.2 of the INRMP**.

3.7.2.7 Remote Training Site Warner Springs

Vegetation

A total of 32 plant communities were classified during the mapping process, including 19 distinct alliances and 13 associations. RTSWS occurs in a largely undeveloped part of San Diego County that contains expansive wild lands encompassing numerous habitats that are minimally disturbed by humans. Such undisturbed, high quality wildlands are habitat for numerous species, including a variety of small-to-medium-sized mammals, numerous deer and coyote, and bobcats and mountain lions.

Detailed information on each of the terrestrial vegetation communities found on RTSWS is included in **Section 9.2.3.1 of the INRMP**.

Wildlife

The invertebrate surveys carried out at RTSWS, augmented by records from other surveys (especially Quino checkerspot butterfly surveys, which contributed a number of butterfly observations not detected in the collected samples), yielded a total of 681 distinct invertebrate taxa. The remaining 104 taxa were distributed among 18 other Orders, covering the full range of arthropod diversity (U.S. Navy 2007a).

There is one main perennial stream located on RTSWS, the West Fork of the San Luis Rey River. During surveys conducted in January and May 2006, three species of fish were documented within the West Fork of the San Luis Rey River on RTSWS. These were the arroyo chub, threadfin shad (*Dorosoma petenense*), and common carp (*Cyprinus carpio*). In 2010, three additional non-native fish species were documented within the West Fork of the San Luis Rey River. These include the mosquitofish (*Gambusia affinis*), bullhead catfish (*Ictalurus melas*), and the green sunfish (*Lepomis cyanellus*) (U.S. Navy 2010i).

Reptiles and amphibians are anticipated to be reasonably widespread throughout the training area and populations of individual species would be expected to absorb incidental losses associated with low intensity habitat impacts, take in accordance with the CDFW permit regulations, and inadvertent trampling without significant ecological consequence. Twenty-five species of reptiles and amphibians were recorded within RTSWS during the 2006 biological resources surveys. The western spadefoot toad, a California species of special concern, was encountered in livestock watering ponds in the VID lands (U.S. Navy 2007a).

A total of 153 birds species were observed within RTSWS during the 2005 and 2006 surveys. The most significant finds were that of the Tricolored Blackbird (*Agelaius tricolor*) and the Gray Vireo, both California species of special concern and USFWS Birds of Conservation Concern. (U.S. Navy 2007a).

A total of 37 mammal species were observed within RTSWS. Of the larger mammals, Mule Deer were by far the most commonly encountered, especially in the grasslands near the edges of the oak woodlands and under the eaves of the woodlands themselves. Coyotes and bobcats were seen on many occasions in many areas, and mountain lions are also known to be present, although no direct sightings were made during the course of the biological resources surveys (U.S. Navy 2007a). Numerous American badger (*Taxidea taxus*) dens were also found in the lands west of the highway and numerous small rodents were found within RTSWS. This area of San Diego County has become increasingly significant for large mammals because of its size and geographic position (U.S. Navy 2007a).

A total of 11 bat species were recorded as a result of the 2005 to 2006 biological resources surveys, including 5 species that are California species of special concern (U.S. Navy 2007a). These include pallid bat (*Antrozous palidus*), Townsend's big-eared bat (*Corynorhynchus townsendii*), Western mastiff bat (*Eumops perotis*), Western red bat (*Lasiurus blossevillii*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*).

Detailed information on wildlife at RTSWS is included in **Section 9.2.4 of the INRMP**.

Special Status Species

Federally Listed and Candidate Species

Three federally listed species, the endangered Quino checkerspot butterfly (*Euphydryas editha quino*), endangered arroyo toad (*Anaxyrus californicus*), and endangered Stephens' kangaroo rat (*Dipodomys stephensi*) are known to occur on RTSWS. Additionally, four federally listed species, endangered Nevin's barberry (*Berberis nevinii*), threatened Vail Lake ceanothus (*Ceanothus ophiochilus*), endangered slender-horned spineflower (*Dodecahema leptoceras*), and the endangered Southwestern willow flycatcher (*Empidonax traillii extimus*), have the potential to occur on RTSWS.

Species specific information on these federally listed species is available in **Section 9.2.5.1 of the INRMP**.

Table 3-2 includes the federally listed species observed on RTSWS during natural resources surveys.

Other Special Status Species

Other special status species on RTSWS that have focused management in the INRMP include:

- Tricolored Blackbird population on RTSWS is estimated to be approximately 400 birds, or less than 1 percent of the population of San Diego County (U.S. Navy 2007a).
- Willow Flycatcher (*Empidonax traillii*) is a rare migrant or summer visitor to RTSWS. The only sightings of this species in RTSWS during the December 2005 to September 2006 surveys occurred in June and September (U.S. Navy 2007a).

Detailed information on other special status species at RTSWS is included in **Section 9.2.5.2 of the INRMP**.

3.7.2.8 Holly Square and Lofgren Housing Areas

Vegetation

The Holly Square housing area supports ornamental vegetation typical of residential landscaping and is mapped as “Developed/Ornamental” (U.S. Navy 2009f).

Lofgren Terrace supports ornamental vegetation typical of residential landscaping and is mapped as Developed/Ornamental. In addition to the ornamental landscaping, the southeastern section of Lofgren Terrace comprises mostly invasive, disturbance-related species, such as bromes, eucalyptus trees, fountain grass (*Pennisetum setaceum*), sweetclover (*Melilotus sp.*), and short pod mustard (*Hirschfeldia incana*) (U.S. Navy 2009f).

Wildlife

The House Finch was the only bird species observed within the Holly Square housing area during the 2009 inventory (U.S. Navy 2009f). No invertebrates, mammals, reptiles, or amphibians were observed within the housing area during the 2009 survey (U.S. Navy 2009f).

The American Goldfinch (*Carduelis tristis salicamans*) was the only bird species observed within the Lofgren Terrace housing area during the 2009 natural resources inventory (U.S. Navy 2009f). No invertebrates, mammals or amphibians were documented within the housing area. The western fence lizard was the only reptilian species observed within the Lofgren Terrace housing area during the 2009 survey (U.S. Navy 2009f).

