

Final
Environmental Assessment

*Relocation of the Aerial Target Launch Site at
Naval Auxiliary Landing Field San Clemente Island,
California*



July 2018



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DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

**FINDING OF NO SIGNIFICANT IMPACT FOR THE RELOCATION OF THE
AERIAL TARGET LAUNCH SITE AT NAVAL AUXILIARY LANDING FIELD SAN
CLEMENTE ISLAND, CALIFORNIA**

Pursuant to the Council on Environmental Quality Regulations (40 Code of Federal Regulations Parts 1500-1508) implementing the National Environmental Policy Act, Department of the Navy (Navy) Regulations (32 Code of Federal Regulations Part 775), and the Office of the Chief of Naval Operations Instruction 5090.1D, the Navy gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement is not required to implement the Relocation of the Aerial Target Launch Site at Naval Auxiliary Landing Field (NALF) San Clemente Island (SCI), California.

Proposed Action: The purpose of the Proposed Action is to support Fleet readiness requirements by providing continued Navy missile exercise training capabilities within the Southern California Range Complex. The Proposed Action consists of relocating the existing aerial target launch site from the Red Label Area at NALF SCI, including: construction of two concrete pads; creation and maintenance of a fuel break; improvements to an existing road; installation of a vehicle gate and warning signs; and future repairs and upgrades.

The Proposed Action is needed to unencumber the airfield from aerial target launches in the Red Label Area. The Proposed Action would eliminate a majority of the impacts to air operations without interruption to Fleet training requirements. In addition, the need for the Proposed Action is to continue to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide. In this regard, the Proposed Action furthers the Navy's execution of its congressionally mandated roles and responsibilities under 10 United States Code section 5062.

Public Participation: A Notice of Availability of the Draft EA was published 30 March through 01 April in the San Diego Union Tribune. The Draft EA was available for public review on the Navy Region Southwest public website. The public comment period

**FINDING OF NO SIGNIFICANT IMPACT FOR THE RELOCATION OF THE AERIAL
TARGET LAUNCH SITE, NAVAL AUXILIARY LANDING FIELD SAN CLEMENTE ISLAND,
CALIFORNIA**

on the Draft EA was from March 30 to April 13, 2018. There were no public comments received.

Alternatives Analyzed: Two alternatives are analyzed in the EA; they are:

Alternative 1: Proposed Action (as described above); and,

Alternative 2: No Action Alternative. The Proposed Action would not occur and the Navy would discontinue the use of NALF SCI for aerial target launch operations. The No Action Alternative does not meet the purpose of and need for the Proposed Action; however, it serves as a baseline against which the impacts of the Proposed Action can be evaluated.

Alternative to Be Implemented: The Proposed Action is selected for implementation as it best meets the purpose and need of the project and would have no significant impacts.

Environmental Effects: The following resource areas have been addressed in the EA: biological resources and cultural resources. Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in the EA: airspace, air quality, water resources, geology and soils, land use, noise, hazardous material and wastes, visual resources, utilities, transportation, public health and safety, socioeconomics, and environmental justice.

Biological Resources: Plant communities that would be permanently impacted during construction are relatively disturbed, dominated by non-native species, and/or relatively common on SCI. Individual wildlife species would be temporarily or permanently displaced from land that provides wildlife habitat. Habitat for the federally threatened San Clemente Bell's sparrow (*Artemisiospiza belli clementae*) would be permanently impacted by the Proposed Action. The Navy, with concurrence of the United States Fish and Wildlife Service through formal consultation, has determined the Proposed Action is not likely to jeopardize the continued existence of the Bell's sparrow. The Navy has determined that with implementation of the Avoidance and Minimization measures described in the EA to include the eleven conservation measures prescribed in the

**FINDING OF NO SIGNIFICANT IMPACT FOR THE RELOCATION OF THE AERIAL
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CALIFORNIA**

Biological Opinion, the Proposed Action would not have significant impacts to biological resources.

Cultural Resources: There is one archaeological site located within the area of potential effect for the Proposed Action. Although disturbances are present, the overall site integrity remains good. Additionally, the site has not received a formal National Register of Historic Properties evaluation, however, it is considered eligible as stipulated in the SCI Programmatic Agreement. Under the Proposed Action, the Navy would act pursuant to and consistent with the 2008 SCI Programmatic Agreement. The Navy has determined that with implementation of the Avoidance and Minimization measures described in the EA, the Proposed Action meets the standard for a "no adverse effect" determination and would not have significant impacts to cultural resources.

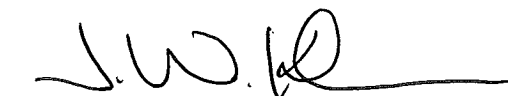
Finding: Based on the analysis presented in the EA, the Navy finds that implementation of the Proposed Action will not significantly affect the quality of the human or natural environment.

The Final EA prepared by the Navy addressing this action is on file, and interested parties may obtain a copy by contacting:

Naval Facilities Engineering Command Southwest
Attn: Code EV21.JG
1220 Pacific Highway
San Diego, CA 92132

30 July 2018

Date



RDML J. Korka, USN

Fleet Civil Engineer, U.S. Pacific Fleet

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**FINAL
ENVIRONMENTAL ASSESSMENT
For
RELOCATION OF THE AERIAL TARGET LAUNCH SITE
AT
NAVAL AUXILIARY LANDING FIELD SAN CLEMENTE ISLAND,
CALIFORNIA**

JULY 2018



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Abstract

Designation: Environmental Assessment

Title of Proposed Action: Relocation of the Aerial Target Launch Site

Project Location: Naval Auxiliary Landing Field San Clemente Island, California

Lead Agency: Department of the Navy

Affected Region: Los Angeles County, California

Action Proponent: Commander of the United States Pacific Fleet

Point of Contact: Naval Facilities and Engineering Command Southwest
Environmental Core Team, Code EV21.JG
1220 Pacific Highway
San Diego, California, 92132

Date: July 2018

The Department of the Navy (Navy) has prepared this Environmental Assessment (EA) in accordance with National Environmental Policy Act (42 United States Code 4321–4370h), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (Title 40 Code of Federal Regulations [CFR] 1500–1508), and Navy Regulations for Implementing NEPA (32 CFR 775). The Proposed Action would involve relocating the existing aerial target launch site from the Red Label Area at Naval Auxiliary Landing Field San Clemente Island, California. This Environmental Assessment evaluates the potential direct, indirect, and cumulative environmental impacts associated with the Proposed Action and the No-Action Alternative to the following resource areas: biological resources and cultural resources.



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EXECUTIVE SUMMARY

ES.1 Proposed Action

The Commander, United States (U.S.) Pacific Fleet, a Command of the U.S. Navy (hereinafter, jointly referred to as the Navy) proposes to relocate the existing aerial target launch site from the Red Label Area at Naval Auxiliary Landing Field (NALF) San Clemente Island (SCI), California. The construction required for the Proposed Action would be complete no later than October 2019 and would henceforth be utilized for NALF SCI aerial target launch operations.

The existing aerial target launch site on NALF SCI is used for conducting Navy missile exercise training within the Southern California Range Complex. NALF SCI air operations are impacted by the aerial target launches from its current location.

ES.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to support Fleet readiness requirements by providing continued Navy missile exercise training capabilities within the Southern California Range Complex.

The need for the Proposed Action is to unencumber the airfield from aerial target launches in the Red Label Area. NALF SCI air operations are impacted by the aerial target launches from this location as described in **Section 1.1**. The Proposed Action would eliminate a majority of the impacts to air operations without interruption to Fleet training requirements.

In addition, the need for the Proposed Action is to continue to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide. In this regard, the Proposed Action furthers the Navy's execution of its congressionally mandated roles and responsibilities under 10 U.S.C. section 5062.

ES.3 Alternatives Considered

Alternatives were developed for analysis based upon the following reasonable alternative screening factors:

- ability of the site to support connectivity with the System for Naval Target Control (SNTC) transmission from the transmission site, to the private branch exchange telephone system, to the aerial target;
- compatibility with island operations at the launch site;
- compatibility with other training operations that occur within the Southern California Range Complex;
- minimal required road improvements and proximity to existing utilities to limit new infrastructure;
- avoidance of significant impacts to sensitive biological and cultural resources;
- location where performance is not heavily impacted by weather conditions; and
- proximity of the site to the ocean in order for the rocket boosters to drop into the water after separating from the aerial target as previously analyzed in Alternative 2 of the *2008 Southern*

California Range Complex Environmental Impact Statement (EIS)/ Overseas Environmental Impact Statement (OEIS).

The Navy is considering one action alternative that meets the purpose and need for the Proposed Action and a No Action Alternative. The Proposed Action would relocate the aerial target launch site to the Capitaine site near West Cove. The relocation would involve: the construction of two concrete pads; improvement of an existing dirt road by using gravel and moving the existing turnaround on the road; installation of a vehicle gate across the road to restrict access; installation and maintenance of a 50 feet fuel break around the launch pad; and providing for future sustainment (repairs) and modernization (upgrades).

Under the No Action Alternative, the Proposed Action would not occur and the Navy would discontinue the use of NALF SCI for aerial target launch operations. The No Action Alternative would not meet the purpose and need for the Proposed Action; however, as required by NEPA, the No Action Alternative is carried forward for analysis in this Environmental Assessment (EA). The No Action Alternative will be used to analyze the consequences of not undertaking the Proposed Action, not simply to conclude no impact, and will serve to establish a comparative baseline for analysis.

The following alternatives were considered, but not carried forward for detailed analysis in this EA as they did not meet the purpose and need for the project, nor did they satisfy the alternative screening factors:

- relocate the aerial target launch site to Harding at NALF SCI;
- relocate the aerial target launch site to Van at NALF SCI;
- relocate the aerial target launch site to an offshore platform;
- launch aerial targets from a capable ship or aircraft; and
- relocate the aerial target launch site to the Point Mugu Sea Range.

ES.4 Summary of Environmental Resources Evaluated in the EA

Council on Environmental Quality regulations, National Environmental Policy Act (NEPA), and Navy instructions for implementing NEPA, specify that an EA should address those resource areas potentially subject to impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact.

Aerial target launch operations that occur within the Southern California Range Complex have been previously analyzed in Alternative 2 of the *2008 Southern California Range Complex Environmental Impact Statement (EIS)/ Overseas Environmental Impact Statement (OEIS)* and Alternative 2 of the *2013 Hawaii-Southern California Training and Testing EIS/OEIS*. As the Proposed Action does not alter the way aerial target launch operations are conducted or the general location at sea where the targets are used, only the potential environmental consequences of constructing the aerial target launch site in a new location will be analyzed in this EA.

The following resource areas have been addressed in this EA: biological resources and cultural resources. Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in this EA: airspace, air quality, water resources, geology and soils, land use, noise, hazardous material and wastes, visual resources, utilities, transportation, public health and safety, socioeconomics, and environmental justice.

ES.5 Summary of Potential Environmental Consequences of the Proposed Action and Major Mitigating Actions

Table ES-1 provides a tabular summary of the potential impacts to the resources associated with each of the alternative actions analyzed.

Table ES-1. Summary of Potential Impacts to Resource Areas

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action: Relocate the Aerial Target Launch Site to Capitaine</i>
<i>Biological Resources</i>	No Significant Impact. The Navy would discontinue launches of aerial targets at NALF SCI; therefore, no impacts would occur.	No Significant Impact. Plant communities that would be permanently impacted during construction are relatively disturbed, dominated by non-native species, and/or relatively common on SCI. Individual wildlife species would be temporarily or permanently displaced from land that provides wildlife habitat. Habitat for the federally threatened San Clemente Bell's sparrow would be permanently impacted by the Proposed Action. The Navy has determined the Proposed Action is <i>likely to adversely affect</i> the San Clemente Bell's sparrow and has conducted formal consultation with USFWS. In a letter dated May 17, 2018, the USFWS determined the Proposed Action is not likely to jeopardize the continued existence of the Bell's sparrow and provided an Incidental Take Statement. Correspondence with the USFWS is included in Appendix C . Avoidance and Minimization Measures described in Table 3-4 would reduce potential impacts to biological resources.
<i>Cultural Resources</i>	No Significant Impact. The Navy would discontinue launches of aerial targets at NALF SCI; therefore, no impacts would occur.	No Significant Impact. There is one archaeological site located within the area of potential effect for the Proposed Action. Although disturbances are present, the overall site integrity remains good. Additionally, the site has not received a formal NRHP evaluation, however, it is considered eligible as stipulated in the SCI Programmatic Agreement. Under the Proposed Action, the Navy would act pursuant to and consistent with the 2008 SCI Programmatic Agreement. Avoidance and Minimization Measures described in Table 3-4 would reduce potential impacts to cultural resources. With implementation of the Avoidance and Minimization Measures, the Navy has determined the Proposed Action meets the standard for a <i>no adverse effect</i> determination.

ES.6 Public Involvement

Council of Environmental Quality regulations (40 CFR 1506.6) direct agencies to involve the public in preparing and implementing their NEPA procedures. Materials relating to public involvement is included in **Appendix A**. The Navy circulated the Draft EA for public review from March 30, 2018 to April 13, 2018.

A Notice of Availability (NOA) was published for three consecutive days in the *San Diego Union Tribune* and on the Commander, Navy Region Southwest website, <https://www.cnmc.navy.mil/navysouthwestprojects>, starting on March 30, 2018 to solicit comments on the Draft EA. During the Draft EA public review period, no comments were received from the public.

Based on the analyses herein, the Navy determined that an EA is sufficient for the Proposed Action, and a Finding of No Significant Impact will be prepared and signed. The NOA for the Final EA and Finding of No Significant Impact will appear for three consecutive days in the same newspaper and website that published the notice for the Draft EA listed above.

Final
Environmental Assessment for
Relocation of the Aerial Target Launch Site at
Naval Auxiliary Landing Field San Clemente Island, California
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Abbreviations and Acronyms

Acronym	Definition	Acronym	Definition
APE	Area of Potential Effect		
BMP	Best management practice	NEPA	National Environmental Policy Act
CAA	Clean Air Act		
CEQ	Council on Environmental Quality	NHPA	National Historic Preservation Act
CFR	Code of Federal Regulations		
CNPS	California Native Plant Society	NOA	notice of availability
CRPR	California Rare Plant Rank	NRHP	National Register of Historic Places
CO NBC	Commanding Officer of Naval Base Coronado	OEIS	Overseas Environmental Impact Statement
CRPM	Cultural Resources Program Manager	OP	Ordnance Pamphlet
CZMA	Coastal Zone Management Act	PA	Programmatic Agreement
EA	Environmental Assessment	PMSR	Point Mugu Sea Range
EIS	Environmental Impact Statement	ROD	Record of decision
EO	Executive Order	ROI	Region of influence
		RONA	Record of Non-Applicability
ESA	Endangered Species Act	RYBP	Radiocarbon years before present
ESQD	explosive safety quantity distance	SCAB	Southern California Air Basin
FONSI	Finding of No Significant Impact	SCI	San Clemente Island
GHG	greenhouse gas	SHPO	State Historic Preservation Officer
ICRMP	Integrated Cultural Resources Management Plan	SNTC	system for naval target control transmission
INRMP	Integrated Natural Resources Management Plan	U.S.	United States
IWS	Institute for Wildlife Studies	U.S.C.	United States Code
MBTA	Migratory Bird Treaty Act	USEPA	U.S. Environmental Protection Agency
MCA	Medieval Climactic Anomaly	USFWS	U.S. Fish and Wildlife Service
NAAQS	National Ambient Air Quality Standards	USGCRP	U.S. Global Change Research Program
NAGPRA	Native American Graves Protection and Repatriation Act		
NALF	Naval Auxiliary Landing Field		
NAWCWPNS	Naval Air Warfare Center Weapons Division		

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1 Purpose of and Need for the Proposed Action

1.1 Introduction

The Commander, United States (U.S.) Pacific Fleet, a Command of the U.S. Navy (hereinafter, jointly referred to as the Navy) proposes to relocate the existing aerial target launch site from the Red Label Area at Naval Auxiliary Landing Field (NALF) San Clemente Island (SCI), California. If selected, the construction required for the Proposed Action would be complete no later than October 2019 and would henceforth be utilized for NALF SCI aerial target launch operations.

Currently, aerial targets are launched from the western end of NALF Runway 23 within the Red Label Area (ordnance loading pad). Aerial target launches have been conducted off the Red Label Area for over twenty years in support of Fleet training requirements. The existing aerial target launch site on NALF SCI is used for conducting Navy missile exercise training within the Southern California Range Complex. Aerial target launch operations provide opposing force simulation and targets for use in sea-based training. Most aerial targets contain jet fuel, oils, hydraulic fluid, batteries, and explosive cartridges. The BQM-74, the typical target, is launched by a solid rocket booster and sustained by a small conventional jet engine. A rocket booster is auxiliary (and detachable) equipment that provides extra power for takeoff of the aerial target. Due to the explosives required to provide the extra power, the rocket booster is considered an Explosive Safety Hazard 1.3C (NAVSEA SW020-AC-SAF-010).

For a typical missile exercise, the aerial target, launcher, and rocket boosters are transported to NALF SCI the day prior to launch. The rocket boosters and carrier are transported to the Red Label Area where they are attached to one another and stored in a ready service locker. Two hours prior to launch the rocket boosters and carrier assembly are affixed to the aerial target, electrical leads are connected to the rocket boosters, and the aerial targets are launched. If the launch event proceeds on time, at least twenty minutes are needed to complete the set-up, the launch, and the post-launch "all-clear".

Following a training exercise, targets are generally flown (using remote control) to predetermined recovery points. Fuel is shut off by an electronic signal, the engine stops, and the target descends. A parachute is activated and the target lands on the ocean's surface, where it is retrieved by range personnel using helicopters or range support boats. Although a rare occurrence, some targets may be hit by missiles and their remnants fall into the ocean.