Special Status Species

No special status species were observed at the Holly Square or Lofgren housing areas during the 2009 natural resources inventory (U.S. Navy 2009f).

3.7.3 Evaluation Standards

Under the ESA Section 7(a)(2), each Federal agency is required to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species, or adversely modify or destroy designated Critical Habitat. Under the ESA, “jeopardy” occurs when an action is reasonably expected, directly or indirectly, to diminish a species’ numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced. Federal agency action proponents are responsible for making one of the following effects determinations (16 U.S.C. § 1531–1543):

- “No Effect” is the appropriate determination when a proposed action would have no effect on listed species or designated Critical Habitat. For this determination, the effects of a proposed action should be temporally or spatially separated from the listed species. This determination is made by the Federal action agency and does not require further consultation.

- “May Affect, but Not Likely to Adversely Affect” is the appropriate determination when the effects of the action on listed species or designated Critical Habitat would be discountable, insignificant, or wholly beneficial. In order to receive concurrence with this determination, the action agency must initiate informal Section 7 consultation.
- “Likely to Adversely Affect” is the appropriate determination if any adverse effects on listed species or designated Critical Habitat could occur as a direct or indirect result of a proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. Initiation of formal Section 7 consultation would be required and the USFWS or NMFS would be responsible for completing a biological opinion on the action (and could issue an incidental take statement).

3.7.4 Environmental Consequences

3.7.4.1 Proposed Action

Beneficial impacts on vegetation, wildlife, or protected and sensitive species would occur from implementation of the Proposed Action.

Vegetation. Long-term, beneficial effects on native vegetation would occur from the implementation of habitat improvement projects such as noxious weed/invasive plant removal and revegetation with native plant species. The removal and control of invasive plants would increase native plant species cover and diversity within the open space areas on NBC.

Wildlife. Long-term, beneficial effects on wildlife would occur from the implementation of habitat improvement projects to protect habitats, removal of invasive vegetation, and revegetation with native plants. These habitat improvement projects would increase the amount and quality of habitat available for native wildlife species. Long-term, beneficial effects on wildlife species, particularly songbirds and small mammals, would result from the control of feral animal populations on NBC.

Under the INRMP, several habitat and wildlife population surveys would be conducted and management measures would be developed based on their results. These include habitat surveys, pollinator species surveys, and herpetofauna population surveys. Minor short-term, adverse effects could occur as a direct result of conducting surveys, however ultimately long-term, beneficial impacts on targeted habitats and populations would occur from these proposed projects.

Special Status Species. Long-term, beneficial effects on protected and sensitive species would occur from the implementation of habitat improvement projects to protect habitats, removal of invasive vegetation, and revegetation with native plants. These habitat improvement projects would increase the amount and quality of habitat available for protected and sensitive species.

Long-term, beneficial effects on potential federally and state-listed threatened and endangered species and other protected and sensitive species would result from regular (approximately every 2 years) surveys for these species on NBC facilities. By continuously updating known and potential protected and sensitive species habitats, NBC would be able to effectively avoid adverse impacts on these species and provide for their protection from installation activities in

the future. Development and implementation of best management practices will also avoid disturbance and adverse impacts to sensitive species and their habitats.

As stated above, implementation of the Proposed Action would result in long-term beneficial impacts to NBC vegetation, wildlife and protected and sensitive species. Therefore, there would be no significant impact to biological resources from implementation of the Proposed Action.

3.7.4.2 No Action Alternative

Beneficial impacts on biological resources would result from the implementation of the No Action Alternative. Management strategies which benefit biological resources (i.e., invasive vegetation removal, revegetation with native species, feral animal control, and surveys for protected and sensitive species) are identified in the 2002 INRMP. Under the No Action Alternative, NBC would continue to implement these strategies in accordance with the 2002 INRMP.

The revised INRMP would include all properties addressed in the 2002 INRMP, and three additional properties: Camp Morena, a support property of Camp Michael Monsoor, and two off-site Naval housing areas that have since been assigned to NBC. For those properties not covered in the revised INRMP, the installation has established measures and programs for the management of biological resources in these areas to ensure they are managed in compliance with Federal, state and local environmental laws and regulations. Overall beneficial impacts to biological resources would occur. Therefore, no significant impacts would occur to biological resources by implementing the No Action Alternative.

3.8 Hazardous Materials and Wastes

3.8.1 Definition of the Resource

Hazardous materials are defined by 49 CFR § 171.8 as “hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR § 172.101), and materials that meet the defining criteria for hazard classes and divisions” in 49 CFR § 173. Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations within 49 CFR §§ 105–180.

Hazardous wastes are defined by the Resource Conservation and Recovery Act (RCRA) in 42 U.S.C. § 6903(5), as amended by the Hazardous and Solid Waste Amendments, as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.” Certain types of hazardous wastes are subject to special management provisions intended to ease the management burden and facilitate the recycling of such materials. These are called universal wastes and their associated regulatory requirements are specified in 40 CFR § 273. Special hazards are those substances that might pose a risk to human health and are addressed separately from other hazardous substances.

Pesticides are regulated under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136 et seq.), the USEPA Regulations for Pesticide Programs (40 CFR Parts 150–186), and the USEPA Regulations on Insecticide, Fungicide, and Rodenticide Use (40 CFR Part 162). The regulations require these chemicals to be handled, stored, transported, disposed of, or recycled in compliance with applicable regulations.

The DoD established the Environmental Restoration Program (ERP) in 1975 to address hazardous waste sites on military properties. The mission of the ERP is to identify, characterize, and clean up contamination on military installations resulting from formerly accepted use and disposal practices of hazardous waste in order to protect human health and the environment. The Navy's ERP was established to characterize, clean up, and control releases from past hazardous waste disposal operations. The ERP is carefully coordinated with Federal, state, and local environmental agencies during each step of the process. Depending upon the circumstances, ERP sites are identified, investigated, and cleaned up in accordance with RCRA, CERCLA, or with an integrated approach based on both laws.

3.8.2 Existing Conditions

As of October 2012, 14 active Environmental Restoration sites were identified for NASNI, eight active sites for NAB, five active sites for NOLF IB, and one active site (proposed for closure) at SSTC-S. There are no active Environmental Restoration sites at Camp Morena, Camp Michael Monsoor, and RTSWS.

In 2003, NBC developed the *Emergency Response Action Plan Summary, Oil and Hazardous Substance Integrated Contingency Plan*, otherwise known as *The Red Plan*. The purpose of the plan is to inform tenant and installation personnel on the proper procedures to follow in the early stages of a spill (U.S. Navy 2003a). Components of the plan include notification information for both military and nonmilitary responders, spill response strategy, evacuation plan, and the oil and hazardous substance discharge telephone report sheet.

3.8.3 Environmental Consequences

3.8.3.1 Proposed Action

Long-term, beneficial impacts would occur from implementation of the Proposed Action. The integrated pest management program for NBC requires physical and cultural controls for the removal and prevention of invasive and exotic plants and pests, where feasible, and the use of chemical applications as a last resort. Under the Proposed Action, the reduction in the use of pesticides, rodenticides, and herbicides on NBC facilities would result in an overall decrease in the use of hazardous materials and a decrease in the generation of hazardous wastes. Besides pesticides, rodenticides, and herbicides, no other hazardous substances would be intentionally applied at NBC under the revised INRMP. Any unintentional spills, such as oil leaks from vehicles, would be reported and cleaned up according to Navy policy. Projects in the INRMP that generate hazardous wastes, such as used fertilizer buckets or treated wood stakes, would have the proper plan to dispose of the waste in a permitted landfill. Therefore, the Proposed Action would have no significant impact on the environment from hazardous materials or wastes. The long-term reduction of pesticides, herbicides, and rodenticides would be a beneficial impact.

3.8.3.2 No Action Alternative

Under the No Action Alternative, existing natural resources management activities and associated use of hazardous materials occurring on NBC facilities would continue as prescribed in the 2002 INRMP. Use of hazardous materials would primarily occur during integrated pest management activities. There would be no change in current management of hazardous materials on Camp Morena, support property of Camp Michael Monsoor, or the two off-site naval housing areas that have become part of NBC since the 2002 INRMP. Therefore, no significant impacts on hazardous materials and wastes would occur by implementing the No Action Alternative.

4. Cumulative Impacts Analysis

4.1 Cumulative Impacts

The approach taken to analyze cumulative impacts follows the objectives of the NEPA CEQ regulations and guidance. The CEQ regulations (40 CFR §§ 1500–1508) provide the implementing procedures for NEPA.

4.1.1 Cumulative Impacts Definition

Cumulative impacts are the environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR Part 1508.7).

4.1.2 Scope of Cumulative Impacts Analysis

CEQ guidance in considering cumulative impacts states that the first steps in assessing cumulative effects involves defining the scope of the other actions and their interrelationship with a proposed action. The scope of the cumulative impacts analysis involves both timeframe and geographic extent in which effects could occur, as well as a description of what resources could potentially be cumulatively affected. Cumulative impacts on environmental resources result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts could result from individually minor but collectively significant actions taking place over a period of time by various agencies (e.g., Federal, state, and local) or individuals. Informed decision-making is served by consideration of cumulative impacts resulting from projects that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future. The six resource areas examined in this cumulative impacts analysis are: land use; air quality; topography, geology, and soils; water resources; biological resources; and hazardous materials and wastes.

4.2 Other Past, Present, and Reasonably Foreseeable Future Actions

The following regional projects and plans occurring within the NBC vicinity represent the past, present, and reasonably foreseeable actions identified for this cumulative impacts analysis.

Construction and Demolition Actions

NASNI, Morale, Welfare and Recreation Lock/Leave Facility–NASNI is proposing to develop an area adjacent to the golf course to construct a “Lock and Leave” storage facility where users they can store personal belongings securely. The proposed would develop an approximately 75,000 square foot (SF) area with building, fencing, parking, access, gate, and site lighting. Site work will include removal of existing asphalt, pavement, site grading, and excavation.

NASNI, Renovation of Island Club Pool–Renovation of the island club pool will update the existing, outdated facility and increase energy efficiency. The proposed project will include a new bath house, pump room, barbeque area, and two pergolas. The existing pavilions on the north side will be improved and reconditioned.

NASNI, Construction of a Tactical Training Facility–NASNI is planning to construct a tactical training facility within the Small Arms Firing Range (Building 753). The proposed structure will be made available for field training for Regional Security Forces Personnel as well as other security forces within the region. The facility construction will involve expanding the current concrete slab by approximately 20 feet in length and 32 feet in width, and the structure would be an open roof one-story building with a catwalk system and stairs.

NASNI, New Fitness Center and Liberty Center–Morale, Welfare, and Recreation is proposing to support sailor readiness by constructing a new fitness complex (approximately 90,000 SF) and liberty center (approximately 17,000 SF). This project will replace and provide the necessary facilities for the fitness standards of today's patronage, and will include lobby and reception areas, basketball and volleyball courts with spectator seating, and fitness areas for physical training and group exercises. Support spaces will incorporate a laundry area, lockers rooms, storage, heads, administrative space, activity spaces to include computer stations, game room, mini-theater, vending, television lounge and a multi-purpose room. Outdoor playing fields will be reconfigured and a 50-meter outdoor pool will be constructed.

NASNI, Demolition of Building 651–Naval Base Coronado proposes to demolish Building 651 under Military Construction project P-705. Building 651 is a large single-story warehouse (over 123,000 SF) and was constructed in 1945 to serve as an aircraft carrier storage area. The building is projected to be structurally unsuitable by fiscal year 2014.

NASNI, Heritage Park Improvements–Navy Public Works Office is proposing to improve and reconfigure Heritage Park located at NASNI. The proposed project would reconfigure the existing recreation area (roughly 2.75 acres) to accommodate an outdoor playing field, a multi-use field, an outdoor fitness area, a picnic area, a small restroom, and parking. Backstops, bleachers, relocation/addition of irrigation lines, and fencing along the perimeter of the fields are included with this project.