Aerial target launch operations that occur within the Southern California Range Complex have been previously analyzed in Alternative 2 of the *2008 Southern California Range Complex Environmental Impact Statement (EIS)/ Overseas Environmental Impact Statement (OEIS)* (Navy, 2008) and Alternative 2 of the *2013 Hawaii-Southern California Training and Testing EIS/OEIS* (Navy, 2013c). The Proposed Action would not change the types of aerial targets used or the tempo of the launches as analyzed in the aforementioned EIS/OEISs. As the Proposed Action does not alter the way aerial target launch operations are conducted or the general location at sea where the targets are used, only the potential environmental consequences of constructing and use of the aerial target launch site in a new location will be analyzed in this Environmental Assessment (EA).

NALF SCI air operations are impacted by the aerial target launches from its current location:

- The Naval Sea Systems Command (NAVSEA) Ordnance Pamphlet (OP) 5 contains the explosives safety criteria to all Navy and Marine Corps shore activities. In accordance with NAVSEA OP 5, the 500-600 feet radius (different distances are associated with various aerial targets) Explosive

Quantity Safety Distance (ESQD) arc activates when the rocket boosters are brought up to the Red Label Area for mounting and launch until completion of the launch event. Per NAVSEA OP 5, the airfield and Class D airspace must be cleared of all aircraft and shut down while the ESQD arc is activated at the Red Label Area. This causes NALF SCI air operations to cease at least twenty minutes or longer, if delays are incurred, and limits fixed wing operations.

- Currently, the frequency of using aerial targets for missile exercise training is limited due to conflicts with air operations. Relocating the launch site would enable full implementation of the requirements analyzed in the *2008 Southern California Range Complex EIS/OEIS* and the *2013 Hawaii-Southern California Training and Testing EIS/OEIS*.
- If any mishap on the launcher occurs (e.g., failed launch or explosion) the airfield will shut down until Explosive Ordnance Disposal responds and conducts an investigation. A full investigation could last days to weeks depending on the severity of the mishap.
- Heavy lift aircraft, such as C-17s, are unable to utilize the Red Label Area for loading and unloading operations while aerial target launch events occupy the site.
- All of NALF SCI is heavily impacted by wind. Wind and weather conditions could persist over the course of days, which delays a planned launch event and subsequently affects previously approved aircraft parking requests (i.e., when a transient aircraft needs to land to receive fuel) and the movement of air traffic in an efficient manner.

Per the NAVSEA OP 5, a Chief of Naval Operations explosive safety event waiver is required to allow aerial target launch events to occur on the airfield. However, waivers are generally issued for two years pending completion of corrective measures to eliminate the waiver requirement. The current explosive safety event waiver, which expires 10 October 2019, specifies that an alternative aerial target launch site must be identified and that the waiver cannot be further extended. Therefore, unless another site is selected, all aerial target launches on NALF SCI would cease. An alternative site to the existing location must be identified, approved, and operational by 10 October 2019 to ensure there is no disruption in operations and Fleet readiness activities.

In addition to the explosive safety waiver, Naval Air Systems Command, which is responsible for policy and procedures across the Navy, requires a temporary airfield safety waiver for aerial target launches from the Red Label Area. This airfield safety waiver allows for aerial target launch personnel and equipment to operate no closer than 175 feet of the active runway edge for up to 36 hours per each launch evolution.

Under the Proposed Action, neither a Chief of Naval Operations explosive safety event waiver nor a Naval Air Systems Command temporary airfield safety waiver would be required.

1.2 Location

NALF SCI (**Figure 1-1**) is within the consortium of installations that comprise Naval Base Coronado and is a Navy owned and operated island. NALF SCI is also within the boundaries of the Southern California Range Complex. SCI is the southernmost member of the Channel Islands, an archipelago of eight islands. SCI is located approximately 68 nautical miles (109 kilometers) west-northwest of San Diego, California and 21 miles (34 kilometers) south of the next closest island, Santa Catalina Island. SCI is approximately 21 miles (34 kilometers) long and up to 4 miles (6 kilometers) wide, encompassing an area of 36,480 acres (14,763 hectares). The project area is located southeast of the airfield at West Cove (**Figure 1-2**).

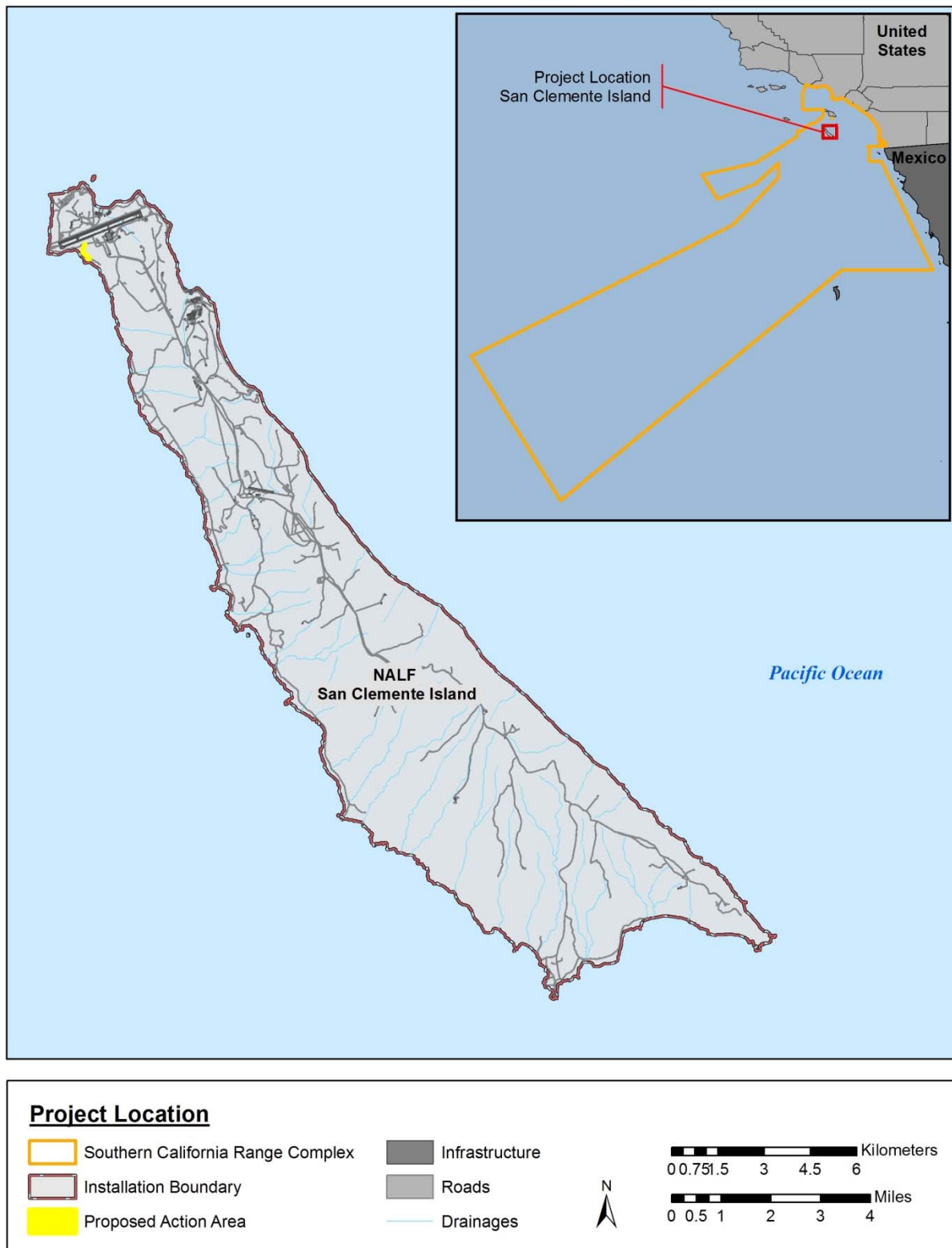


Figure 1-1. Location of NALF SCI and Surrounding Areas



Figure 1-2. Current and Proposed Aerial Target Launch Site Locations

1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to support Fleet readiness requirements by providing continued Navy missile exercise training capabilities within the Southern California Range Complex.

The need for the Proposed Action is to unencumber the airfield from aerial target launches in the Red Label Area. NALF SCI air operations are impacted by the aerial target launches from this location as described in **Section 1.1**. The Proposed Action would eliminate a majority of the impacts to air operations without interruption to Fleet training requirements.

10 U.S.C. section 5062: "The Navy shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations at sea. It is responsible for the preparation of naval forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Navy to meet the needs of war."

In addition, the need for the Proposed Action is to continue to provide capabilities for training and equipping combat-capable naval forces ready to deploy worldwide. In this regard, the Proposed Action furthers the Navy's execution of its congressionally mandated roles and responsibilities under 10 U.S.C. section 5062.

1.4 Scope of Environmental Analysis

The Navy has prepared this EA in accordance with the National Environmental Policy Act (NEPA), as implemented by the Council on Environmental Quality (CEQ) Regulations and Navy regulations for implementing NEPA.

This EA includes an analysis of potential environmental impacts associated with the Proposed Action and the No Action Alternative. The environmental resource areas analyzed in this EA include: biological resources and cultural resources. The study area for each resource analyzed may differ due to how the Proposed Action interacts with or impacts the resource. For instance, the study area for cultural resources may only include the construction footprint whereas the biological resources study area would expand out to include a species entire habitat that may be impacted by aerial target launch operations and construction activities.

1.5 Key Documents

Key documents are sources of information incorporated into this EA. Documents are considered to be key because of similar actions, analyses, or impacts that may apply to this Proposed Action. CEQ guidance encourages incorporating documents by reference. Documents incorporated by reference in part or in whole include:

- **EIS/OEIS for the Current, Emerging, and Future Training Operations in the Southern California Range Complex (2008).** In 2008, the Navy published an EIS/OEIS that analyzed the potential environmental consequences associated with the continuation of training, an increase in training activities, force structure changes associated with introduction of new weapons systems, new classes of ships, and the introduction of new types of aircraft into the Fleet within the Southern California Range Complex. A Record of Decision (ROD) was signed on January 30, 2009.

- **EA for the SCI Wildland Fire Management Plan (2009).** In 2009, the Navy published an EA that analyzed implementing the strategies proposed in the final draft of the SCI Wildland Fire Management Plan. The Wildland Fire Management Plan addresses year-round, tactical, live-fire unit-level and joint training in a wildland environment that contains many sensitive and federally-listed resources, and for which fires may affect their long-term viability. A finding of no significant impact (FONSI) was signed on June 28, 2009.
- **EA for the Revised SCI Integrated Natural Resources Management Plan (INRMP) (2013).** In 2013, the Navy published an EA that analyzed implementing the strategies proposed in the SCI INRMP. A revised INRMP was needed to meet the Sikes Act as well as to guide natural resource management practices on SCI. A FONSI was signed on June 10, 2013.
- **EIS/OEIS for the Hawaii-Southern California Training and Testing (2013).** In 2013, the Navy published an EIS/OEIS that analyzed the potential environmental consequences associated with conducting training and testing activities within existing range complexes and operating areas located along the southern California coast (Southern California Range Complex) and around the Hawaiian Islands. Activities include at-sea training and testing with SONAR and explosives. A ROD was signed on December 20, 2013. This EIS/OEIS replaces the analysis of the in-water activities described in the *2008 Southern California Range Complex EIS/OEIS*; however, land activities that occur on SCI continue to be addressed by the *2008 Southern California Range Complex EIS/OEIS*.
- **EA for Addressing Maintenance, Repair, and Upgrades to Infrastructure at NALF SCI, California (2017).** The Navy assessed the potential environmental consequences associated with the actions required to conduct maintenance, repair, and upgrades at NALF SCI for existing infrastructure, including fences and gates, roads and crossovers, drainage structures, utility infrastructure (i.e. electrical and water systems), and existing and temporary facilities (buildings, airfield, landfill, and borrow pit). A FONSI was signed on June 13, 2017.

1.6 Relevant Laws and Regulations

The Navy has prepared this EA based upon federal and state laws, statutes, regulations, and policies pertinent to the implementation of the Proposed Action, including the following:

- NEPA (42 United States Code [U.S.C.] sections 4321–4370h), which requires an environmental analysis for major federal actions that have the potential to significantly impact the quality of the human environment;
- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations parts 1500–1508);
- Navy regulations for implementing NEPA (32 Code of Federal Regulations part 775), which provides Navy policy for implementing CEQ regulations and NEPA;
- Clean Air Act (42 U.S.C. section 7401 et seq.);
- Clean Water Act (33 U.S.C. section 1251 et seq.);
- Coastal Zone Management Act (16 U.S.C. section 1451 et seq.);
- National Historic Preservation Act (54 U.S.C. section 300101 et seq.);
- Endangered Species Act (16 U.S.C. section 1531 et seq.);
- Marine Mammal Protection Act (16 U.S.C. section 1361 et seq.);

- Migratory Bird Treaty Act (16 U.S.C. section 703–712); and
- EO 13175, *Consultation and Coordination with Indian Tribal Governments*.

A description of the Proposed Action’s consistency with these laws, policies and regulations, as well as the names of regulatory agencies responsible for their implementation, is presented in **Chapter 5 (Table 5-1)**.

1.7 Public and Agency Participation and Intergovernmental Coordination

The Navy invites public participation through the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better federal decision-making. Agencies, organizations, and members of the public with a potential interest in the Proposed Action are encouraged to participate. Materials relating to public involvement is included in **Appendix A**.

The Navy published and distributed the Draft EA on March 30, 2018 for a 15-day public comment period. The start of the comment period was announced in a Notice of Availability (NOA), which was published for three consecutive days (i.e., Friday – Sunday) in the *San Diego Union Tribune* and on the Commander, Navy Region Southwest website <https://www.cnic.navy.mil/navysouthwestprojects>. The notice initiated the beginning of the public comment period, which ran from March 30, 2018 to April 13, 2018. Copies were made available online at <https://www.cnic.navy.mil/navysouthwestprojects>. During the Draft EA public review period, no comments were received from the public.

NEPA requires that federal agencies responsible for preparing NEPA analyses and documentation do so “in cooperation with State and local governments” and other agencies with jurisdiction by law or special expertise (42 U.S.C. 4331[a] and 4332[2]). The Navy notifies relevant federal, state, and local agencies and allows sufficient time for these agencies to make known their environmental concerns specific to the Proposed Action. The Navy consulted with the U.S. Fish and Wildlife Service (USFWS). Correspondence with the USFWS is included in **Appendix C**. No comments were received from any other federal, state, or local agency.

Based on the comments and analyses herein, the Navy determined that an EA is sufficient for the Proposed Action, and a FONSI will be prepared and signed. The NOA for the Final EA and FONSI will appear for three consecutive days in the same newspaper and website that published the notice for the Draft EA listed above.

1.8 Changes from the Draft EA to Final EA

- **Executive Summary**
 - Changes noted in the following sections were also made in the Executive Summary, where applicable.
- **Chapter 1**
 - **Figure 1-2** was updated to reflect the revised Proposed Action as described below in changes for Chapter 2.
 - Public notifications were updated.
 - Results of the public comment period were included.

- Changes between the Draft and Final EA were added to **Section 1.8**.
- **Chapter 2**
 - After release of the Draft EA to the public, the Navy became aware that the originally planned safety bunker could not be approved for its location due to inhabited building distance requirements for unintentional detonations/initiations. Due to these safety concerns, the Navy determined a new location for a shelter outside of the ESQD arc in a previously disturbed area. The overall footprint of disturbance does not change with this new shelter location and does not affect any additional resources beyond what was analyzed in the Draft EA. Because the new shelter location does not change the impact analysis conclusions made in the Draft EA, the Navy determined an additional public review period was not warranted. The Final EA, in particular Chapter 2, was revised to reflect this updated Proposed Action.
- **Chapter 3**
 - Text and figures were updated to reflect the revised Proposed Action as described above in changes for Chapter 2, where applicable.
 - Text in **Section 3.1.3.2.2.1** and **Table 3-3** were updated to reflect consultation with the USFWS.
 - **Table 3-4** updated to include the final avoidance and minimization measures.
- **Chapter 4**
 - Text was updated to reflect the revised Proposed Action as described above in changes for Chapter 2, where applicable.
- **Chapter 5**
 - Text was updated to reflect the revised Proposed Action as described above in changes for Chapter 2, where applicable.
 - **Table 5-1** has been updated with final regulatory conclusions.
- **Appendix A**
 - Notice of Availability of the Final EA added.
- **Appendix B**
 - Text was updated to reflect the revised Proposed Action as described above in changes for Chapter 2, where applicable.
 - The approved Record of Non-Applicability for Clean Air Act conformity added.
- **Appendix C**
 - Consultation correspondence from the USFWS added.

2 Proposed Action and Alternatives

2.1 Proposed Action

The Navy proposes to relocate the existing aerial target launch site at Naval Auxiliary Landing Field (NALF) San Clemente Island (SCI), California. The construction required for the Proposed Action would be complete by December 2019 and would henceforth be utilized for aerial target launch operations.

2.2 Screening Factors

National Environmental Policy Act's (NEPA) implementing regulations provide guidance on the consideration of alternatives to a federally proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and to meet the purpose and need require detailed analysis.

Potential alternatives that meet the purpose and need were evaluated against the following screening factors:

- ability of the site to support connectivity with the System for Naval Target Control (SNTC) transmission from the transmission site, to the private branch exchange telephone system, to the aerial target;
- compatibility with island operations at the launch site;
- compatibility with other training operations that occur within the Southern California Range Complex;
- minimal required road improvements and proximity to existing utilities to limit new infrastructure;
- avoidance of significant impacts to sensitive biological and cultural resources;
- location where performance is not heavily impacted by weather conditions;
- proximity of the site to the ocean in order for the rocket boosters to drop into the water after separating from the aerial target as previously analyzed in Alternative 2 of the *2008 Southern California Range Complex Environmental Impact Statement (EIS)/ Overseas Environmental Impact Statement (OEIS)*.

2.3 Alternatives Carried Forward for Analysis

Based on the reasonable alternative screening factors and meeting the purpose and need for the Proposed Action, one action alternative was identified and will be analyzed within this Environmental Assessment (EA).

2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and the Navy would discontinue the use of NALF SCI for aerial target launch operations. The No Action Alternative would not meet the purpose and need for the Proposed Action; however, as required by NEPA, the No Action Alternative is carried forward for analysis in this EA. The No Action Alternative will be used to analyze the

consequences of not undertaking the Proposed Action, not simply to conclude no impact, and will serve to establish a comparative baseline for analysis.