NASNI, Install Sidewalk and Bike Lane–Naval Base Coronado Public Works is proposing to install a sidewalk and bike lane along Rogers Rd before the junction with McCain Blvd at NASNI. The proposed project will install approximately 800 linear feet of sidewalk and bike lane continuing from the existing sidewalk by the new barracks buildings, proceeding along the front of the bowling alley building and branching along the chapel fence line and to the island that leads to the intersection of Rogers Road and McCain Blvd.

NASNI, Construction of Bachelor Enlisted Quarters–Naval Base Coronado Public Works is proposing to construct a Bachelor Enlisted Quarters for permanent personnel assigned to NBC. This project supports the Navy's homeport ashore initiative to house single sailors on shore vice onboard ship. The proposed project will construct a multi-story Bachelor Enlisted Quarters with 234 modules that are market style. Construction will include a lounge/game room, vending areas, a sports court, other site amenities and parking for approximately 570 vehicles. It is anticipated

this building will be no more than 7 stories with an estimated total footprint will be approximately 525,000 SF.

NASNI, Golf Maintenance Compound–Morale, Welfare and Recreation is proposing to replace an inadequately sized and deteriorated golf course maintenance facility to improve productivity and decrease operations and maintenance expenses. The facility would accommodate golf course maintenance equipment, small equipment, parking, and general storage needs. The new compound would consist of two 4,000 SF maintenance buildings within a 42,000 SF maintenance yard for a lay down/storage yard of non-hazardous materials.

NASNI, Least Tern Fence–Naval Base Coronado Public Works is proposing to install a chain link fence around the new alternate Least Tern Nesting site. This site was established in fiscal year 2008; however, lack of predator barriers is limiting the growth and viability of Least Tern nests. The long term goal of the alternate site is to develop this site and promote nesting to replace the existing Least Tern site in the middle of the airfield. The proposed project shall install chain link fence around an area approximately 322,000 SF.

NASNI, Automated Car Wash–Morale, Welfare and Recreation is proposing to construct a car wash adjacent to the gas station at NASNI. This project will design and build a new car wash facility, which includes a single story building with automated car wash equipment, a wash-water recycling system, oil/water separator, solar hot water system, lighting, a vacuum island, a drying area, and associated signage.

NAB Coronado, Demolition and Rebuild Club Coronado–Morale, Welfare, and Recreation is proposing to demolish the old Club Coronado Catering Facility (Building 4, currently not in use) and build a smaller facility at NAB Coronado. Building 4 displays signs of significant water damage. The proposed replacement will be a single story and will not exceed 14,000 SF. The new facility would consist of event spaces, a kitchen area, restrooms, offices, storage, and a covered porch area.

NAB Coronado, Replace Training Pool–The Navy proposes to demolish and replace the swimming pool and associated bathhouse at Building 161 at NAB Coronado. The new replacement pool facility (includes pool, deck, bathhouse, and mechanical room) will be relocated west of the former pool location (between Building 500 and Strand Way). The new site is currently a disturbed paved area utilized for parking, access road, and minor landscaping.

NAB Coronado, Boat Storage Facility–Maritime Expeditionary Security Group One proposes to construct a covered boat storage facility at NAB Coronado between Tarawa and Attu Road. Boat storage would help protect equipment from natural degradation due to exposure to natural outdoor elements. The proposed project will demolish Building 107 (approximately 6,000 SF) and construct a covered boat storage facility approximately 20,000 SF.

SSTC-S, Naval Base Coronado Coastal Campus–An EIS is being prepared to address planned construction of utilities and infrastructure to support the transfer of some of the Naval Special Warfare force functions to SSTC-S. The project would include relocation of personnel, functions, and facilities from the Naval Amphibious Base to SSTC-S and extensive new construction and infrastructure improvements. Potential environmental effects of this project are

not currently known and would be evaluated in the future through the proposed EIS. It is anticipated that this project would require consultation with the USFWS due to potential impacts on San Diego fairy shrimp and Western Snowy Plover (U.S. Navy 2013b).

SSTC-S, Indoor Shooting Facility–Naval Special Warfare Center proposes to construct an indoor dynamic shooting facility at the northeast corner of Hooper Blvd and Stone Street at SSTC-S. Current training facilities at NAB Coronado, Camp Michael Monsoor, and Camp Pendleton are extremely limited and at times rendered unavailable. The proposed shooting facility will have an estimated 80,000 SF footprint.

SSTC-S, Skate Park at YMCA Camp Surf–Navy proposes to construct a sport park at Camp Surf. The finished area will be approximately 9,750 SF and would include a skateboard area, a basketball court, and an observation deck. Retaining walls 48 inches in height will form the park perimeter.

NOLF IB, Install Pre-fabricated Rappel Tower–Navy proposes to install a pre-fabricated rappel tower for training and evaluation unit one at NOLF IB. The rappel tower is necessary to conduct training. The base of the structure will be placed on a concrete pad with smooth stones in order to absorb the impact of landings. The training tower will have multiple accessible levels with steel grate flooring connected by interior stairs and railing.

NOLF IB, Transportation Maintenance Facility–Naval Special Warfare Group ONE proposes to construct a Storage & Transportation Maintenance Facility within the fence line of an existing Explosives Ordnance Disposal compound. The project site is located on the northeast side of NOLF IB on pre-developed and paved area. The facility is to serve as an automotive vehicle maintenance shop to maintain and serve tactical vehicles. The facility will be comprised of six bays and two overhead roll up doors on the north and south end of the structure.

Camp Michael Monsoor, Training Complex Development Plan–The Navy is developing a Training Complex Development Plan to summarize the plans and feasibility for future development at Camp Michael Monsoor. The Navy is preparing a plan and developing a detailed analysis to ensure the optimum supportability for the Navy Region Southwest at Camp Michael Monsoor. The plan would provide the necessary operational resources to allow the Navy Region Southwest to perform their mission (e.g., infrastructure-facilities and training) (CMM TCDP 2011).

Camp Michael Monsoor, Land Actions with BLM–This action includes the withdrawal for exclusive use of 4 parcels, the Existing Withdrawal and Parcels C, E, and G. The withdrawal of these parcels was completed in December 2012. Additionally, a non-exclusive use Right of Way was requested for Parcels A, B, D, F, and H to perform training within these parcels. This Right of Way was complete March 2013.

Camp Michael Monsoor, Mountain Warfare Training Facility Military Construction on Parcel C (P-781)–This construction on Parcel C includes an administrative building, a fabrication building, and training facilities including a residential complex, a close quarters combat facility and a method of entry house. This project also included upgrades to the existing access road and water tanks for fire suppression. Construction will finish summer 2013.

Camp Michael Monsoor, Military Construction on Parcel C (P-888)–This construction would include 4 pistol ranges, 2 fully-enclosed rifle ranges, and an additional close quarters combat facility all within Parcel C. The proposed action is tentatively scheduled for construction in 2014.

Camp Michael Monsoor, Additional Construction Projects–Additional projects currently being planned include a shotgun range in Parcel C, as well as projects within the Existing Withdrawal, including a security building at the front gate, reorientation of Range 110, minor erosion control projects to existing erosional areas, and electrical upgrades to existing features.

RTSWS, Upgrade Wastewater System at SERE Camp–Navy is replacing an existing 20,000 gallon wastewater treatment plant. The existing plant is over 40 years old and is deteriorating rapidly. A new wastewater treatment plant will sit on existing footprint within the existing fence line.

RTSWS, Upgrade Potable Water System and Various Upgrades at SERE Camp–Navy proposes to upgrade the potable water system and other various upgrades. The current water system at SERE Camp consists of a main well, a 42,000 gallon and a 5,000 gallon storage tank, chemical treatment, and a distribution system. A total of approximately 2100 linear feet of potable water line and approximately 1000 linear feet of wastewater forcemain pipe will be installed.

Regional Plans and Programs

California Wildlife Action Plan–The California Wildlife Action Plan was completed in 2007 and identified statewide and regional conservation issues based on regional landscape types, regional habitats, and ecosystem-level species needs and requirements, rather than prescribing management actions using a species-by-species approach (CDFG 2007). NBC falls within the south coast region.

San Diego Bay INRMP–In September 2000, the Navy partnered with the San Diego Unified Port District to develop an INRMP for the San Diego Bay. The purpose of the plan was to develop an ecosystem-based plan for the San Diego Bay that incorporates natural resources, natural and human uses of the San Diego Bay, and the missions of each stakeholder who manages, or operates, within the San Diego Bay (Navy et al. 2000). The overall goal of the plan is to “flesh out a progression towards...a San Diego Bay that is wilder, with softer shorelines, richer and more abundant in native life...that, while used for thriving urban, commercial, and military needs, has an increasing proportion of use... [that include] public access, recreation, education and enjoyment of the myriad benefits of a healthy, dynamic ecosystem” (Navy et al. 2000). The San Diego Bay INRMP is being revised, and a finalized version of the revised document is expected to be published in 2013. In order to fulfill the regulatory requirements, an EA is being prepared for that INRMP.

Multiple Species Conservation Program–Section 10(a)(1)(B) of the ESA and the California Natural Community Conservation Plan Act of 1991 (California Fish and Wildlife Code 2800–2835) allow the development of Habitat Conservation Plans (HCPs) under California law, to manage multiple species and their habitats in a given geographical area. Section 10(a)(1)(B) of

the ESA defines HCPs as “planning documents required as part of an application for an incidental take permit...[that] describe the anticipated effects of the proposed taking; how those impacts will be minimized, or mitigated; and how the HCP is to be funded.” In addition, HCPs provide management recommendations for listed and nonlisted species and their habitats.

The MSCP for southwestern San Diego County, which includes NBC, recommends developing conservation reserves throughout the county that connect various regions of species habitat to encourage protection of regional biodiversity (City of San Diego 1998). In addition, the plan states that Federal and state governments will “contribute 36,510 acres of existing Federal and state lands, excluding military lands, to permanent habitat conservation and management; acquire 13,500 acres of privately owned habitat lands in the MSCP preserve from willing sellers; and manage and monitor the Federal and state share of the MSCP preserve” (City of San Diego 1998). NBC is not required to contribute, or acquire lands, to meet MSCP goals.

San Clemente Island, Naval Base San Diego, and Naval Base Point Loma INRMP Revisions—The Navy Region Southwest is currently revising the 2002 INRMPs for San Clemente Island and Naval Base San Diego. In addition, the Navy Region Southwest recently revised and released the 2012 INRMP for Naval Base Point Loma. Revised INRMPs include updates to facilities covered under the previous 2002 INRMPs and management prescriptions for facilities that have since come under jurisdiction of the Navy Region Southwest. The INRMPs will provide for management and stewardship of all natural resources present on the installations. In order to fulfill the regulatory requirements, separate EAs are being prepared for those INRMPs.

4.3 Potential Cumulative Impacts by Resource Area

4.3.1 Land Use

Implementation of the Proposed Action, construction and demolition projects, and regional plans and programs would result in land use management for NBC that would benefit, and be consistent with, activities (e.g., military mission and recreation activities) conducted on-installation and adjacent to the installation. Land management strategies developed by the Proposed Action would be incorporated into subsequent construction projects or plans (e.g., Naval Base Coronado Coastal Campus EIS and Training Complex Development Plan), as appropriate, to provide greater overall benefit to existing resources.

An Encroachment Action Plan was developed for NBC in September 2010 consistent with OPNAVINST 11010.40 (*Encroachment Management Program*), and Commander, Naval Installation Command Instruction 11010.1 (*Encroachment Management Program*) guidance. The NBC Encroachment Action Plan identifies and prioritizes specific encroachment threats and recommends strategies and actions that can be applied at the installation level to prevent or mitigate potential mission impacts (U.S. Navy 2010k).