2.3.2 Proposed Action

The Proposed Action would include the following:

- Construction of a 4,050 square feet concrete pad. This pad would accommodate aerial target assembly and launches. The launch pad would have four launcher positions; each would have four anchor points to anchor the launcher carts.
- Construction of a 168 square feet concrete pad outside of the explosive safety arc. This pad would accommodate a shelter and generator (for power). The shelter would be used by personnel to observe the launch pad from a safe distance during aerial target launches and would be approximately 10'x12'.
- Creation and maintenance of a 50-foot fuel break around the launch pad. Per Naval Sea Systems Command Ordnance Pamphlet 5 4-1.10, vegetation within 50 feet of any potential explosive structure shall be maintained at a height of no more than 18 inches to create a fuel break, except where topography or other physical characteristics make this impossible.
- Improvement of 1,925 linear feet of existing road by grading and adding crushed rock aggregate.
- Construction of 215 linear feet of new road to form a turn-around loop to accommodate trucks with trailers in tow.
- Installation of a hinged, lockable vehicle gate and two warning signs.
- Future sustainment (repairs) and modernization (upgrades)

Figure 2-1 depicts the site plan for the Proposed Action and **Table 2-1** describes total area of new disturbance by Proposed Action component. In addition to the planned elements listed above, a 20% construction buffer has been applied to capture the maximum extent of project disturbance.

Table 2-1. Proposed Action Areas of New Disturbance

<i>Proposed Action Component</i>	<i>Square Feet (Acres)</i>
Concrete pads	4,218 (0.10)
Expanded road	3,762 (0.09)
New road turnaround	1,500 (0.03)
Fuel break (minus launch pad and road areas)	20,082 (0.46)
Subtotal	29,562 (0.68)
20% construction buffer	5,912 (0.14)
Grand Total	35,474 (0.82)

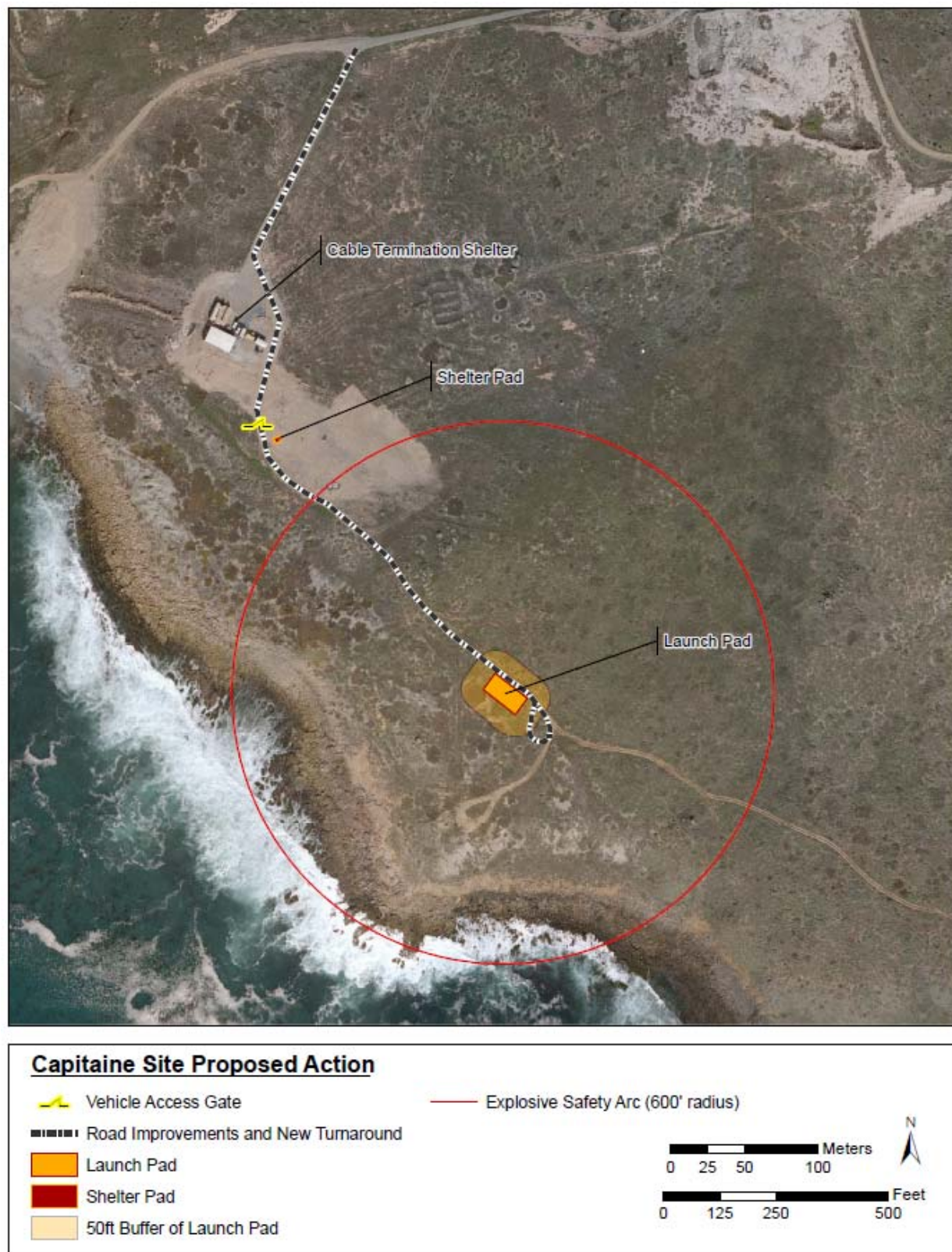


Figure 2-1. Proposed Action Site Plan

2.4 Alternatives Considered but not Carried Forward for Detailed Analysis

The following alternatives were considered, but not carried forward for detailed analysis in this EA as they did not meet the purpose and need for the project and satisfy the reasonable alternative screening factors presented in **Section 2.2**.

In 2016 the Navy formed an Integrated Project Team (IPT) to assess and recommend alternative aerial target launch sites in accordance with Fleet-directed, strategic launch site priorities. The IPT identified five sites to carry forward in their assessment: Red Label Area, Capitaine, Van, Harding, and an off-shore platform. Based on this assessment, Capitaine was the only site to fully support each of the screening factors outlined in **Section 2.2** while the other four sites failed to meet one or more of the criteria in such a way that moving forward with the site would be infeasible.

Each of the below provides the reasoning why the remaining four sites were considered but not carried forward for analysis.

2.4.1 Relocate the Aerial Target Launch Site to Harding

The “Harding” site (**Figure 2-2**) on NALF SCI is an old camera tracking site located at the foot of the Marine Terrace Road. Approximately 3,000 linear feet of road improvement would be required to implement the Proposed Action at the Harding site. In addition, the closest point to access power would be approximately 4,250 linear feet away at this location. This alternative was considered but is not being carried forward for detailed analysis in the EA because it does not satisfy the screening criteria requiring minimal road improvements, proximity to existing utilities to limit new infrastructure, and would have significant adverse impact on cultural and natural resources.

2.4.2 Relocate the Aerial Target Launch Site to Van

The “Van” site (**Figure 2-2**) on NALF SCI is an old camera tracking site located on a plateau just off of Marine Terrace Road. This site provides a broad panorama of the west coast of the island from Eel Point north to the airfield. Aerial target launches from the Van site would result in the rocket booster falling into San Clemente Bell’s sparrow habitat, which could adversely impact natural resources. Furthermore, this location would require extensive road upgrades and infrastructure development that would have significant adverse impact on cultural resources. This alternative was considered but is not being carried forward for detailed analysis in the EA because it does not satisfy the screening criteria requiring avoidance of significant impacts to sensitive natural and cultural resources.

2.4.3 Relocate the Aerial Target Launch Site to an Offshore Platform

This alternative would involve the Navy using an offshore platform for aerial target launch events within the Southern California Range Complex. High cost per launch, vulnerability to sea state, and availability of vessel or aircraft would be problematic. Sea state and weather are the primary problem and would affect the platform and the vessels or aircraft need to transport personnel and supplies to and from the platform. The exposed offshore environment would also result in more maintenance requirements. At the same time, maintenance could be hampered by sea state and weather. This would result in periods of unavailability. There are also some practical difficulties. Observers must be outside the 500-600 feet radius Explosive Safety Quantity Distance arc. This would mean either an enormous platform, or the necessity of having observers on a vessel, and relatively low platform. If a vessel were used, it would lead to vulnerability to weather and sea state. In addition, the Proposed Action would be located in an area where modernization or expansion are practical in the future should they become necessary; which

is not true of an offshore platform. The Navy considered this alternative but did not carry it forward for detailed analysis, for the reasons stated.

2.4.4 Launch Aerial Targets from a Capable Ship or Aircraft

This alternative would involve the Navy launching the aerial targets from a capable ship or aircraft within the Southern California Range Complex. This alternative was considered but is not being carried forward for detailed analysis in the EA because the cost per aerial target launch event, additional launch dependency on sea state conditions, and dependency on ship or aircraft availability were determined to not be feasible by the Navy. This alternative was considered but is not being carried forward for detailed analysis in the EA because it does not satisfy the screening criteria requiring an area where performance is not heavily impacted by weather conditions.

2.4.5 Relocate the Aerial Target Launch Site to the Naval Air Warfare Center Weapons Division (NAWCWPNS) Point Mugu Sea Range (PMSR)

The NAWCWPNS PMSR currently supports test and evaluation of sea, land, and air weapons systems as well as various categories of training activities. Conducting a missile exercise at NAWCWPNS PMSR would introduce artificiality into integrated training due to the distance and the several days it would require to transit back and forth between PMSR and the Southern California Range Complex (where the integrated training is occurring). Therefore, this alternative was considered but is not being carried forward for detailed analysis in the EA because it does not satisfy the screening criteria requiring compatibility with other training operations that occur within the Southern California Range Complex.

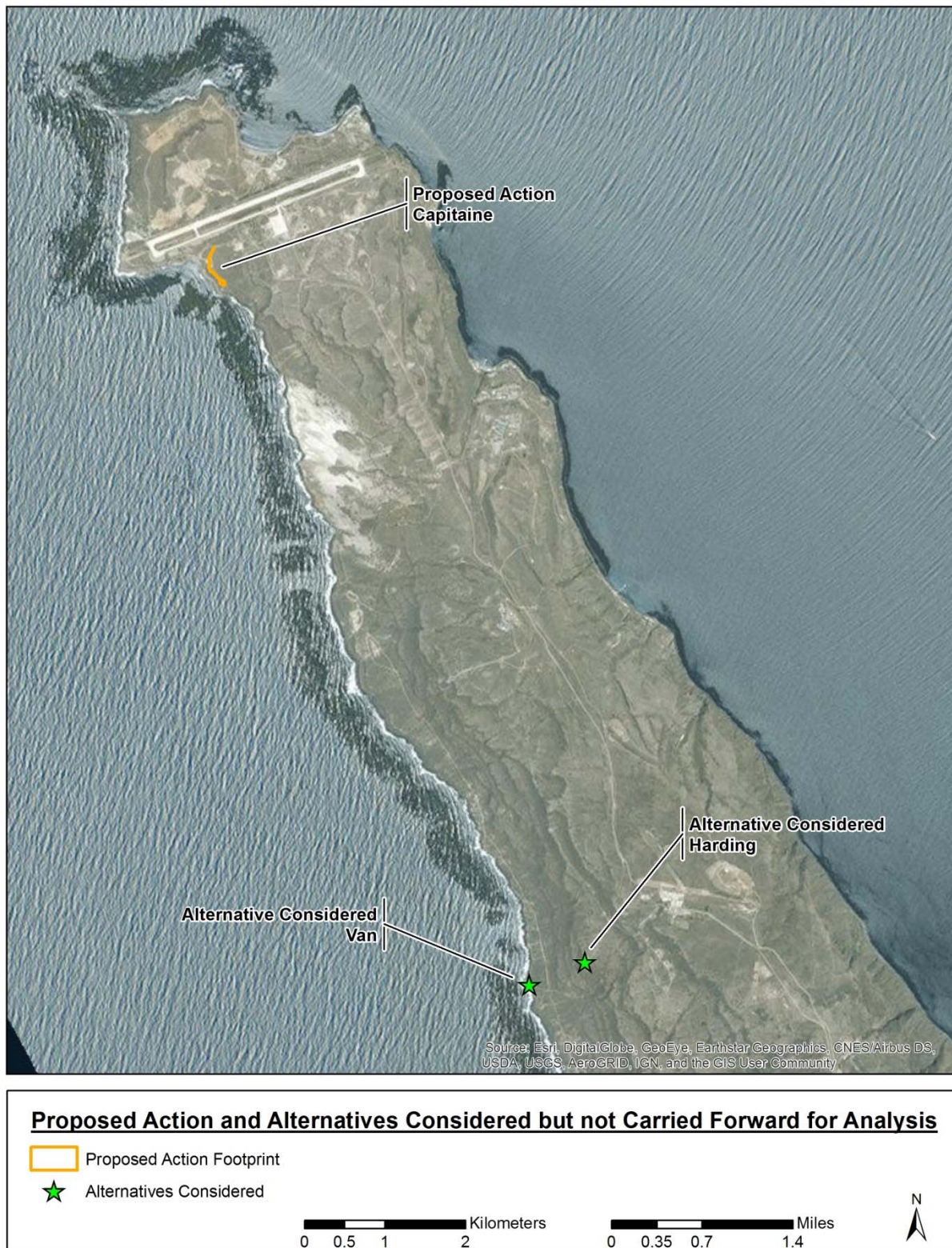


Figure 2-2. Alternative Sites Considered but not Carried Forward for Detailed Analysis

3 Affected Environment and Environmental Consequences

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing any of the alternatives and an analysis of the potential direct and indirect effects of each alternative.

All potentially relevant environmental resource areas were initially considered for analysis in this Environmental Assessment (EA). In compliance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ), and Department of Navy guidelines, the discussion of the affected environment (i.e., existing conditions) focuses only on those resource areas potentially subject to impacts. Additionally, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact.

“Significantly,” as used in NEPA, requires considerations of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole (e.g., human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of a proposed action. For instance, in the case of a site-specific action, significance would usually depend on the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant. Intensity refers to the severity or extent of the potential environmental impact, which can be thought of in terms of the potential amount of the likely change. In general, the more sensitive the context, the less intense a potential impact needs to be in order to be considered significant. Likewise, the less sensitive the context, the more intense a potential impact would be expected to be significant.

Aerial target launch operations that occur within the Southern California Range Complex have been previously analyzed in Alternative 2 of the *2008 Southern California Range Complex Environmental Impact Statement (EIS)/ Overseas Environmental Impact Statement (OEIS)* and Alternative 2 of the *2013 Hawaii-Southern California Training and Testing EIS/OEIS*. As the Proposed Action does not alter the way aerial target launch operations are conducted or the general location at sea where the targets are used, only the potential environmental consequences of constructing the aerial target launch site in a new location will be analyzed in this EA.

Maintenance, repair, and upgrades at NALF SCI for existing infrastructure, including roads, have been previously analyzed in the *2017 Addressing Maintenance, Repair, and Upgrades to Infrastructure at NALF SCI EA*. As the Proposed Action involves existing road, only the future sustainment (repairs) and modernization (upgrades) of new infrastructure will be analyzed in this EA.

This section includes an analysis of biological resources and cultural resources.

The potential impacts to the following resource areas are considered to be negligible or non-existent so they were not analyzed in detail in this EA:

Airspace: The Proposed Action would not affect the use or designation of airspace. Currently, Class D airspace is closed during aerial target launch, for approximately 20 minutes. Under the Proposed Action, this would remain unchanged and Class D airspace would still be closed during aerial target launch. The Proposed Action would not affect the use of airspace; therefore, this resource has not been carried forward for analysis in this EA.

Air Quality: SCI is located within the South Coast Air Basin (SCAB), covering the counties of Los Angeles, Orange, Riverside, and San Bernardino. Under the Clean Air Act (CAA), the U.S. Environmental

Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) (40 CFR part 50) for criteria pollutants. SCAB is a nonattainment area for ozone (O₃) and fine particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}). The Los Angeles County portion of the SCAB is in nonattainment for lead (Pb), however, SCI is in attainment for lead. SCAB is a maintenance area for carbon monoxide, nitrogen dioxide, suspended particulate matter less than or equal to 10 microns in diameter (PM₁₀) (USEPA, 2017). Due to the nonattainment status of these criteria pollutants within SCAB, the USEPA has determined *de minimis* thresholds to define the limit at which a formal Conformity Determination under the CAA General Conformity Rule would be required. Greenhouse gases and climate change are discussed in **Section 4.4.3**.

Although the Proposed Action is considered to have relatively minor effects, the associated criteria pollutant emissions would not substantially contribute to the air basin, a quantitative analysis was conducted for comparison with the applicable *de minimis* threshold levels.

The emissions from the Proposed Action would result from the construction of the concrete pads and upgrades to the existing road. All equipment would be used in accordance with Navy and State of California requirements. Aerial target launch operational emissions have been addressed in the *2008 Southern California Range Complex Environmental Impact Statement (EIS)/ Overseas Environmental Impact Statement (OEIS)*.

Table 3-1 presents a summary of the emissions for the Proposed Action. A complete report of each model's inputs and outputs can be found in **Appendix B**. Based on this quantitative analysis, emissions from the Proposed Action would be below *de minimis* thresholds and would not require a formal Conformity Determination under the CAA. Therefore, implementation of the Proposed Action would have less than significant impacts to air quality, and would not significantly harm the U.S. exclusive economic zone as defined by Executive Order 12114. Accordingly, air quality is not carried forward for detailed analysis in this EA. A Record of Non-Applicability and supporting emission calculations can be found in **Appendix B**.

Table 3-1. Proposed Action – Combined Emissions with Evaluation of Conformity

Emission Source	Emissions (tons/year)						
	VOCs	CO	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO ₂
Proposed Action- Year 2018	0.08	0.65	0.46	0.00	0.92	0.11	153.2
Conformity <i>de minimis</i> Thresholds	10	100	10	100	100	100	N/A
Exceeds Conformity <i>de minimis</i> Thresholds?	No	No	No	No	No	No	N/A

Legend: CO = carbon monoxide; NO_x = nitrogen oxides; SO₂ = sulfur dioxide; VOCs = volatile organic compounds.

Notes: The SCAB is an extreme nonattainment area for ozone, a serious nonattainment area for PM_{2.5}, and is a maintenance area for CO, NO₂ and PM₁₀.

Water Resources: There are no hydrologic features within the project area and no floodplains are mapped on SCI. Surveys conducted for the *2017 Addressing Maintenance, Repair, and Upgrades to Infrastructure at NALF SCI EA* did not find any jurisdictional wetlands or waters of the U.S. within the

Proposed Action area (HDR, 2014). All of the drainages on SCI are confined within narrow channels that flow for relatively brief periods in immediate response to rainfall and discharge directly into the ocean. There would be no in-water construction and the construction crew would utilize best management practices (BMPs) (e.g., placing drip pans under equipment, covering loose stockpiles, sandbag dikes) to prevent excessive storm water runoff during and following the construction process. Despite the 4,456 square feet of impervious surface created by the concrete pads, the improvements to the existing road would help maintain stormwater penetration onsite and adhere to low impact design principles. Implementation of the Proposed Action would not result in impacts to any surface water resources or groundwater supply; therefore, this resource has not been carried forward for detailed analysis in this EA.

Geology and Soils: Construction and maintenance associated with the Proposed Action would occur entirely on SCI and in a previously disturbed area. There are no geological hazards, such as faults or landslides, or topography that would impact construction or operation at the proposed launch site. Soil erosion is not expected from construction and launch operations due to the thin soil over bedrock and flat topography of the proposed launch site. Under the Proposed Action, two concrete pads would be constructed and the existing road would be improved, which would require excavation and grading. The construction crew would utilize BMPs (e.g., sand bags, jute netting, straw wattles) to prevent erosion and minimize runoff during and following the construction process. Therefore, no geological hazards are expected to impact construction or launch operations and no soil erosion is expected during construction or launch operations and this resource has not been carried forward for detailed analysis in this EA.

Land Use: SCI has been under U.S. government stewardship since 1848 (Navy, 2011) and has been wholly owned by the Department of the Navy for naval purposes only since 1942 (Executive Order [EO] 7747, *Establishing a Defensive Sea Area Off the Coast of San Clemente Island*, and EO 7805, *Correcting Description of Lands Contained in EO 6897*). The island's isolation, topography, and proximity to deep water are factors that are ideal for a number of training, testing, and research uses, resulting in a diverse combination of military tenants and users. The seven categories of SCI land use are defined by their discrete primary functions: air operational support; island operational support; training; research, development, test, and evaluation; ordnance; communications; and personnel support. Most of SCI is undeveloped land that is used for testing and training (Navy, 2011). The Proposed Action would not change any land use patterns or land ownership in the area; therefore, this resource has not been carried forward for analysis in this EA.

Noise: The predominant sources of noise on NALF SCI consist of aircraft operations in the northern portion of the island. The island's population consists solely of military personnel and military contractors and there are no measured, site-specific noise data available for baseline noise levels on NALF SCI. The Proposed Action would only generate temporary construction noise and operational noise similar to existing conditions, well removed from the personnel housing near Wilson Cove, and located entirely on NALF SCI. The potential impacts of noise on wildlife are discussed in **Section 3.1**. Therefore, this resource has not been carried forward for detailed analysis in this EA.

Hazardous Materials and Wastes: Other than petroleum-based fuel, lubricants, and batteries for construction equipment and maintenance, there are no hazardous materials associated with the Proposed Action. Under the Proposed Action any hazardous materials or wastes produced from the construction process or maintenance would be stored, managed, and disposed of in accordance with local, state, and federal regulations and the Commander Navy Region Southwest Hazardous Waste

Management Plan. The Proposed Action would take appropriate precautions to properly dispose of materials characterized as hazardous materials or waste; therefore, this resource has not been carried forward for analysis in this EA.

Visual Resources: SCI is rarely visible from the California mainland and only sometimes visible from Santa Catalina Island, both of which are the nearest landforms. SCI is restricted from public access for reasons of national security and is solely used for military operations and training. Viewers on SCI would be military and contractor personnel engaged in their normal work activities. Recreational boaters around SCI have various views of the island, depending on their location. The Proposed Action would not result in the obstruction or degradation of any scenic viewshed; therefore, this resource has not been carried forward for analysis in this EA.

Utilities: Utilities are operated and maintained by the Public Works Center, located on the island. Implementation of the Proposed Action would utilize a generator for power and would not change how utilities are provided or their infrastructure; therefore, this resource has not been carried forward for detailed analysis in this EA.

Transportation: Under the Proposed Action, the number of personnel stationed or employed at NALF SCI would not change. No change in the number of personally owned vehicles, commercial vehicles, traffic patterns, or roadways would occur as a result of implementing the Proposed Action. Therefore, this resource has not been carried forward for detailed analysis in this EA.

Public Health and Safety: SCI is owned by the Navy and there is no public use allowed. Access to SCI is granted for military activities and for preapproved, nonmilitary uses such as scientific research. All visitors to SCI are required to check in with security for a briefing on current policies and regulations. Military working dogs frequently inspect aircraft and vessels providing transportation to SCI to assist in ensuring a safe and healthy work environment.

Under the Proposed Action, construction personnel would be required to follow and implement Occupational Safety and Health Administration and Navy safety standards to establish and maintain a safe working environment. Implementing appropriate BMPs and use of personal protective equipment would prevent any impacts on worker health and safety.

The Proposed Action would not result in any changes to adherence of the Naval Sea Systems Command Ordnance Pamphlet 5 or the SCI Wildland Fire Management Plan (Navy, 2009). Specifically, the Proposed Action would include the required fuel break around the potential explosive structure, the aerial target launch pad. Vegetation within 50 feet of the potential explosive site would be maintained at a height of no more than 18 inches to create a fuel break, except where topography or other physical characteristics make this impossible. In adherence with the Naval Sea Systems Command Ordnance Pamphlet 5, the Proposed Action would require establishment of a new Explosive Safety Quantity Distance Arc. Construction and maintenance would continue to be coordinated with the NALF SCI Range Operations Center (or other appropriate personnel) to ensure safety of personnel working in specific areas. Furthermore, the Proposed Action would include the installation of a vehicle gate that would be closed during launch operations to prevent access.

The Navy has determined that there are no environmental health and safety risks associated with the Proposed Action that would disproportionately affect children. As a result, no significant impacts on public health and safety would be expected as a result of the Proposed Action. Therefore, this resource has not been carried forward for detailed analysis in this EA.

Socioeconomics: No census data are available for SCI because the installation is fully owned and operated by the Department of Defense and on-island personnel are stationed there temporarily. Although SCI is jurisdictionally within Los Angeles County, most personnel who work on SCI live in San Diego and/or are stationed at Naval Base Coronado, Naval Base San Diego, or Naval Base Point Loma. Therefore, the socioeconomic effects of activities on SCI are tied to San Diego County.

SCI is isolated from direct social and economic ties with surrounding communities since it is a remote island. However, SCI has indirect social and economic impacts to the mainland. The city of San Diego has the largest concentration of military in the world. The military is an important part of San Diego's economy by employing local civilians, contracting with local companies, and investing in research. In Fiscal Year 2012, it is estimated that a total of 20.6 billion of direct spending related to defense-industry activities was put into the local economy, amounting to more than 6,500 for each County resident. The military sector is responsible for 311,000 of the region's total jobs in 2012; this represents one out of every four jobs in San Diego. Defense-related activities and spending was estimated to generate 32 billion of gross regional product for San Diego County (San Diego Military Advisory Council 2012). The Proposed Action would not result in any changes to local population, income and revenue, or housing; therefore this resource has not been carried forward for detailed analysis in this EA.

Environmental Justice: Civilian and Navy personnel on assignment, who are not recorded as residents during census counts, staff the military support facilities on SCI. The Proposed Action would not involve any activities that would disproportionately impact minority or low-income populations or children (EO 12898, *Environmental Justice for Low Income and Minority Populations* and EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*); therefore, this resource has not been carried forward for detailed analysis in this EA.

3.1 Biological Resources

Biological resources include living, native, or naturalized plant and animal species and the habitats within which they occur. Plant associations are referred to generally as vegetation, and animal species are referred to generally as wildlife. Habitat can be defined as the resources and conditions present in an area that support a plant or animal.

Within this EA, biological resources are divided into two major categories: (1) terrestrial vegetation and (2) terrestrial wildlife. Threatened, endangered, and other special status species are discussed in their respective categories.

Many federal and state species of concern are not included in this EA's analysis because their habitat is not anticipated to be disturbed by the Proposed Action. These species include marine mammals, marine invertebrates, and seabirds.

3.1.1 Regulatory Setting

Special-status species, for the purposes of this EA, are those species listed as threatened or endangered under the federal Endangered Species Act (ESA) and species afforded federal protection under the Migratory Bird Treaty Act (MBTA) and the Memorandum of Understanding between the U.S. Department of Defense and the U.S. Fish and Wildlife Service (USFWS) (DoD and USFWS, 2014).

The purpose of the ESA is to conserve the ecosystems upon which threatened and endangered species depend and to conserve and recover listed species. Section 7 of the ESA requires federal agencies to consult with the USFWS, National Marine Fisheries Service, or National Oceanic and Atmospheric

Administration to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in the destruction or adverse modification of designated critical habitat. Areas owned, controlled, or designated for use by the Department of Defense are excluded from critical habitat designation where an Integrated Natural Resources Management Plan (INRMP) has been developed that, as determined by the Department of Interior or Department of Commerce Secretary, provides a benefit to the species subject to critical habitat designation.

Birds, both migratory and most native-resident bird species, are protected under the MBTA, and their conservation by federal agencies is mandated by EO 13186, *Migratory Bird Conservation*. Under the MBTA it is unlawful by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, [or] possess migratory birds or their nests or eggs at any time, unless permitted by regulation. The 2003 National Defense Authorization Act gave the Secretary of the Interior authority to prescribe regulations to exempt the Armed Forces from the incidental taking of migratory birds during authorized military readiness activities. The final rule authorizing the Department of Defense to take migratory birds in such cases includes a requirement that the Armed Forces must confer with the USFWS to develop and implement appropriate conservation measures to minimize or mitigate adverse effects of the proposed action if the action would have a significant negative effect on the sustainability of a population of a migratory bird species.

The Coastal Zone Management Act establishes a federal-state partnership to provide for the comprehensive management of coastal resources. Coastal states and territories develop management programs based on enforceable policies and mechanisms to balance resource protection and coastal development needs. Actions implemented on federal lands must ensure consistency with these plans and programs to the maximum extent practicable. See **Section 5.2** for the discussion regarding the Coastal Zone Management Act.

3.1.2 Affected Environment

The following discussions provide a description of the existing conditions at SCI, relative to the Proposed Action area, for each of the categories under biological resources.

3.1.2.1 Terrestrial Vegetation

Vegetation includes terrestrial plant communities and constituent plant species. There are fewer flora species on SCI compared to a similar sized area on the mainland. Despite this, SCI has a high number of species that are either endemic to SCI or endemic to several of the Channel Islands. Howe and Zink (2012) reported a total of 46 endemic species from SCI: 16 SCI endemics, 10 species endemic to SCI and Guadalupe Island, and 20 species endemic to more than one Channel Island.

The most recent island-wide vegetation mapping effort was conducted in 2011 and was classified using the National Vegetation Classification System (RECON, 2011). The most recent classification and mapping effort of plant communities on SCI were developed in 2014 and were also classified using the National Vegetation Classification System (HDR, 2014). However, the 2014 mapping effort does not encompass the Proposed Action area in its entirety; the 2011 mapping effort is used for analysis where the 2014 mapping boundaries end. Plant communities occurring in the Proposed Action area include Coastal Baja California Norte Maritime Succulent Scrub, Ruderal, and Other Land Cover Types; these plant communities are described below and are shown in **Figure 3-1**. The description provided below for plant communities are at the National Vegetation Classification System Group Level.

Coastal Baja California Norte Maritime Succulent Scrub. This group of National Vegetation Classification System alliances is characterized by shrub and succulent species such as California boxthorn (*Lycium californicum*), coast prickly pear (*Opuntia littoralis*), lemonade berry (*Rhus integrifolia*), golden spined cereus (*Bergocactus emoryi*), and coast cholla (*Cylindropuntia prolifera*). These alliances occur on maritime coastal bluffs and terraces primarily on the western and northern portions of NALF SCI (Navy 2013a).

Ruderal Group. This group consists of disturbed areas in various stages of vegetation recovery. Most of these areas are dominated by non-native forbs such as Russian thistle (*Salsola tragus*), Australian saltbush (*Atriplex semibaccata*), crystalline iceplant (*Mesembryanthemum crystallinum*), sea fig (*Carpobrotus chilensis*), Hottentot fig (*Carpobrotus edulis*), and non-native grasses such as wild oats (*Avena barbata*) and bromes (*Bromus* spp.). Ruderal areas occur adjacent to existing structures, roads and construction zones but also could be in remote areas that were actively used but are now fallow (e.g., old airfield).

Other Land Cover Types. This classification refers to areas such as roads, dirt roads, and other surfaces that are devoid of vegetation, such as developed areas, cliffs, and rocky intertidal areas.

3.1.2.1.1 Federally Listed Special Status Species

Six federally listed plant species are known to occur on SCI: San Clemente Island lotus (*Acmispon dendroideus* var. *traskiae*), San Clemente Island Indian paintbrush (*Castilleja grisea*), San Clemente Island larkspur (*Delphinium variegatum* subsp. *kinkiense*), San Clemente Island woodland-star (*Lithophragma maximum*), San Clemente Island bush-mallow (*Malacothamnus clementinus*), and Santa Cruz Island rockcress (*Sibara filifolia*). However, there are no known records of these species occurring within the Proposed Action area (HDR, 2014).

3.1.2.1.2 Non-Federally Listed Special Status Species

A number of plant species designated by the California Native Plant Society (CNPS) as sensitive (having a California Rare Plant Rank [CRPR]) are known to occur on SCI. San Clemente Island milkvetch (*Astragalus nevinii*) is the only CNPS sensitive plant species observed within the Proposed Action area (HDR, 2014). *Aphanisma* (*Aphanisma blitoides*) has been observed directly adjacent to the Proposed Action area (HDR, 2014). San Clemente Island milkvetch and *Aphanisma* are rated 1B.2 by the CNPS, which means they are plant species that are rare, threatened, or endangered in California and elsewhere and is moderately threatened in California (20-80% occurrences threatened). CNPS sensitive plant species observed near the Proposed Action area are depicted in **Figure 3-2**.

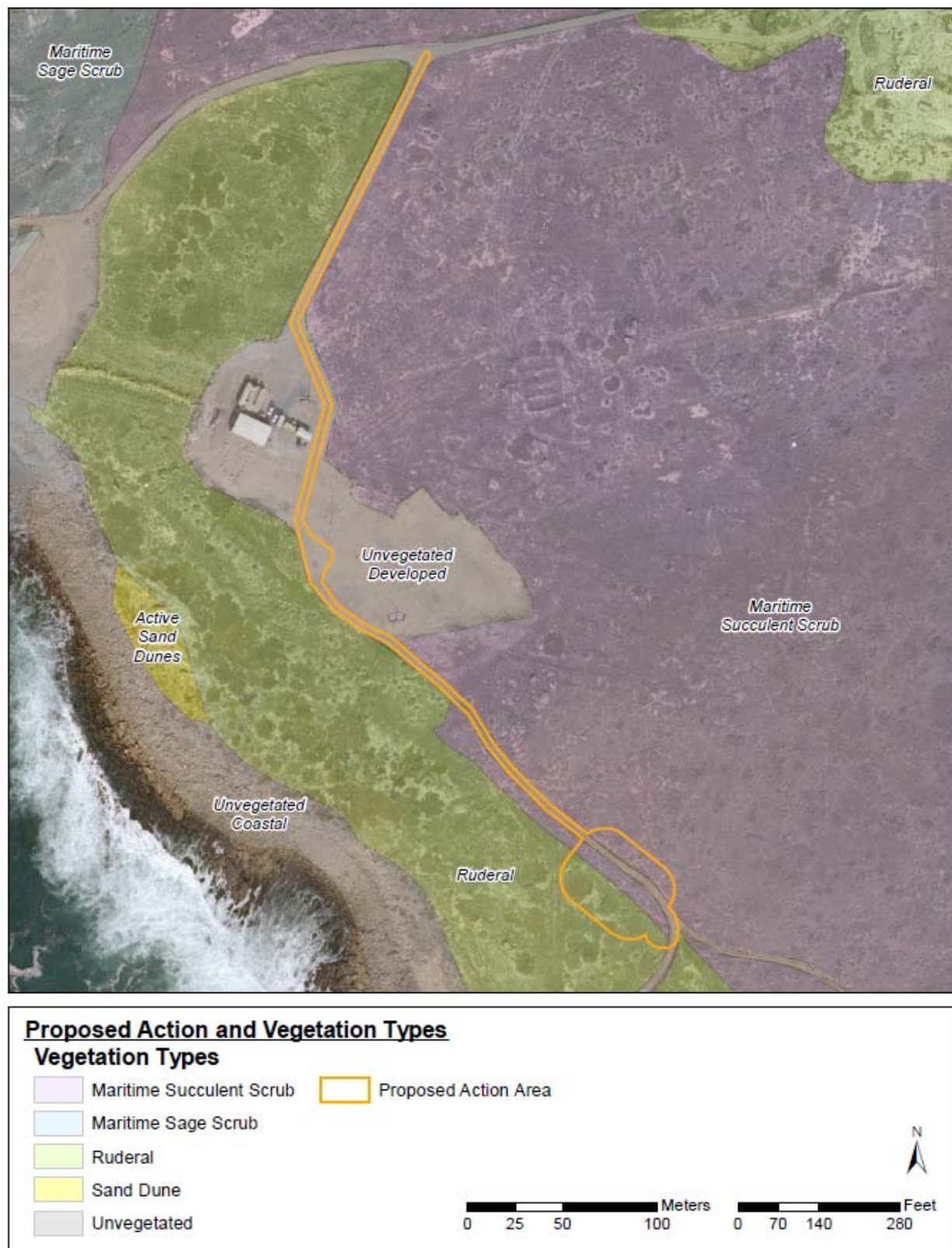


Figure 3-1. Vegetation Types Surrounding the Proposed Action Area
(RECON, 2011)