At NOLF IB, the Tijuana River Estuary is classified as a California Critical Coastal Area because it is a 2002 303(d)-listed impaired waterbody that flows into the TRNERR. The Critical Coastal Area Program is a non-regulatory planning tool used to foster collaboration among local

stakeholders and government agencies to better coordinate resources and focus efforts on coastal watersheds in critical need of protection from polluted runoff.

Therefore, implementation of the Proposed Action, when considered with other past, present, and reasonably foreseeable future actions being implemented in the San Diego region, would provide a beneficial, cumulative effect on the region's land use, and there would be no significant cumulative impacts to land use.

4.3.2 Air Quality/Climate Change

Criteria Pollutants

Construction and demolition activities would generate air emissions. Construction-related activities would include the use of heavy equipment for site preparation and development that would result in criteria pollutant and greenhouse gas emissions within the immediate area. However, air emissions would be temporary and typical of standard construction activities. Overall, construction activities at and within the vicinity of NBC would collectively increase air emissions in the area temporarily, but variations in the timing of cumulative projects, and the relatively short duration of project effects, would moderate impacts over space and time. Cumulatively, construction-related air emissions would be a small percentage of overall air emissions in the San Diego Intrastate Air Quality Control Region.

Cumulatively, no significant, cumulative impacts on air quality would be expected because these projects would not result in an exceedance of the San Diego County Air Pollution Control District's emission budgets, cause or contribute to a violation of any National Ambient Air Quality Standards or California Ambient Air Quality Standards, increase the frequency or severity of a violation of any ambient air quality standard, expose sensitive receptors to substantially increased pollutant concentrations, delay the attainment of any standard or other milestone contained in a State Implementation Plan or permit limitations, or exceed any Evaluation Criteria established by a State Implementation Plan.

Greenhouse Gas (GHG) Emissions

The potential impacts from proposed GHG emissions are by nature global and cumulative, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other man-made activities on a global scale.

GHGs are primarily produced by the burning of fossil fuels and through industrial and biological processes. On 22 September 2009, the USEPA issued a final rule for mandatory GHG reporting from large GHG emissions sources in the United States. The purpose of the rule is to collect comprehensive and accurate data on carbon dioxide and other GHG emissions that can be used to inform future policy decisions. In general, the threshold for reporting is 25,000 metric tons (27,557.8 short tons) or more of carbon dioxide equivalent emissions per year but excludes mobile source emissions. The Proposed Action would not result in increases in stationary source potential emissions; therefore, these GHG requirements would not apply to the Proposed Action.

The Navy recognizes that there are opportunities for GHG reductions through their energy conservation programs and their use of alternative fuels and other renewable energy sources. The Navy has established goals for reducing GHG emissions, including the following:

- Mandate that energy use, efficiency, life-cycle costs, and other such factors be part of the Navy's decision when acquiring new equipment systems, and a part of vendor's efficiency or energy policies
- By 2015, cut petroleum use by half in the Navy's fleet of commercial vehicles by phasing in new hybrid vehicles to replace older ones
- By 2020, procure half the power at Navy shore installations from alternative energy sources, and where possible, supply power back to the grid
- By 2020, reach the goal that half of the Navy's total energy consumption for ships, aircraft, tanks, vehicles, and shore installations comes from alternative energy sources.

The potential GHG emissions resulting from implementation of the Proposed Action would primarily be from motorized vehicles transporting personnel and materials to and from worksites.

Construction activities would also contribute directly to emissions of GHGs from the combustion of fossil fuels. Construction-related activities would include the use of heavy equipment for site preparation and development that would result in temporary GHG emissions within the immediate area.

Cumulatively, the Proposed Action and adoption and implementation of the California Wildlife Action Plan; San Diego Bay INRMP; Multiple Species Conservation Program; and INRMPs for San Clemente Island, NBSD, and NBPL would bolster the enhancement and restoration of native habitats, thus providing future support to the area in alleviating the possible impacts of sea level rise.

The impacts from the Proposed Action, when added to the impacts from the other past, present, and reasonably foreseeable future actions, would be minor and not large enough to have an appreciable effect on GHGs and climate change. Therefore, there would be no significant, cumulative impacts on GHGs or global climate change.

4.3.3 Topography, Geology, and Soils

During construction activities associated with the Naval Base Coronado Coastal Campus EIS and Training Complex Development Plan, there would be temporary impacts on soils from ground-disturbing activities (e.g., grading, trenching). Additionally construction projects, such as the Mountain Warfare Training Facility at CMM and the Indoor Shooting Facility at SSTC-S, would increase the amount of impervious surfaces at the project locations. Implementation of low impact development practices and BMPs (e.g., wetting of soils or soil stabilizers, silt fencing, straw wattles, and detention basins) during construction activities, as appropriate, would avoid and minimize potential impacts from erosion and sedimentation into receiving water bodies and habitat. The Proposed Action would also evaluate the stability of streams and develop actions to restore unstable stream reaches. Construction activities associated with projects such as the

Naval Base Coronado Coastal Campus EIS and Mountain Warfare Training Facility would not significantly alter the topography or geologic features of the installation. The management of topography, geology, and soils at NBC during implementation of these projects would benefit, and be consistent with, the resources on-installation and resources adjacent to the installation. Topography, geology, and soils management strategies developed by the Proposed Action would be incorporated into construction projects such as the Naval Base Coronado Coastal Campus EIS and Mountain Warfare Training Facility, as appropriate, to minimize construction and long-term impacts to existing resources.

Cumulatively, the Proposed Action and adoption and implementation of the California Wildlife Action Plan; San Diego Bay INRMP; Multiple Species Conservation Program; and INRMPs for San Clemente Island, NBSD, and NBPL would reduce impacts to future construction projects and increase the enhancement and restoration of native habitats. Habitat areas throughout NBC installations will benefit through management strategies from the Proposed Action such as stream restoration, pollution management, the development of specifications and standards for reseeded/revegetation projects monitor and rehabilitate degraded soil resources, and development of an outdoor recreation plan for NBC. Therefore, implementation of the Proposed Action, when considered with other past, present, and reasonably foreseeable future actions being implemented in the San Diego region, would provide a beneficial, cumulative effect on the region's topography, geology, and soils, and there would be no significant cumulative impacts.