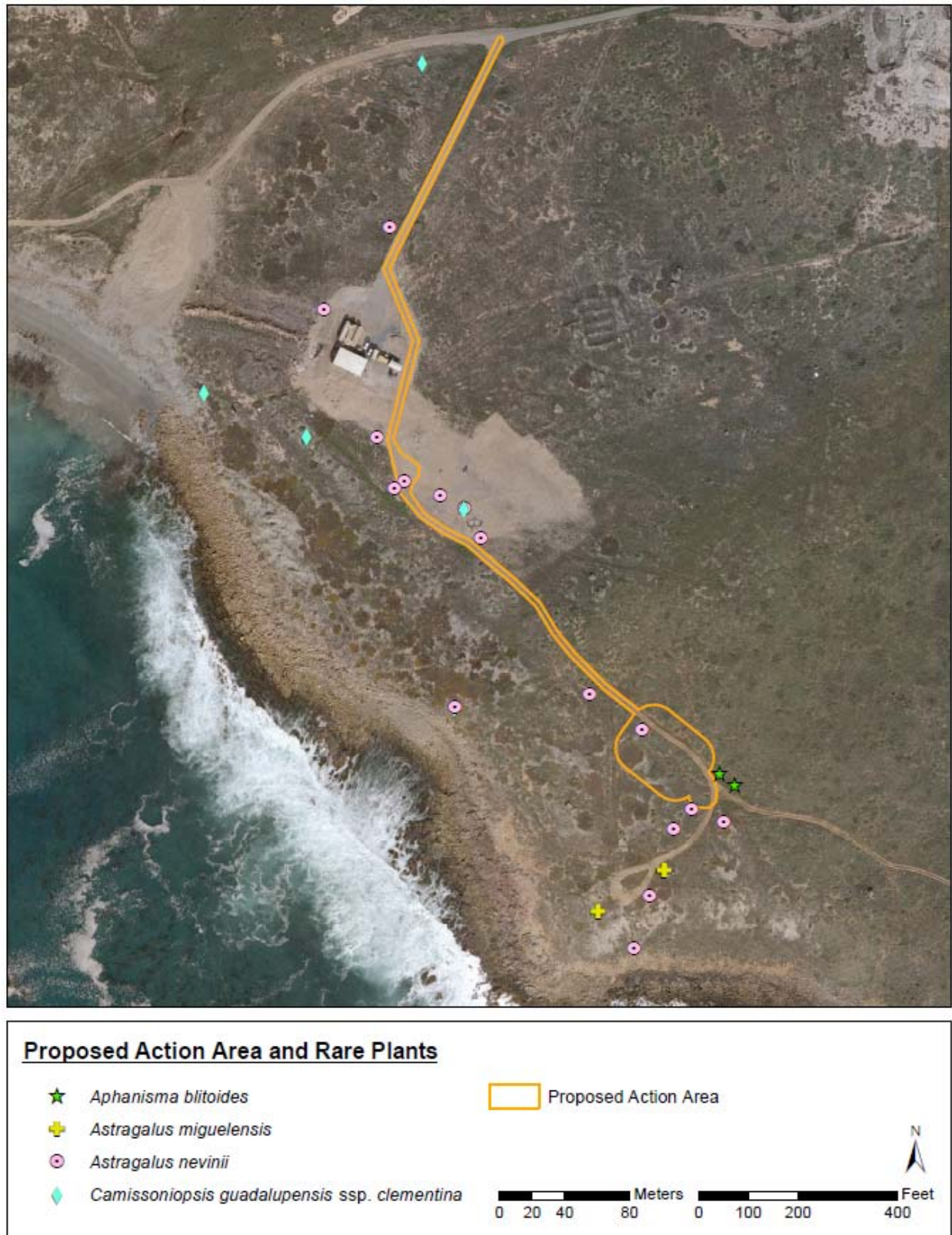


Figure 3-2. California Native Plant Society Rare Plants in Proximity to the Proposed Action
(HDR, 2014) and (Junak, 2006)

3.1.2.2 Terrestrial Wildlife

Wildlife includes all animal species (i.e. insects and other invertebrates, freshwater fish, amphibians, reptiles, birds, and mammals).

Characterization of fauna occurring on NALF SCI was based on data presented in the 2013 INRMP (Navy 2013a) and incidental observations during surveys conducted in 2014 (HDR, 2014). SCI supports a diverse assemblage of terrestrial invertebrates, terrestrial reptiles, resident and migratory birds, and mammals.

Birds. At least 350 bird species, including sensitive species, have been documented on SCI (Stahl, 2012). SCI is used as a stopover point during migration by approximately 129 species. Avian species that use the available habitat on SCI for breeding include, but are not limited to: black-chinned sparrow (*Spizella atrogularis*), western meadowlark (*Sturnella neglecta*), lazuli bunting (*Passerina amoena*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), barn swallow (*Hirundo rustica*), orange-crowned warbler (*Vermivora celata*), grasshopper sparrow (*Ammodramus savannarum*), house finch (*Carpodacus mexicanus*), northern mockingbird (*Mimus polyglottos*), rock wren (*Salpinctes obsoletus*), chipping sparrow (*Spizella passerina*), Pacific-slope flycatcher (*Empidonax difficilis*), black phoebe (*Sayornis nigricans*), black oystercatcher (*Haematopus bachmani*), western gull (*Larus occidentalis*), Scripps's murrelet (*Synthliboramphus scrippsi*), Guadalupe murrelet (*Synthliboramphus hypoleucus*), mourning dove (*Zenaidura macroura*), barn owl (*Tyto alba*), white-throated swift (*Aeronautes saxatalis*), Allen's hummingbird (*Selasphorus sasin*), mallard (*Anas platyrhynchos*), Brandt's cormorant (*Phalacrocorax penicillatus*), double-crested cormorant (*Phalacrocorax auritus*), white-tailed kite (*Elanus leucurus*), red tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and peregrine falcon (*Falco peregrinus*). Three federally listed bird taxa occur on SCI: the endangered San Clemente loggerhead shrike (*Lanius ludovicianus mearnsi*), the threatened western snowy plover (*Charadrius alexandrinus nivosus*), and the threatened San Clemente Bell's sparrow (*Artemisiospiza belli clementae*). These three species are described in detail in **Section 3.1.2.2.1**.

Amphibians and Reptiles/Mammals

There are only two species of reptiles, the side-blotched lizard (*Uta stansburiana*) and the island night lizard (*Xantusia riversiana*), that occur on SCI (Schoenherr et al., 1999).

There are three native terrestrial mammals on SCI: San Clemente Island deer mouse (*Peromyscus maniculatus clementis*), the state threatened San Clemente Island fox (*Urocyon littoralis clementae*), and the California bat (*Myotis californicus*). Historically, several mammal species were introduced to SCI, but only the house mouse (*Mus musculus*), black rat (*Rattus rattus*), and the feral cat (*Felis domesticus*) still occur on SCI.

San Clemente Island Fox. The San Clemente Island fox is a State of California threatened species. The species is a small canid endemic to California's Channel Islands. Six subspecies are recognized, with each subspecies restricted to a single island. Though the species is listed as threatened under the California ESA, the Navy and USFWS entered into a Conservation Agreement in 2003 to identify and implement measures for the San Clemente Island fox with the intent of avoiding population declines, which might lead to the Federal listing of this species under the ESA. The Conservation Agreement has been successful to date and the species has not been listed (Navy, 2013a).

The adult island-wide population estimate for 2016 was 880 foxes (Maestas et al, 2017). Foxes tend to occur at higher densities in the north end of SCI potentially due to a more resource-rich habitat from

urban development, which may artificially increase food sources. In 2016, known-fates analysis from the radio-collared foxes yielded an annual survival rate for adults of 94%, while the apparent survival estimate from the grid-based mark-recapture analysis was 73% (Maestas et al., 2017). However, it is important to note that because radio-collared foxes are selected to be younger age classes and distant from roads (to support sentinel monitoring study objectives) this 94% survival estimate is likely biased high relative to true fox population survival across age classes and locations. While the 73% survival estimate is likely biased low due to emigration. True survival is likely between 73 and 94%.

Potential threats to the fox include human-fox interactions and disease. Aside from environmental factors (e.g., lack of rainfall and resource availability), the most likely immediate causes of island fox mortality are human-induced, specifically vehicle collisions. Foxes using habitat close to roads experience higher mortality rates. The most important potential threat to the island fox is disease, especially since foxes are most dense in the northern part of SCI where human activity is highest and the potential for disease introduction is likely the greatest as urban areas may concentrate foxes and thus increase their contact rates and likelihood of transmission (Gregory et al. 2012).

Invertebrates

There are over 100 terrestrial insects that are endemic to the Channel Islands. In total, 43 occur on NALF SCI, and 27 are endemic to SCI. These include but are not limited to the San Clemente Island coenonycha beetle (*Coenonycha clemntina*), robber fly (*Efferia dementi*), mealybug (*Heliococcus demente*), thread-waisted wasp (*Ammophila azteca demente*), rass miner moth (*Agonopterix toega*), silk-spinning cricket (*Cnemotettix pulvillifer*), harvestman (*Protolophus cockerelli*), and Gabb's snail (*Micrarionta gabbii*). A complete list is presented in the 2013 INRMP (Navy 2013a).

3.1.2.2.1 Federally Listed Special Status Species

Three terrestrial wildlife species listed as federally threatened or endangered occur on SCI: the endangered San Clemente loggerhead shrike, the threatened western snowy plover, and the threatened San Clemente Bell's sparrow. These three species are described in detail below.

San Clemente Loggerhead Shrike. The San Clemente loggerhead shrike is a small, predatory passerine that is a federally endangered subspecies endemic to SCI. It feeds on a variety of prey including insects, lizards, rodents and small birds (USFWS 2009a). Habitat alteration and invasive species have been the main reasons for the population decline of the loggerhead shrike. Beginning in 1862, cattle and goat grazing drastically changed the ecosystem. Grazing animals were extirpated in the early 1990s leaving predation by feral cats and black rats as threats to native avian species such as the loggerhead shrike (USFWS 2009a). The San Clemente Loggerhead Shrike population fell to a low of 14 individuals in 1998 and has increased since then due in part to habitat recovery and captive breeding efforts on SCI. The captive breeding and release program continues to augment the wild population.

Over the past 20 years, the population estimate has ranged from a low of 4 breeding pairs in 1991 to a high of 82 in 2009 (Navy 2013a). In 2013, the minimum population estimate, including only adults observed in March, was 133 individuals. Above average rainfall prior to some breeding seasons, supplemental feeding, a captive propagation and reintroduction program, and an ongoing predator control program have contributed to the increase in the breeding population (Navy 2013a).

The majority of shrike nesting sites occur in the canyons on the east and west side of SCI, the southeastern escarpment, and the mid-island central terrace (Navy, 2013a). Shrikes do not currently

nest north of Wilson Cove, nor do they nest on the lowest terraces of the west shore. They do not occur as a breeding or wintering taxa within the vicinity of the proposed project area.

Western Snowy Plover. The western snowy plover is a small shorebird that breeds along the western coast of North America as well as the interior parts of many western states including Oregon, California, Washington, and Nevada. The Pacific population breeds and winters along the Pacific coast, and while it may interbreed on rare occasions, it is genetically isolated from the rest of the western snowy plover populations. The population of the species within the U.S. in 2008 was reported as 1,812 individuals (Navy 2013a). The Pacific population of the western snowy plover was listed as threatened by the USFWS in 1993.

Typical plover nesting habitat on SCI is lacking. Plovers generally prefer to nest on the ground on sand spits, dune-backed beaches, wide beaches and open areas near river mouths. These areas are limited or non-existent on SCI. However, there have been several recorded incidents of breeding plovers on SCI. It is estimated that western snowy plover breeding on SCI will remain low due primarily to lack of nesting habitat and secondarily to the presence of native and non-native predators (e.g., island fox, burrowing owls, feral cats, and rats) as well as temporary human activities on beaches in training areas (Navy 2013a).

Snowy plovers are more common on SCI during winter. Access to large portions of potential habitat is restricted because of unexploded ordinance, and therefore there is limited information on abundance of plovers on the southern beaches within the high explosive impact areas. As many as 28 plovers were detected in Pyramid Cove during December 2003, which is one of six beaches that might be visited by plovers. During winter months in 2010, 24 plovers were detected on West Cove, BUD/S Beach, and Graduation Beach (Navy 2013a). More recently, western snowy plovers were detected breeding at West Cove Beach (USFWS, 2013).

The Navy currently supports western snowy plover surveys and management activities on SCI. There is western snowy plover habitat at West Cove Beach, to the north of the proposed project area; however, western snowy plovers do not utilize the type of habitat that is present within the Proposed Action area.

San Clemente Bell's Sparrow. The San Clemente Bell's sparrow is a small, non-migratory passerine endemic to SCI. It occurs in its highest densities within the maritime desert scrub community, where California boxthorn (*Lycium californicum*) is common. The recorded population dropped to a low of 38 individuals in 1984, although sampling at that time did not record all individuals so the 38 is not expected to reflect a total island population. During the USFWS's 5-year review conducted in 2008, the population was estimated at 539 adults. However, this species has expanded its range and more recent island-wide monitoring indicates a larger, more stable population. Pairs breed and raise chicks solely in the wild, there is no breeding program; however, the population is closely monitored by the Navy cooperatively with the Institute for Wildlife Studies (IWS) (USFWS 2009b).

The species is a federally threatened species due to its limited distribution on SCI and habitat degradation due to overgrazing by pigs and goats. The 2016 estimate of the adult Bell's sparrow population was 4,354, with a 95% confidence interval of 3,190-5,517 (Meiman et al. 2016). This species breeds in shrublands and scrublands, predominantly maritime succulent scrub and coastal sage scrub habitats. Highest nest densities occur in areas of high boxthorn cover and low cover of bare ground (Navy 2013a). Much of this habitat is found on SCI's north-west facing marine terraces at low elevations. The highest densities of breeding San Clemente Bell's sparrows are found at lower elevations along the west shore between the sand dunes and Eel Point (Sullivan and Ebershner 2005).

As discussed in **Section 3.1.2.1**, the Proposed Action area consists of the types of vegetation that serve as nesting habitat for the San Clemente Bell's sparrow (**Figure 3-1** and **Table 3-2**). As the 2016 Bell's sparrow population monitoring estimated the island-wide Bell's sparrow population to be 4,354, the corresponding number of sparrow territories present on the 13,126 hectares of SCI is 2,176.86, with a 95% confidence interval of 1,595.02–2,758.70 territories. The Proposed Action occurs within the highest measured habitat quality on SCI for the San Clemente Bell's sparrow (Meiman et al., 2016).

3.1.2.2.2 Non-Federally Listed Special Status Species

Sensitive wildlife species include those that are listed as endangered, threatened or rare under the State of California's ESA, California Species of Special Concern, and California Fully Protected Species. Five state-listed threatened and endangered wildlife species have been documented on SCI, including: the island night lizard (*Xantusia riversiana*), Scripps's murrelet (*Synthliboramphus scrippsi*), willow flycatcher (*Empidonax traillii*), bank swallow (*Riparia riparia*), and San Clemente Island fox (*Urocyon littoralis clementae*) (Navy, 2013a). A complete list of protected and sensitive species, including California species of special concern and birds listed on USFWS birds of conservation concern, that have been documented on SCI are presented in the 2013 INRMP (Navy, 2013a).

3.1.3 Environmental Consequences

This analysis focuses on wildlife or vegetation types protected under federal or state law or statute.

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 USC 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 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 USFWS or the National Marine Fisheries Service would be responsible for completing a biological opinion on the action and could issue an incidental take statement.

3.1.3.1 No Action Alternative

Under the No Action Alternative, the Navy would discontinue launches of aerial targets at NALF SCI and there would be no change to biological resources. Therefore, no significant impacts to biological resources would occur with implementation of the No Action Alternative.

3.1.3.2 Proposed Action

Under the Proposed Action, the Navy would relocate the existing aerial target launch site from the Red Label Area at NALF SCI to the Capitaine site by West Cove and would henceforth be utilized for NALF SCI aerial target launch operations. The area for the analysis of effects to biological resources associated with the Proposed Action includes areas where construction and ground disturbance would occur (concrete pads and road improvements) and habitats in the vicinity of the Proposed Action area where wildlife could be impacted by construction, maintenance, or aerial target launch related disturbances.

3.1.3.2.1 Terrestrial Vegetation

Direct impacts on vegetation would be expected from the permanent removal of vegetation. Direct, temporary impacts could occur from trampling by workers or equipment. Vegetation clearing would result in conversion or degradation of habitat. In addition to the direct disturbance of vegetation associated with vegetation clearing, construction or maintenance activities could disturb habitats immediately adjacent to the Proposed Action area resulting in establishment of different plant communities (including invasive species) in neighboring areas. Additional direct impacts could occur from construction equipment-generated fugitive dust.

As described in **Section 3.1.2.1**, plant communities occurring in the Proposed Action area include Coastal Baja California Norte Maritime Succulent Scrub, Ruderal, and Other Land Cover Types. The total new disturbance under the Proposed Action would be 0.82 acres (see **Table 2-1**). Based on the 2013 INRMP, there is approximately 21,441.4 acres of Coastal Baja California Norte Maritime Succulent Scrub on SCI (Navy, 2013a). Vegetation within the Ruderal and Other Land Cover Types communities are highly disturbed, modified, landscaped or mowed regularly. Therefore, plant communities that would be permanently impacted by the Proposed Action are either relatively disturbed, dominated by non-native species, or relatively common on SCI.