4.3.4 Water Resources

During activities associated with construction projects such as the Naval Base Coronado Coastal Campus EIS and Training Complex Development Plan, runoff from site improvements could result in temporary, localized increases in turbidity within receiving water bodies. Increases in impervious surfaces resulting from proposed construction projects would increase stormwater run off into adjacent water resources and habitats. Potential impacts from an increase in turbidity would be minimized with implementation of BMPs (e.g., reviewing erosion control BMPs, increased mapping of water resources, wetting of soils, silt fencing, and detention basins and low impact development practices, and adherence to erosion and storm water management practices, as determined by the Navy, to contain soil and runoff. Implementation of monitoring and management strategies for soil resources and stream channels developed by the Proposed Action would identify areas of concern and avoid and minimize long-term impacts to adjacent resources. Upon completion of the Naval Base Coronado Coastal Campus EIS and Training Complex Development Plan, hydrologic conditions of the areas not developed with impermeable surfaces should be restored to mimic predevelopment site hydrology. In addition, revegetation should occur in the areas not developed with impermeable surfaces. Storm water runoff, as a result of increased impervious surface area, would be managed in accordance with the installation's Stormwater Pollution Prevention Plan for industrial activities. By implementing the management strategies, as appropriate, construction activities would not degrade the water quality or affect beneficial uses of surface water or groundwater resources.

Cumulatively, the Proposed Action and adoption and implementation of the California Wildlife Action Plan; San Diego Bay INRMP; Multiple Species Conservation Program; and INRMPs for San Clemente Island, NBSD, and NBPL would reduce impacts to future construction projects and increase the enhancement and restoration of native habitats. Habitat areas throughout NBC

installations will benefit through management strategies from the Proposed Action such as stream restoration, pollution management, the development of specifications and standards for reseeded/revegetation projects and monitor and rehabilitate degraded soil resources. In addition, water resource management objectives for these projects and plans would reduce sediment within the effluent from urban storm water drainages that cross NBC facilities.

Therefore, implementation of the Proposed Action, when considered with other past, present, and reasonably foreseeable future actions being implemented in the San Diego region, would provide a beneficial, cumulative effect on the region's water resources, and there would be no significant cumulative impacts to water resources.

4.3.5 Biological Resources

Minor, localized, impacts on biological resources could occur from removal of vegetation and increased noise from construction activities associated with the Naval Base Coronado Coastal Campus EIS and Training Complex Development Plan. Areas not developed with impermeable surfaces would be revegetated upon completion of the construction activities. Low impact development practices would be implemented as appropriate for all construction projects. The implementation of the Proposed Action, including the implementation of appropriate BMPs to protect soil and water resources and migrating bird and pollinator species, to protect biological resources at NBC during implementation of these projects would avoid and minimize potential impacts, and be consistent with, the resources on-installation and resources adjacent to the installation. Biological resources management strategies implemented by the Proposed Action would be incorporated into the Naval Base Coronado Coastal Campus EIS and Training Complex Development Plan, as appropriate, to reduce potential impacts to existing resources. Additionally the Proposed Action would develop and implement BMPs for routine maintenance, such as grounds maintenance and mowing, to minimize stress on biological resources from regular maintenance activities.

Cumulatively, the Proposed Action and adoption and implementation of the California Wildlife Action Plan; San Diego Bay INRMP; Multiple Species Conservation Program; and INRMPs for San Clemente Island, NBSD, and NBPL would reduce impacts to future construction projects and increase the enhancement and restoration of native habitats. Habitat areas throughout NBC installations will benefit through management strategies from the Proposed Action such as stream restoration, pollution management, the development of specifications and standards for reseeded/revegetation projects monitor and rehabilitate degraded soil resources, and development of an outdoor recreation plan for NBC. In addition, the Proposed Action, when combined with the California Wildlife Action Plan; San Diego Bay INRMP; Multiple Species Conservation Program; and INRMPs for San Clemente Island, NBSD, and NBPL, would result in long-term, beneficial, cumulative impacts on biological resources by providing greater awareness and documentation of existing biological resources.

Therefore, implementation of the Proposed Action, when considered with other past, present, and reasonably foreseeable future actions being implemented in the San Diego region, would provide a beneficial, cumulative effect on the region's biological resources, and there would be no significant cumulative impacts to biological resources.

4.3.6 Hazardous Materials and Waste

The management of hazardous materials and wastes at NBC during implementation of the Proposed Action; construction activities; California Wildlife Action Plan; San Diego Bay INRMP; Multiple Species Conservation Program; and INRMPs for San Clemente Island, NBSD, and NBPL would benefit, and be consistent with, the resources on-installation and resources adjacent to the installation.

Therefore, implementation of the Proposed Action, when considered with other past, present, and reasonably foreseeable future actions being implemented in the San Diego region, would provide a beneficial, cumulative effect on the region's hazardous materials and waste management, and there would be no significant cumulative impacts to hazardous materials management.

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5. Other NEPA Considerations

5.1 Compatibility of the Proposed Action and Alternatives with the Objectives of Federal, Regional, State, and Local Land Use Plans, Policies, and Controls

Impacts as a result of the Proposed Action would occur within the boundaries of NBC. Beneficial effects on adjoining lands and water resources would occur from removal of invasive vegetation, habitat improvement projects, and creation and implementation of BMPs that would improve surface water quality. The implementation of a revised INRMP would not result in any significant or incompatible land use changes on or off the installation. The Proposed Action would not conflict with any applicable off-installation land use ordinances.

5.2 Energy Requirements and Conservation Potential of Various Alternatives and Mitigation Measures Being Considered

Natural resources management activities on NBC facilities would occur as a result of the Proposed Action. None of these impacts would be significant. Any project specific energy requirements and mitigation measures would be addressed in subsequent NEPA documents.