3.1.3.2.1.1 Federally Listed Special Status Species

As described in **Section 3.1.2.1.1**, there are no federally listed plant species found within the Proposed Action area. Therefore, federally listed plant species would not be affected by the Proposed Action.

3.1.3.2.1.2 Non-Federally Listed Special Status Species

As discussed in **Section 3.1.2.1.2** and shown in **Figure 3-2**, San Clemente Island milkvetch is the only CNPS sensitive plant species observed within the Proposed Action area (HDR, 2014). Individuals of this species within the Proposed Action area would likely be removed during construction activities. The population estimate for SCI is 205 occurrences with 36,100 individuals with an increasing population trend (Navy, 2013a). Approximately 25 individuals of this species were observed in the Proposed Action area (HDR, 2014). Due to the relative abundance of San Clemente Island milkvetch on SCI, this species would not be significantly impacted by the Proposed Action.

As discussed in **Section 3.1.2.1.2** and shown in **Figure 3-2**, Aphanisma, a CNPS sensitive plant species, has been observed directly adjacent to the Proposed Action area (HDR, 2014). Individuals of this species could be directly impacted from construction equipment-generated fugitive dust. The population

estimate for SCI is 175 occurrences with 31,400 individuals with an increasing population trend (Navy, 2013a). Approximately 4 individuals of this species were observed adjacent to the Proposed Action area (HDR, 2014). Due to the relative abundance of *Aphanisma* on SCI, this species would not be significantly impacted by the Proposed Action. Therefore, impact on non-federally listed special status species would be less than significant.

Furthermore, in accordance with the NALF SCI INRMP and Department of Defense Instruction 4715.03 *Natural Resources Conservation Program*, conservation and management efforts of state-listed special status species is only required when such action is practicable and does not conflict with legal authority, military mission, or operational capabilities. Constructing an alternate aerial target launch site under the Proposed Action is essential for achieving the military mission and operational capabilities of NALF SCI, as described in **Section 1.3**.

3.1.3.2.2 Terrestrial Wildlife

Impacts to wildlife under the Proposed Action could be direct (e.g. mortality or injury from construction activities) or indirect (e.g., future modification of everyday behavior from disturbances and habitat fragmentation effects).

Direct impacts to wildlife associated with construction or maintenance activities under the Proposed Action would include temporary and permanent displacement of individual wildlife species from land that provides wildlife habitat. Relatively small numbers of individuals of smaller, less mobile species and those seeking refuge in burrows (e.g., invertebrates and reptiles) could inadvertently be killed during construction activities. Because these species occur throughout SCI and the Proposed Action area is relatively small compared to the occupied or available habitat at SCI, significant impacts to population levels of invertebrates and reptiles would not be expected.

Indirect impacts associated with habitat fragmentation would be minimal. Occupied habitat occurs throughout most of SCI for invertebrates and reptiles. The Proposed Action area occurs within or adjacent to an existing road and areas of new disturbance and is relatively small (see **Table 2-1**). As described in **Section 3.1.3.2.1**, habitat that would be permanently impacted by the Proposed Action is either relatively disturbed, dominated by non-native species, or relatively common on SCI. Therefore, significant habitat fragmentation effects would not reach a population level impact. In addition, temporary impacts on terrestrial wildlife could occur from noise and habitat disturbances associated with construction, maintenance, or aerial target launch activities. Existing conditions include high levels of noise associated with the air operations that occur within close proximity to the Proposed Action area. Increases in noise levels from construction, maintenance, or aerial target launch activities would be negligible and temporary compared to the ambient noise environment.

3.1.3.2.2.1 Federally Listed Special Status Species

The San Clemente loggerhead shrike has never been known to either nest or winter within the Proposed Action area. In addition, San Clemente loggerhead shrikes occur at very low densities at the northern end of SCI. Therefore, the San Clemente loggerhead shrike would not be affected by the Proposed Action.

The western snowy plover occurs elsewhere on SCI, but not in the Proposed Action area due to the absence of sandy beach habitat, and would, therefore, not be affected by the Proposed Action.

The Navy has determined that implementing the Proposed Action is *likely to adversely affect* the San Clemente Bell's sparrow; therefore, formal consultation with the USFWS has been conducted, as required by section 7 of the ESA, and correspondence has been included in **Appendix C**. In a letter dated May 17, 2018, the USFWS determined the Proposed Action is not likely to jeopardize the continued existence of the Bell's sparrow and provided an Incidental Take Statement (**Appendix C**).

Impacts on the San Clemente Bell's sparrow could occur from construction or aerial target launch activities at the Capitaine site. Construction periods would be relatively short and occur outside the nesting season. Bell's sparrow would likely respond to the human activities and construction noise by flying from the disruption. The impact of the temporary disturbance and displacement from the construction activities will likely be insignificant (**Appendix C**). Aerial target launches would be infrequent, brief episodes of loud noise. This noise may result in physical harm to incubating adult sparrows or nest abandonment due to the intensity of disturbance. The USFWS issued an Incidental Take Statement for the Bell's sparrow adults or fledglings that could be killed or injured due to aerial target launches, but determined that this level of impact is not likely to result in an appreciable reduction in the reproduction, numbers, or distribution of the Bell's sparrow on SCI (**Appendix C**). Included in **Table 3-4** are conservation measures to be implemented during construction and launch activities to avoid and minimize impacts to the San Clemente Bell's sparrow (**Appendix C**).

3.1.3.2.2 Non-Federally Listed Special Status Species

Direct and indirect impacts, both permanent and temporary, to the non-federally listed special status wildlife species would be similar to those described above for general terrestrial wildlife. There is the potential for the Proposed Action to have adverse impacts on non-federally listed special status species due to ground and habitat disturbance, and long-term habitat or vegetation removal. The total new disturbance under the Proposed Action would be 0.82 acres (see **Table 2-1**). As discussed in **Section 3.1.3.2.11**, habitat that would be permanently impacted by the Proposed Action is either relatively disturbed, dominated by non-native species, or relatively common on SCI. Therefore, impact on non-federally listed special status species would be less than significant.

Furthermore, in accordance with the NALF SCI INRMP and Department of Defense Instruction 4715.03 *Natural Resources Conservation Program*, conservation and management efforts of state-listed special status species is only required when such action is practicable and does not conflict with legal authority, military mission, or operational capabilities. Constructing an alternate aerial target launch site under the Proposed Action is essential for achieving the military mission and operational capabilities of NALF SCI, as described in **Section 1.3**.

3.1.3.2.3 Summary

The Proposed Action would not further threaten the existence of any protected species or critical/sensitive habitats. Additionally, installation personnel would continue to manage habitats according to the INRMP to the extent funding is available, which is, among other things, designed to protect and benefit threatened and endangered species.

Adverse impacts on terrestrial vegetation or terrestrial wildlife would be minimized through the use of impact avoidance and minimization measures listed in **Section 3.3, Table 3-4**.

In summary, impacts on biological resources under the Proposed Action would not be significant.

3.2 Cultural Resources

This discussion of cultural resources includes prehistoric and historic archaeological sites; historic buildings, structures, and districts; and physical entities and human-made or natural features important to a culture, a subculture, or a community for traditional, religious, or other reasons. Cultural resources can be divided into three major categories:

- Archaeological resources (prehistoric and historic) are locations where human activity measurably altered the earth or left deposits of physical remains.
- Architectural resources include standing buildings, structures, landscapes, and other built-environment resources of historic or aesthetic significance.
- Traditional cultural properties may include archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

3.2.1 Regulatory Setting

Cultural resources are governed by other federal laws and regulations, including the National Historic Preservation Act (NHPA), Archeological and Historic Preservation Act, American Indian Religious Freedom Act, Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA). Federal agencies' responsibility for protecting historic properties is defined primarily by sections 106 and 110 of the NHPA. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties. Section 110 of the NHPA requires federal agencies to establish—in conjunction with the Secretary of the Interior—historic preservation programs for the identification, evaluation, and protection of historic properties. Cultural resources also may be covered by state, local, and territorial laws.

Cultural resources listed in the National Register of Historic Places (NRHP) or eligible for listing in the NRHP are “historic properties” as defined by the NHPA. The list was established under the NHPA and is administered by the National Park Service on behalf of the Secretary of the Interior. The NRHP includes properties on public and private land. Properties can be determined eligible for listing in the NRHP by the Secretary of the Interior or by a federal agency official with concurrence from the applicable State Historic Preservation Office (SHPO). A NRHP-eligible property has the same protections as a property listed in the NRHP. The historical properties include archaeological and architectural resources.

Historic properties must be important in American history, have physical integrity, and meet at least one of the following NRHP criteria defined in 36 CFR part 60.4:

- Criterion A: Be associated with events that have made a significant contribution to the broad patterns of American history;
- Criterion B: Be associated with the lives of persons significant in the American past;
- Criterion C: Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: Yield, or may be likely to yield, information important in prehistory or history

To convey significance and qualify for the NRHP, historic properties also possess several, and usually most of the following aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

Cultural resources within NALF SCI are managed in accordance with the NHPA, the Archaeological Resources Protection Act, the American Indian Religious Freedom Act, NAGPRA, and appropriate Navy Instructions. The Navy also abides by a Programmatic Agreement (PA) with the California SHPO and the Advisory Council on Historic Preservation that requires the identification, evaluation, and treatment of historic properties on lands managed at SCI to ensure protection of cultural resources and coordination between the Navy and the California SHPO (CO NBC, 2008). The PA contains stipulations that address cultural resource staffing, coordination and information exchange with the SHPO, standard procedures, special procedures, public participation, dispute resolution, training of nonprofessional staff, reports and monitoring, reviews, amendments, suspension, termination, execution, and implementation.

An Integrated Cultural Resources Management Plan (ICRMP) for NALF SCI was completed in 2012 (Navy, 2012). The document provides guidance to staff at NALF SCI to ensure that all laws, regulations, policies, and directives related to cultural resources are appropriately followed while fulfilling the Navy's mission. The ICRMP also provides standard operating procedures for routine actions that may affect cultural resources (Navy, 2012). The ICRMP also informs the Commanding Officer of Naval Base Coronado (CO NBC) on the proper procedures to manage cultural resources in light of the activities that will be carried out at the installation. As defined under 36 CFR 800.2(a), the CO NBC is the agency official responsible for ensuring that undertakings occurring on installations under jurisdiction of NBC including NALF SCI, that may affect cultural resources will comply with all applicable federal requirements and regulations. The NBC PWO and Installation Environmental Program, with direct support from the NALF SCI CRPM at the Navy Region Southwest Cultural Resources Program, provides the professionally qualified cultural resources staff expertise required under the PA to support CO NBC in meeting these historic preservation and stewardship responsibilities.

Any inadvertent discovery of sensitive archaeological materials within the Proposed Action area would be handled in accordance with the Navy's management practices, which include provisions for stopping work and notifying the appropriate parties. If human remains are inadvertently discovered, then the procedures established under the NAGPRA and Chief of Naval Operations Instruction 11170.2 series, Navy Responsibilities Regarding Undocumented Human Burials, would be followed.

3.2.2 Affected Environment

The Navy has conducted inventories of cultural resources at NALF SCI to identify historical properties that are listed or potentially eligible for listing in the NRHP (Navy, 2012).

3.2.2.1 Cultural Context

The extended history of archaeological research on SCI has resulted in the discovery of over 4,250 cultural sites and a wealth of knowledge about the prehistory and history not only of the island, but also of the surrounding region. From exploration and artifact collection starting in the late 1800s to a sustained cultural resource management program today, the cultural data collected from SCI has been integral to our understanding of regional maritime adaptations and in developing an understanding the cultural prehistory and history of the island. Below is a brief overview of the island prehistory and history. For more detailed information, Raab and Yatsko (2001) provide an in depth synthesis of island research through time as well as a detailed island cultural chronology.

Prehistory. The earliest identified occupation on SCI is at CA-SCLI-43, the Eel Point site. Samples collected from the basal stratum of excavation unit 29N15E dated to approximately 8940 radiocarbon years before present (RYBP) (Raab et al. 2009). The Early Holocene (10,500 to 7000 RYBP) cultural component at Eel Point “reflects a substantial degree of residential permanence,” with abundant tools, food remains, hearths, and a possible structure present at the site (Raab et al. 2009). This type of Early Holocene occupation is consistent with occupation chronologies found elsewhere in southern California, particularly on the Northern Channel Islands of San Miguel, Santa Rosa, and Santa Cruz.

The heavy reliance on a maritime economy during the Early Holocene continues and intensifies during the Middle Holocene (7000 to 3500 RYBP) on the islands. Population levels on all the California Islands increased substantially by 7500 RYBP (ennett 2005) and on SCI evidence for increased sedentism is apparent with pithouses and extensive midden deposits appearing as early as 5200 RYBP (Raab and Yatsko 2001). The Nursery site (CA-SCLI-1215) contains three house pits that have been dated to 4820 to 3750 RYBP. These structures were likely built in saucer-shaped pits, with domed roof structures made of whale bone (Raab et al. 2009). House pits dating to roughly the same time period were identified at the Eel Point site (Raab and Yatsko 2001) and further support the conclusion that sedentism emerged on SCI during the Middle Holocene (Salls et. al 1993). Along with this sedentism, an increased reliance on fishing and sea mammal hunting emerged during the Middle Holocene (Raab 1997). Raab and Yatsko (2001) posit that this may be the result of declining foraging efficiency due to population increase resulting from increased sedentism.

The abundant fisheries located around SCI would have provided a food source capable of sustaining subsistence intensification. Opportunistic capture of high return marine mammals could have also supplemented abundant fish captures. Interestingly, at the time when an increased subsistence economy was occurring, there is no concurrent technological elaboration. Technological elaboration is not apparent on SCI until the close of the Middle Holocene (Raab 1997). The circular shell fishhook did not appear until 3300 RYBP, and there is no evidence for harpoons and other specialized gear.

The Late Holocene (3500 RYBP-A.D. 1769) on SCI was a time of general population expansion, with the exception of a decline in population during the Medieval Climactic Anomaly (MCA) (AD 800-1350) (Raab et al. 2002). Although periodic climatic stress was pervasive during the Late Holocene, the MCA was a period of warmer temperatures and associated droughts that researcher have associated with settlement disruptions and subsistence variations, among other cultural changes (Raab and Larson 1997; Jones et al. 1999; Jones and ennett 1999). On SCI, Yatsko (2000) found that settlement shifted during the MCA from upland areas where there was little water to major water holding canyons (Raab et al. 2002). Where other California islands populations showed increased violence and declining health during this time period, SCI seemed to lack significant interpersonal violence (err and Hawley 2002) and skeletal studies show better health during Late Holocene than during the Middle Holocene on the island (ennett and ennett 2000). The Late Holocene in general was also a time of technological advancement with the introduction of the bow and arrow around AD 500-800 and increased cultural complexity and cultural interaction with more extensive trade networks, craft specialization, emergence of mid-range societal structure, and development of more extensive permanent villages.

Ethnohistory and History. While the neighboring island to SCI, Santa Catalina, is more frequently mentioned in European accounts from the sixteenth and seventeenth centuries, the first mention of contact with the peoples on SCI is found in the 1543 summary of Cabrillo’s voyage of exploration along the western coast of North America (Johnson 1988). Originally named La Victoria after one of the ships in his fleet, Cabrillo did not stay on SCI, but rather wintered on Santa Catalina Island. Accounts of

European voyages over the next 200 years provide descriptions of the Catalineño culture on Santa Catalina Island, which may have resembled that of the inhabitants of SCI, but the first ethnohistoric description of the inhabitants of SCI is from Fr. Juan Vizcaino in 1769. His ship, the San Antonio, anchored in Pyramid Cove and Vizcaino recounts that the islanders travelled out to the ship by plank canoe in order to trade with the Spanish. Along with accounts of the visiting plank canoes, Vizcaino noted the material cultural he observed on the islanders, including otter-skin robes, rock crystals, and fishhooks made of twisted cactus spines (Johnson 1988).

The historical period dates to the establishment of the first Spanish Mission on the mainland in San Diego in 1769. It was during this time that Juan Perez, captain of a Spanish Manila galleon, explored SCI (Bruce 1994). It was shortly after this time that population decline occurred on the island. Introduction of European diseases likely started the population decline and may have resulted in migration of remaining islanders to either Santa Catalina or the mainland of California (Johnson 1988). After Perez's initial exploration of the island, it was used only sporadically during the Spanish (AD 1769-1822) and Mexican (AD 1822-1848) occupations of California. During the Spanish Period, SCI was used primarily for otter hunting and smuggling and in the early 1850s, Chinese laborers arrived on the island to exploit the abalone, a delicacy in China at the time. Throughout the 19th and 20th centuries, the island was also used by sheep ranching enterprises under grazing leases from the island's administrative federal agency, the Department of Commerce (Bruce 1994). In the early twentieth century, development began on the island to accommodate the San Clemente Wool Company and included at least 10 water tanks and small reservoirs as well as living facilities for the workers and fences, pens, and troughs for the sheep (Apple and Wahoff 2012).

The military history of the island begins as early as 1933 when the San Clemente Wool Company granted the U.S. Navy a permit to establish, maintain, and use an emergency landing field on SCI (Sturgeon 2002). In December 1934, however, a Presidential executive order passed federal jurisdiction of SCI from the Secretary of Commerce to the control of the Secretary of the Navy. With this administrative change, the U.S. Navy began a more intensive development to transform the island into a training facility for both air and ground forces. The main area for development was the northeastern end of the island, in Wilson Cove. Beginning in 1936 and continuing to the start of World War II, development of the base continued steadily and included construction of a steel pier at Wilson Cove, a road system, fresh water storage tanks, barracks, a mess hall, administrative and support facilities, the Gunnery School, and an airfield. During World War II, the island was used as a training facility and by the 1960s the SCI airstrip and support facilities were completed and the original World War II airstrip was deactivated (Apple and Wahoff 2012, Sturgeon 2002). Most recently, NALF SCI has been used to test naval weapons and instrumentation and has "experienced significant development of naval training ranges (Apple and Wahoff 2012).

3.2.2.2 Area of Potential Effects

As defined by 36 C.F.R. 800.16(d) of Section 106 of the NHPA, the area of potential effects (APE) represents "...the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking."