5.3 Irreversible and Irretrievable Commitments of Resources

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that use of these resources will have on future generations. Irreversible effects primarily result from use or destruction of a specific resource that cannot be replaced within a reasonable time frame (e.g., energy and minerals). The irreversible and irretrievable commitments of resources that would result from implementation of the Proposed Action involve the consumption of material resources used for construction, energy resources, land, and human labor resources. The use of these resources is considered to be permanent.

No significant irreversible and irretrievable commitments of nonrenewable resources would result from the Proposed Action. Negligible amounts of energy resources (e.g., petroleum) would be required for vegetation management efforts (e.g., invasive species removal).

5.4 Relationship Between Short-term Use and Long-term Productivity

Short-term uses of the biophysical components of the human environment include direct impacts, usually related to construction activities that occur over a period of less than 5 years. Long-term uses of the human environment include those impacts that occur over a period of more than 5 years, including permanent resource loss. The Proposed Action would not result in significant short-term resource uses that would compromise long-term productivity. Several management objectives made in the short-term under the Proposed Action would increase long-term productivity of natural resources at NBC, such as healthy habitats and wildlife populations, and higher quality surface and drinking water.

5.5 Unavoidable Adverse Impacts

Negligible unavoidable adverse impacts would result from implementation of the Proposed Action; however, none of these impacts would be significant. Although the amount of pesticides used at NBC would be decreased under the Proposed Action, invasive vegetation removal efforts would still likely require the use of these hazardous materials. The quantity of products containing hazardous materials used during invasive species removal would be minimal, and their use would be localized and of short duration.

6. List of Agencies and Persons Contacted

The individuals and agencies contacted during the INRMP revision process as part of the preparation of that document are listed as follows.

For a complete list of external stakeholders that were invited to participate in the development of the INRMP see **Section 13** of that document.

Bureau of Land Management, San Diego Project Office

Ms. Joyce Schlacter, Wildlife Biologist

California Department of Fish and Wildlife, South Coast Region

Ms. Jennifer Edwards, Environmental Scientist

City of Imperial Beach

Mr. Jim Nakagawa, City Planner Community Development Department

NOAA National Marine Fisheries Service, Southwest Regional Office

Ms. Monica DeAngelis, Marine Mammal Biologist

U.S. Fish and Wildlife Service, Region 8, Carlsbad Fish and Wildlife Office

Mr. Slader Buck, Refuge Manager

Ms. Victoria Touchstone, Refuge Manager

Ms. Sandy Vissman, Biologist

Ms. Nancy Ferguson, Regional Sikes Act Coordinator

U.S. Forest Service, Cleveland National Forest

Ms. Debbie Hobbs, Lands and Special Uses Program Manager

Mr. Steve Eastwood, Forest Engineer

Ms. Kirsten Winter, Forest Biologist

Ms. Joan Friedlander, District Ranger, Palomar Ranger District

Vista Irrigation District

Mr. Don Smith, Director of Water Resources

City of Coronado

Ms. Ann McCaull, Senior Planner

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7. List of Preparers

Members of the Navy staff responsible for the preparation of this document are listed as follows.

Kari Coler

Environmental Planner, Coastal Integrated Product Team

Michelle Cox

Natural Resources Specialist, Coastal Integrated Product Team

Connie Moen

N45, NEPA Coordinator

Bryan Munson

Naval Base Coronado Botanist

Tiffany Shepherd

Naval Base Coronado Biologist

Members of the HDR staff responsible for the preparation of the document are listed as follows.

Summer Adleberg

Project Manager/Biologist

San Diego, CA

B.S. Renewable Natural Resources

Years of Experience: 6

Rod Dossey

Southwest Technical Director/Business Development Lead

San Diego, CA

B.S. Ecology

Years of Experience: 19

Christopher McJetters

Technical Editor

San Diego, CA

B.A. English

Years of Experience: 4

Cheryl Myers

Word Processing and Graphics Support

Woodbridge, VA

A.A.S. Nursing

Years of Experience: 21

Rebecca Ralston

Business Class Manager/Biological & Ecological Sciences

Englewood, CO

M.S. Forestry

B.S. Natural Resources and Environmental Science

Years of Experience: 11

Elizabeth Vashro

Environmental Scientist

San Diego, CA

B.A. Environmental Studies

Years of Experience: 5

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APPENDIX A

**LIST OF PROPOSED INRMP PROJECTS FOR NBC
(SEE INRMP APPENDIX C)**

APPENDIX B

RECORD OF NON-APPLICABILITY

Appendix B Record of Non-Applicability

**Department of Defense
U.S. Navy
Record of Non-Applicability (RONA)
Naval Base Coronado, San Diego, California
Integrated Natural Resources Management Plan**

Pursuant to Section 176(c) of the Clean Air Act, as amended by the 1990 amendments; the general Conformity Rule at 40 Code of Federal Regulations Parts 51 and 93; and the Chief of Naval Operation Interim Guidance on Compliance with the Clean Air Act Conformity Rule, the Department of Navy determined that the potential actions and management practices outlined in the Naval Base Coronado 2013 Integrated Natural Resources Management Plan are exempt from conformity requirements in accordance with sections 40 Code of Federal Regulations 93.153 (c)(2)(ii), (iv), (vi), (vii), (viii), (ix), (x), and (xiii). The Integrated Natural Resources Management Plan outlines many routine and continuing activities for Naval Base Coronado, located in the San Diego Intrastate Air Quality Control Region and the San Diego County Air Pollution Control District, which would result in no emission increase or an increase that is clearly *de minimis*. Development of projects and future implementation of planning guidelines for a range of activities, including habitat restoration and landscape maintenance projects, are also expected to result in emissions increases that would be *de minimis*; however, specific analyses would be performed to verify that emissions do not exceed *de minimis* levels when specific actions are proposed. Consequently, the proposed action is exempt from the conformity determination requirements of the Environmental Protection Agency's conformity rule.

To the best of my knowledge, the information contained in this Record of Non-Applicability is correct and accurate.



4/4/2013

Date

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