The determination of the APE for cultural resources is stipulated under Stipulation III.B of the NALF SCI PA (CO NBC, 2008), which states the following:

1. Consistent with 36 CFR 800.16(d), the CRPM shall define an APE as the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The CO NBC will not consult further with the California State Historic Preservation Office or other parties to this PA in determining the APEs for undertakings, except where provided for under Stipulation III.B.3, below. Definitions of APE will be influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by an undertaking. The extent of an APE is further defined by the following provisions:
 - i) For undertakings where an APE occurs more than 82.0 feet (25 meters) from the established boundaries of historic properties, these are considered to lie outside the APE.
 - ii) For undertakings where an APE occurs within 82.0 feet (25 meters) of an established boundary of an historic property, the APE will be considered and defined to include the whole of the historic property.

For undertakings involving ground disturbing activities, the APE will be defined to include all areas of surface and subsurface disturbance, any associated lay down or staging areas, and an 82.0-foot (25-meter) buffer surrounding each area of ground disturbance and associated activities. If any part of an archaeological site falls within the defined APE, the entire extent of the archaeological site will be included in the APE.

The APE for this Proposed Action is depicted in **Figure 3-3** and is consistent with the stipulations prescribed in the PA.

3.2.2.3 Archaeological Resources

Approximately 33 percent of the Island has been intensively surveyed for cultural resources. The majority of recorded sites are prehistoric. Many are small middens containing shellfish, fish, and sea mammal remains along with tools used to process these and other resources. In support of the San Clemente Island EIS, pedestrian surveys were conducted at three locations in the SHOBA (Apple et al. 2003). Surveys have identified over 3,100 archeological sites which have been cataloged into an archeological database.

Some 629 of SCI's sites have warning signs posted to help identify them as locations for avoidance. The island-wide archeological database described above also includes 28 identified historic period cultural resources. Historic-period sites include the remains of abalone camps along the western shore and remnants of the sheep ranching efforts. These sites often are comprised of rock features with associated domestic debris such as glass or ceramics. Throughout the historic period, the human population of the Island has been low and archeological remains are limited.

A records search was completed by the Navy Region Southwest Cultural Resources Program office for sites immediately adjacent to, or bisected by the project APE (**Table 3-3**). The records search identified one previously recorded archaeological site within the Proposed Action area. The site has not been formally evaluated for listing in the NRHP (Navy, 2012). The site is located primarily near the existing road turnaround by the Proposed Action area.

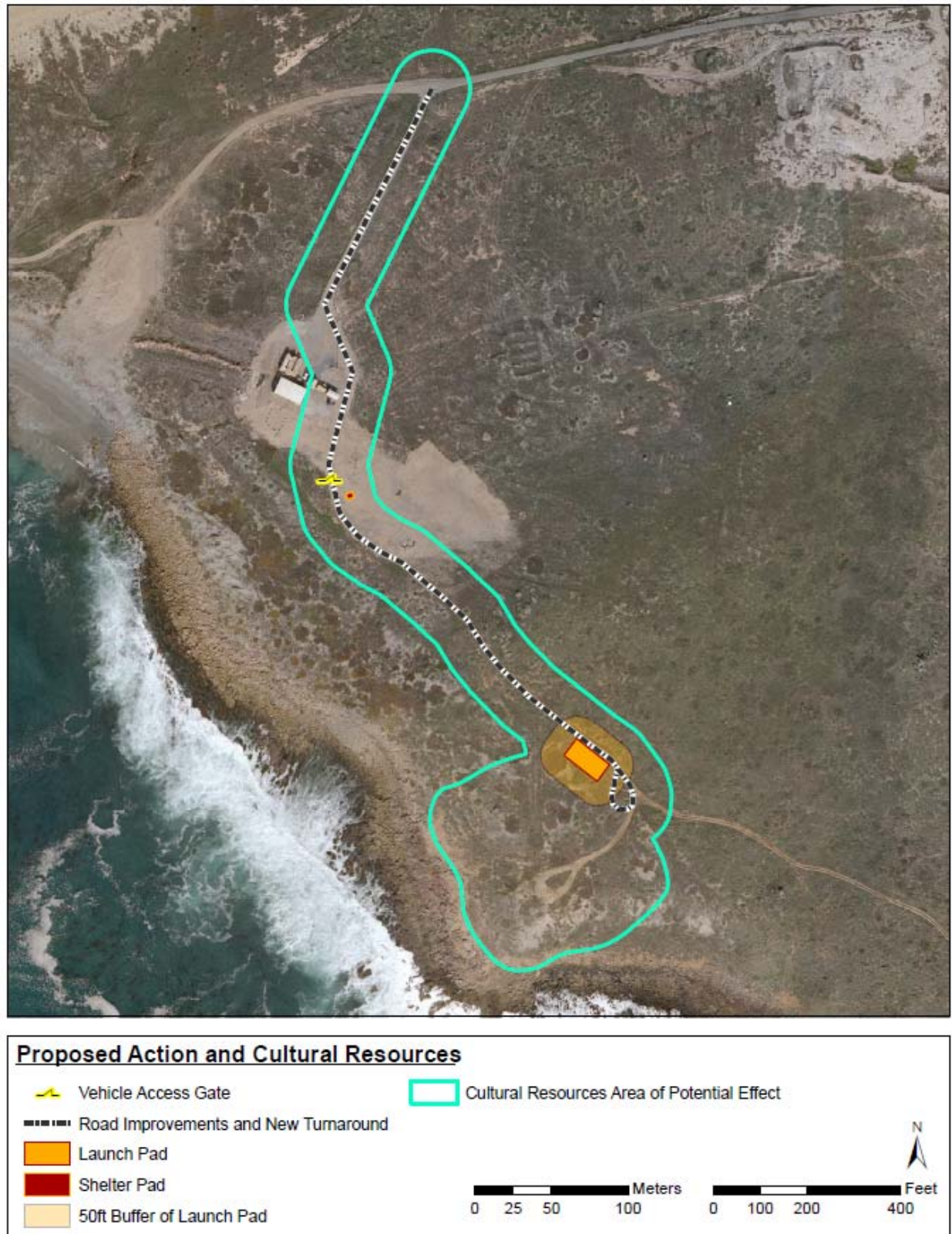


Figure 3-3. Cultural Resources Area of Potential Effects

Table 3-3 Archaeological Sites Located Within or Adjacent to the APE

<i>Site Number</i>	<i>Site Period</i>	<i>Description</i>	<i>Location of Site</i>	<i>Eligibility</i>
LVTA SE-028	Prehistoric	House pit with midden deposit and associated artifact scatter	Adjacent to proposed aerial target launch site	Unevaluated

Site LVTA/SE-028 was initially recorded in 1975 and recently rerecorded in 2015 as a very large, complex dune and terrace site containing four loci. A house pit is present in one of the loci and a possible house pit is recorded in another loci. Areas of shell and carbonaceous soil are present within each of the four loci. The site also contains artifacts such as debitage, manos, metates, pitted stones, choppers, and bowl fragments. Faunal material observed at the site includes *Astrea*, abalone, *Tegula*, a variety of limpet, sea mammal bones, and a sheepshead grinder. Although a number of disturbances were noted at the site, recent researches indicated the overall site conditions remained good (Leonard and Diss, 2015).

3.2.2.4 Architectural Resources

Architectural resources on SCI are primarily related to military activities, and date to World War II and the Cold War, although a few structures predating the military development are present. These structures include three cement water tanks and a dam from the sheep ranching era. Based on a review of the property records for the island, there are 58 pre-World War II and World War II era (1935–1945), 172 Cold War (1946–1989), and 46 modern (1989–1998) buildings and structures. Another 143 structures (dams, tanks, etc.) of undetermined age are also present on the island. One World War II dam has been inventoried (Apple and Allen 1996). A Cold War antenna complex and a missile launch complex, along with two World War II gun range targets, also were inventoried and evaluated (JRP Historical Consulting Services 1997).

3.2.2.5 Traditional Cultural Properties

SCI has been in the stewardship of the U.S. Government since 1848, and public access since that time has been limited. Evidence of some historic-period Native American use exists, but no traditional cultural properties have been identified on SCI. Historical records and archaeological data indicate that SCI was occupied by the Gabrieliño prior to the Mission period. However, there are no extant federally recognized Gabrieliño tribes affiliated with SCI, although Native Americans of Gabrieliño descent have expressed interest and concern about the island's cultural resources.

In preparation of the PA (CO NBC, 2008), the CO NBC consulted with the Pechanga Band of Luiseño Indians, a federally recognized Indian tribe that had attached potential cultural significance to the historic properties on SCI. The Pechanga Band were invited to provide comment on the PA. The CO NBC also identified and consulted with non-federally recognized Gabrieliño Indian groups that may attach religious or cultural significance to historic properties on SCI. These groups included the Gabrieliño/Tongva Nation, Gabrieliño/Tongva Band of Mission Indians of San Gabriel, Coastal Gabrieliño Diegueño Band of Mission Indians, Fernandeño/Tataviam Band of Mission Indians, the Island Gabrieliño Group, and the Spirit of the Sage Council (Navy, 2012).

In 2013, the Navy began consulting with federally recognized Chumash and Luiseño tribes regarding the repatriation of NAGPRA cultural items derived from archaeological sites on San Nicolas Island following review and acceptance of their cultural affiliation with that southern Channel Island. The tribes include the Santa Ynez Band of Chumash Indians, the Pauma Band of Luiseño Indians, the Pechanga Band of Luiseño Indians, and the Rincon Band of Luiseño Indians. By extension of their cultural affiliation with SNI to the other southern Channel Island under the stewardship of the U.S. Government, in 2017 the Navy began consulting with the same four tribes regarding the repatriation of NAGPRA cultural items derived from archaeological sites on San Clemente Island.

3.2.3 Environmental Consequences

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may be the result of physically altering, damaging, or destroying all or part of a resource, altering characteristics of the surrounding environment that contribute to the importance of the resource, introducing visual, atmospheric, or audible elements that are out of character for the period the resource represents (thereby altering the setting), or neglecting the resource to the extent that it deteriorates or is destroyed.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Navy would discontinue launches of aerial targets at NALF SCI and there would be no change to cultural resources. Therefore, no significant impacts to cultural resources would occur with implementation of the No Action Alternative.

3.2.3.2 Proposed Action

Under the Proposed Action, the Navy would relocate the existing aerial target launch site from the Red Label Area at NALF SCI to the Capitaine site by West Cove and would henceforth be utilized for NALF SCI aerial target launch operations. Attachment B to the 2008 PA identifies construction of roads and/or buildings and structures as range sustainment activities that are within scope of the PA; therefore, SHPO consultation is not required.

There are no architectural resources or traditional cultural properties located within the APE, therefore there would be no effect to either as a result of the Proposed Action.

There is one archaeological site, LVTA SE-028, located within the APE for the Proposed Action. The site has not been formally evaluated for listing in the NRHP; however, despite evidence of disturbance within the site, the overall data potential and integrity remain good. Therefore, as is stipulated in section III.C.5.iv of the PA, the site is considered eligible for listing in the NRHP.

Ground-Disturbing Construction and Maintenance Actions. Ground-disturbing actions associated with maintenance and repair have no cultural resource restrictions if actions occur within the APE and outside of the archaeologically sensitive zones. If ground-disturbing actions are within the APE and within an archaeologically sensitive zone, NALF SCI archaeologists must be consulted before action can proceed. The NALF SCI CRPM would determine if the ground-disturbing action has the potential to impact an archaeological property or if there would be no adverse effect on an archaeological property within the designated archaeologically sensitive zone. As stated in Stipulation V.A. of the PA:

- Avoidance Measures. CO NBC would ensure that the authorization of ground-disturbing activities implements, as necessary and appropriate, measures to protect archaeological resources from inadvertent effects.

Under the Proposed Action the aerial target launch site and a 50-foot fuel break (keeping vegetation no more than 18 inches in height) would be maintained in perpetuity.

After consultation with the NALF SCI CRPM the following measures were deemed appropriate to protect archaeological resources from inadvertent effects due to maintenance activities:

- No ground disturbing maintenance activities would occur within site LVTA SE-028's boundaries.
- If maintenance would be required within site LVTA SE-028's boundaries, only the use of hand tools would be authorized.
- Due to the site LVTA SE-028 being within the Proposed Action area and APE, monitoring would occur during construction to ensure avoidance of impacts to historic properties.

Vehicle Travel. Section V.A. (1) of the PA addresses vehicular travel on the island and prescribes that all vehicles are required to stay on established roads. Protocols for management of the sites adjacent to the established routes are also prescribed in the PA and establish that they are to be marked for avoidance. Stipulation V.C. (1-2) prescribes protective signage for archaeological sites and states:

1. CO NBC has determined that routine training and range sustainability activities would not adversely affect historic properties, but that inadvertent site disturbances from vehicles and other ground disturbing activities are more likely to occur along road corridors and in other high use areas.
2. In order to avoid potential adverse effects from vehicles and other ground disturbing activities, CO NBC shall continue to implement the site protection strategy as described in the SCI ICRMP's Standards for Protective Signing of Archaeological Sites on SCI.

Vehicular travel under the Proposed Action would be limited to the upgraded road and constructed concrete pads. In accordance with Stipulation V.C. (1-2), there is currently protective signage erected in effort to protect site LVTA/SE-028. However, as part of the Proposed Action, the existing signage should be replaced with sun resistant protective signage.

Furthermore, the Proposed Action would relocate the vehicle turn around away from site LVTA SE-028. After consultation with the NALF SCI CRPM, it was determined that the existing vehicle turn around would be blocked to prevent vehicles from reaching the site LVTA SE-028 (e.g. using a row of boulders).

Pedestrian Travel. Pedestrian travel on the landscape of NALF SCI has been previously determined to have No Adverse Effect on archaeological properties. Section D.4.(i) of the PA stipulates that the typically dispersed character of pedestrian troop movements and resources management activities (surveys, species monitoring, etc.) across the general operational training landscape on NALF SCI are considered to have No Adverse Effect on archaeological properties transited by this use.

Laydown. Laydown yards are considered areas where any equipment, fencing, staking, or material associated with construction or maintenance is placed within the APE. As the movement of heavy equipment or materials can cause ground disturbance, laydown yards must be placed within the APE,

but outside of the archaeologically sensitive areas. If a laydown yard cannot be moved to accommodate avoidance of the archaeologically sensitive areas, consultation with the NALF SCI CRPM is required.

3.2.3.3 Summary

There are no architectural resources or traditional cultural properties within the APE. Attachment B to the 2008 PA identifies construction of roads and/or buildings and structures as range sustainment activities that are within scope of the PA; therefore, SHPO consultation is not required.

There is one archaeological resource within the APE. Under the Proposed Action, the Navy would act pursuant to and consistent with the 2008 PA. With implementation of the Avoidance and Minimization Measures (**Table 3-4**), the Navy has determined the Proposed Action meets the standard for a “no adverse effect determination.”

Therefore, impacts on cultural resources under the Proposed Action would not be significant.

3.3 Summary of Potential Impacts to Resources and Impact Avoidance and Minimization

A summary of the potential impacts associated with the Proposed Action and the No Action Alternative and impact avoidance and minimization measures are presented in **Tables 3-3 and 3-4**, respectively. **Table 3-4** provides a comprehensive list of all mitigation requirements associated with the Proposed Action.

Table 3-3. Summary of Potential Impacts to Resource Areas

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action: Relocate the Aerial Target Launch Site to Capitaine</i>
Biological Resources	No Significant Impact. The Navy would discontinue launches of aerial targets at NALF SCI; therefore, no impacts would occur.	No Significant Impact. Plant communities that would be permanently impacted during construction are relatively disturbed, dominated by non-native species, and/or relatively common on SCI. Individual wildlife species would be temporarily or permanently displaced from land that provides wildlife habitat. Habitat for the federally threatened San Clemente Bell’s sparrow would be permanently impacted by the Proposed Action. The Navy has determined the Proposed Action is <i>likely to adversely affect</i> the San Clemente Bell’s sparrow and has conducted formal consultation with USFWS. In a letter dated May 17, 2018, the USFWS determined the Proposed Action is not likely to jeopardize the continued existence of the Bell’s sparrow and provided an Incidental Take Statement. Correspondence with the USFWS is included in Appendix C . Avoidance and Minimization Measures described in Table 3-4 would reduce potential impacts to biological resources.

Table 3-3. Summary of Potential Impacts to Resource Areas

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action: Relocate the Aerial Target Launch Site to Capitaine</i>
<i>Cultural Resources</i>	No Significant Impact. The Navy would discontinue launches of aerial targets at NALF SCI; therefore, no impacts would occur.	No Significant Impact. There is one archaeological site located within the area of potential effect for the Proposed Action. Although disturbances are present, the overall site integrity remains good. Although the site has not received a formal NRHP evaluation, it is considered eligible as stipulated in the SCI Programmatic Agreement. Under the Proposed Action, the Navy would act pursuant to and consistent with the 2008 SCI Programmatic Agreement. Avoidance and Minimization Measures described in Table 3-4 would reduce potential impacts to cultural resources. With implementation of the Avoidance and Minimization Measures, the Navy has determined the Proposed Action meets the standard for a <i>no adverse effect</i> determination.

Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Section 3.1 Biological Resources	Site preparation and construction will take place outside the San Clemente Bell's sparrow breeding season. Construction will occur between August 15 and December 1, unless the SCI Wildlife Biologist determines and notifies the Service that Bell's sparrow breeding season has ended before August 15. If the SCI Wildlife Biologist notifies the Service that the Bell's sparrow breeding season has ended before August 15, and the Service approves a request for early construction, then construction may proceed prior to August 15.	Avoidance of potential effects to San Clemente Bell's sparrows	Not applicable	Prior to and during construction activities	Navy	Completion of construction activities

<p>Section 3.1 Biological Resources</p>	<p>A Carlsbad Fish and Wildlife Office (CFWO) approved biologist (Biological Monitor) will be on site: (a) during clearing and grubbing, and (b) weekly during project construction within 500 feet of Bell's sparrow habitat to ensure compliance with all conservation measures. The Navy will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts. The Biological Monitor will be provided with a copy of USFWS consultation and will be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the Resident Engineer to ensure that issues relating to biological resources are appropriately and lawfully managed. The Navy will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Biological Monitor on potential bird flushing activities.</p>	<p>Avoidance of potential effects to San Clemente Bell's sparrows</p>	<p>Not applicable</p>	<p>Prior to and during construction activities</p>	<p>Navy</p>	<p>Completion of construction activities</p>
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Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Section 3.1 Biological Resources	The Navy will prohibit off-roading outside of operational areas that have been approved for off-road use (e.g. Assault Vehicle Maneuver Areas, Artillery Firing Points). To create a clear boundary at the road's edge and encourage compliance with the "no off-roading" policy, the Navy will create an aggregate/dirt mound along the roadway but within the widened roadway footprint, where feasible.	Protection of terrestrial biological resources	Not applicable	During construction and launch activities	Navy	Completion of construction activities and as needed for launch activities
	Vehicles will not exceed 15 miles per hour (mph) while transiting and operating on the construction site and aerial launch pad.	Protection of terrestrial biological resources	Not applicable	During construction and launch activities	Navy	Completion of construction activities and as needed for launch activities

Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
	The contractors and support personnel working on the launch pad relocation construction project will receive a pre-project brief regarding: (a) the sensitive resources in the project area, (b) project footprint and transit route delineation, and (c) conservation measures to reduce the impacts of the project. All contractors and support personnel will sign acknowledgement of the training brief, and acceptance of the conservation measures.	Protection of terrestrial biological resources	Not applicable	Prior to and during construction activities	Navy	Completion of construction activities
Section 3.1 Biological Resources	All vehicles and equipment transported to SCI will be washed free of visible plant material, dirt, or mud before embarking for SCI.	Protection of terrestrial biological resources	Not applicable	Prior to and during construction activities	Navy	Completion of construction activities

Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
	Imported project construction and maintenance materials (e.g., gravel, soil, wood, pallets, straw wattles etc.) will be inspected for non-native invertebrates (e.g., insects, worms, snails) and cleared to the maximum extent practical through direct removal (washing clean) or application of pesticides prior to transit to SCI. Materials staged at SCI will be further inspected for any evidence of non-native, invasive species on a weekly basis throughout staging. If any invasive species are found the SCI Wildlife Biologist and Botanist will be contacted immediately to approve removal and/or treatment actions.	Protection of terrestrial biological resources	Not applicable	Prior to and during construction activities	Navy	Completion of construction activities
	The executing agent/contractor will assure that all project work areas, including transit routes necessary to reach construction sites, are clearly identified or marked in the field, in coordination with the SCI Wildlife Biologist and a project Biological Monitor.	Protection of terrestrial biological resources	Not applicable	Prior to and during construction activities	Navy	Completion of construction activities

Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Section 3.1 Biological Resources	Workers will restrict vehicular activities to the delineated transit route and project work areas including laydown, staging, and parking areas.	Protection of terrestrial biological resources	Not applicable	Prior to and during construction activities	Navy	Completion of construction activities
	The Navy will identify and implement Best Management Practices that contain erosion and sedimentation to the direct project footprint and prevent short-term and long-term erosion.	Protection of waterways and associated wildlife and plants	Not applicable	Prior to and during construction activities	Navy	Completion of construction activities
	To reduce the potential for direct impacts from the presence of people, the Navy will educate aerial target launch personnel about the presence and sensitivity of the Bell's sparrow and will ensure that all personnel remain on the roadway and concrete pads during launch setup and demobilization.	Protection of terrestrial biological resources	Not applicable	During construction and launch activities	Navy	Completion of construction activities and as needed for launch activities
	When consistent with training requirements, the Navy will preferentially schedule aerial target launches between August 2 and January 31 to avoid the Bell's sparrow breeding season (February 1 to August 1).	Avoidance of potential effects to San Clemente Bell's sparrows	Not applicable	As needed for launch activities	Navy	As needed for launch activities

Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Section 3.1 Biological Resources	Onsite fire suppression capabilities will be staged on the launch site or road during all aerial target launches, to assure that accidental ignition will be immediately contained, to prevent spread of fire in Bell's sparrow habitat.	Avoidance of potential effects to San Clemente Bell's sparrows	Not applicable	During launch activities	Navy	As needed for launch activities
	The Navy will include one or more Bell's sparrow survey plots within the 600-foot radius explosive safety arc. The survey plot(s) will be surveyed using the existing survey methods and frequencies.	Avoidance of potential effects to San Clemente Bell's sparrows	Not applicable	In conjunction with the SCI-wide monitoring program	Navy	As needed in conjunction with the SCI-wide monitoring program
	To the extent feasible, the road maintenance will leave an aggregate/dirt mound immediately adjacent to the roadside to serve as a clear boundary of the road's edge, assisting with control of off-roading and decreasing the likelihood of fox road kill.	Protection of terrestrial biological resources	Not applicable	During construction or maintenance activities	Navy	Completion of construction or maintenance activities

Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Section 3.1 Biological Resources	Any trenching or excavation work will use a gently sloped edge or provide an improvised ramp to avoid entrapment of animals. The construction manager and project proponent will coordinate with the SCI Wildlife Biologist regarding the construction schedule and will provide access for hand removal of animals, if necessary. If it is infeasible for the SCI Wildlife Biologist to support trench inspection for animal removal, then trenches and/or holes will be inspected daily by construction personnel (briefed by Natural Resources Office staff) prior to re-initiating work, and any entrapped animals will be removed by hand placed directly outside the construction footprint.	Protection of wildlife	Not applicable	During construction activities	Navy	Completion of construction activities or as needed for maintenance activities

Table 3-4. Impact Avoidance and Minimization Measures for the Proposed Action

<i>Resource Area</i>	<i>Measure</i>	<i>Anticipated Benefit</i>	<i>Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Section 3.2 Cultural Resources	During the ground disturbing activity in the APE, archaeological sites would be avoided and a cultural resources monitor will be present.	Avoidance of potential cultural resources until they can be evaluated as to their importance.	Not applicable	During construction activities	Navy	Completion of construction activities or as needed for maintenance activities
	In accordance with Stipulation V.C. (1-2), there is currently protective signage erected in effort to protect site LVTA/SE-028. However, as part of the Proposed Action, the existing signage should be replaced with sun resistant protective signage.	Avoidance of potential cultural resources until they can be evaluated as to their importance.	Not applicable	Not applicable	Navy	Completion of construction activities
	The existing vehicle turn around and road spur leading southwest would be blocked with boulders and abandoned south of the new turnaround.	Avoidance of potential cultural resources until they can be evaluated as to their importance.	Not applicable	Not applicable	Navy	Completion of construction activities
	If maintenance would be required within site LVTA SE-028's boundaries, only the use of hand tools would be authorized	Avoidance of potential cultural resources until they can be evaluated as to their importance.	Not applicable	Not applicable	Navy	As needed for maintenance activities

4 Cumulative Impacts

This section (1) defines cumulative impacts, (2) describes past, present, and reasonably foreseeable future actions relevant to cumulative impacts, (3) analyzes the incremental interaction the proposed action may have with other actions, and (4) evaluates cumulative impacts potentially resulting from these interactions. National Environmental Policy Act (NEPA),

4.1 Definition of Cumulative Impacts

The approach taken in the analysis of cumulative impacts follows the objectives of the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations, and CEQ guidance. Cumulative impacts are defined in 40 CFR section 1508.7 as “the impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

To determine the scope of environmental impact analyses, agencies shall consider cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact analysis document.

In addition, CEQ and USEPA have published guidance addressing implementation of cumulative impact analyses—Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (CEQ 2005) and Consideration of Cumulative Impacts in EPA Review of NEPA Documents (USEPA 1999). CEQ guidance entitled *Considering Cumulative Impacts under NEPA* (1997) states that cumulative impact analyses should

“...determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts...[and]...focus on truly meaningful impacts.”

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions:

- Does a relationship exist such that affected resource areas of the proposed action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

4.2 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this Environmental Assessment (EA), the study area delineates the geographic extent of the cumulative impacts analysis. In general, the study area will include those areas previously identified in **Chapter 3** for the respective resource areas. The time frame for cumulative impacts centers on the timing of the proposed action.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the proposed action, the analysis employs the measure of “reasonably foreseeable” to include or exclude other actions. For the purposes of this analysis, public documents prepared by federal, state, and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions include notices of intent for Environmental Impact Statements (EISs) and EAs, management plans, land use plans, and other planning related studies.

4.3 Past, Present, and Reasonably Foreseeable Actions

This section will focus on past, present, and reasonably foreseeable future projects at and near the Proposed Action locale. In determining which projects to include in the cumulative impacts analysis, a preliminary determination was made regarding the past, present, or reasonably foreseeable action. Specifically, using the first fundamental question included in **Section 4.1**, it was determined if a relationship exists such that the affected resource areas of the Proposed Action (included in this EA) might interact with the affected resource area of a past, present, or reasonably foreseeable action. If no such potential relationship exists, the project was not carried forward into the cumulative impacts analysis. In accordance with CEQ guidance (CEQ 2005), these actions considered but excluded from further cumulative effects analysis are not catalogued here as the intent is to focus the analysis on the meaningful actions relevant to informed decision-making. Projects included in this cumulative impacts analysis are listed in **Table 4-1** and briefly described in the following subsections.

Table 4-1 Cumulative Action Evaluation

Action	Level of NEPA Analysis Completed
Past Actions	
Southern California Range Complex	EIS complete (2008)
Hawaii-Southern California Training and Testing (2014-2018)	EIS complete (2013)
Present and Reasonably Foreseeable Future Actions	
Maintenance and Upgrades to Infrastructure at Naval Auxiliary Landing Field SCI	EA complete (2017)
Construct Concrete Pad, SCI	Categorical Exclusion (CATEX) complete
Replace Rods and Interconnecting Wire at Cable Termination Shelter	CATEX complete
Install Fence Around Cable Termination Shelter	CATEX complete
Addressing the Replacement of Wind Turbines	EA in progress
Hawaii-Southern California Training and Testing (2019-2023)	EIS in progress
Maritime Surveillance System Test Bed at SCI	EA in progress

4.3.1 Past Actions

Southern California Range Complex: Support and conduct the continuation of terrestrial and at sea training, an increase in training activities, force structure changes associated with introduction of new weapons systems, new classes of ships, and the introduction of new types of aircraft into the Fleet within the Southern California Range Complex, which includes the activities occurring on NALF SCI. A Record of Decision for these activities was signed January 2009.

Hawaii-Southern California Training and Testing: The Navy is conducting at sea training and testing activities, which include the use of active sonar and explosives, primarily within existing range complexes and operating areas located along the coast of Southern California and around the Hawaiian Islands. Navy operating areas include designated ocean areas near fleet homeports. Activities also include sonar maintenance and gunnery exercises conducted concurrently with ship transits and which may occur outside Navy range complexes and testing ranges. Pier-side sonar testing conducted as part of overhaul, modernization, maintenance, and repair activities at shipyards and Navy piers is also ongoing. A Record of Decision for these activities occurring from 2014-2018 was signed December 2013. This EIS/OEIS replaces the analysis of the in-water activities described in the 2008 *Southern California Range Complex EIS/OEIS*; however, land activities that occur on SCI continue to be addressed by the 2008 *Southern California Range Complex EIS/OEIS*.

4.3.2 Present and Reasonably Foreseeable Actions

Maintenance and Upgrades to Infrastructure at Naval Auxiliary Landing Field (NALF): Conduct maintenance, repair, and upgrades at NALF SCI for existing infrastructure, including fences and gates, roads and crossovers, drainage structures, utility infrastructure (i.e., electrical and water systems), and existing and temporary facilities (buildings, airfield, landfill, and burrow pit). A Finding of No Significant Impact was issued June 2017.

Construct Concrete Pad, SCI: This action included the construction of an 80 feet by 50 feet concrete pad at NOTS Pier on SCI. The concrete pad was constructed to support shipping containers and equipment. Construction for this action is currently ongoing.

Replace Rods and Interconnecting Wire at Cable Termination Shelter: Replace grounding rods and interconnecting wire at the Cable Termination Shelter. This would require digging two trenches (10 feet [3 m] long by 1 foot [0.3 m] wide by 3 feet [0.9 m] deep) on either side of the high frequency antenna foundation to install ground rods, and a 1 foot (3 m) diameter around the center foundation. The system would be buried flush at ground level.

Install Fence Around Cable Termination Shelter: Install a security fence around the Cable Termination Shelter. This includes 760 linear feet (213.6 m) of fence, two 20-foot (6.1 m) automatic vehicle gates, and four 4-foot (1.2 m) man gates.

Addressing the Replacement of Wind Turbines: The Navy is proposing to demolish three existing wind turbines and construct up to five new wind turbines in the same area at NALF SCI. The purpose of the project is to increase SCI's energy security through the replacement of antiquated wind turbines with new electricity generating facilities. An EA for this proposed action is currently being prepared.

Hawaii-Southern California Training and Testing: The Navy is conducting at sea training and testing activities, which include the use of active sonar and explosives, primarily within existing range complexes and operating areas located along the coast of Southern California and around the Hawaiian Islands. Navy operating areas include designated ocean areas near fleet homeports. Activities also

include sonar maintenance and gunnery exercises conducted concurrently with ship transits and which may occur outside Navy range complexes and testing ranges. Pierside sonar testing conducted as part of overhaul, modernization, maintenance, and repair activities at shipyards and Navy piers is also ongoing. An EIS for activities occurring from 2019-2023 is currently being prepared.

Maritime Surveillance System (MSS) Test Bed at SCI: The Navy is proposing to install and operate a MSS Test Bed, consisting of an offshore submarine cable and an upland shore processing facility at NALF SCI. The project is needed to further the Navy's Maritime Surveillance Program with long-term in situ testing of Anti-Submarine Warfare technologies using passive acoustic monitoring and unmanned systems. An EA for this proposed action is currently being prepared.

4.4 Cumulative Impact Analysis

Where feasible, the cumulative impacts were assessed using quantifiable data; however, for most of the resources included for analysis, quantifiable data is not available and a qualitative analysis was undertaken. In addition, where an analysis of potential environmental effects for future actions has not been completed, assumptions were made regarding cumulative impacts related to this EA/EIS where possible. The analytical methodology presented in **Chapter 3**, which was used to determine potential impacts to the various resources analyzed in this document, was also used to determine cumulative impacts.

4.4.1 Biological Resources

4.4.1.1 Description of Geographic Study Area

The geographic scope for the assessment of cumulative impacts on biological resources is SCI, but the presence of suitable habitat and known occurrences of specific resources are also considered. The Proposed Action would partially occur within or adjacent to the footprint of an existing road. Plant communities in the Proposed Action area are relatively common and more than 50 percent are disturbed, modified, or dominated by invasive plant species. The Proposed Action could result in adverse effects on vegetation and wildlife from temporary disturbances to vegetation (e.g., crushing, trampling, and removal), permanent vegetation/habitat removal and clearing, conversion or degradation of habitat, temporary relocation of wildlife during construction activities, and possibly the injury or killing of burrowing or subterranean wildlife. Ground-disturbing activities on SCI would adhere to various conservation measures designed to minimize potential effects on vulnerable species and their habitats. SCI supports six plant species and three wildlife species listed as federally threatened or endangered. None of these plant species are known to occur in the Proposed Action area. One of the wildlife species, the federally threatened San Clemente Bell's sparrow, is known to nest in the Proposed Action area. Direct and indirect adverse effects on these species could occur, but conservation measures would be implemented to avoid or minimize impacts. As discussed in **Section 3.1.3.2.2.1**, the Proposed Action would impact 0.006 percent of the 2016 estimated total of 2,177 territories on SCI. Thus, significant impacts to population levels of San Clemente Bell's sparrow would not be expected.

4.4.1.2 Relevant Past, Present, and Future Actions

All projects identified in **Section 4.3** that have occurred, are occurring, or are likely to occur in the foreseeable future have or had the potential for direct and/or indirect impacts on biological resources on SCI. Three projects are more likely to result in impacts similar to those from the Proposed Action because they also involve construction and/or maintenance in San Clemente Bell's sparrow habitat: (1)

Maintenance and Upgrades to Infrastructure at NALF SCI; (2) Addressing the Replacement of Wind Turbines; and (3) Maritime Surveillance System Test Bed at SCI. And of those projects, only the Maintenance and Upgrades to Infrastructure at NALF SCI has the potential to overlap in time and location with the Proposed Action because of the programmatic and on-going nature of infrastructure maintenance required at NALF SCI and the existence of existing infrastructure occurring within the Proposed Action area. The other two projects are proposed in areas on the east side of the island which is geographically separated from the Proposed Action and both projects do not currently have estimated construction dates so the effects to habitat would be mitigated through time.

4.4.1.3 Cumulative Impact Analysis

As discussed in **Section 3.1.3**, the Proposed Action would not result in significant impacts on biological resources. Implementation of conservation measures, as discussed in **Section 3.1.3**, would ensure minimal effects to biological resources from the Proposed Action. The Maintenance and Upgrades to Infrastructure project is the only construction project identified above that could involve disturbance to Bell's sparrow habitat within the Proposed Action area. However, the likelihood that both proposed actions would occur at or near the same time would be extremely low because the Proposed Action is actually improving the road that would ordinarily be maintained. The maintenance of the proposed improvements to the road would not be necessary for several years and therefore would not interact in an appreciable or discernible manner in time for purposes of cumulative impacts to biological resources. Similarly, the spatial and temporal extents of impacts on biological resources from other cumulative projects are expected to be limited due to implementation of conservation measures and any other mitigation measures identified in the SCI INRMP, SCI Wildland Fire Management Plan, and the 2008 USFWS Biological Opinion or project-specific ESA consultations. As a result, the Proposed Action, combined with other cumulative projects, would not result in significant cumulative impacts on biological resources.

4.4.2 Cultural Resources

4.4.2.1 Description of Geographic Study Area

For the purpose of cultural resources, the region of influence (ROI) for the assessment of cumulative impacts includes the proposed concrete pads and road improvements. These areas and an 82.0-foot (25-meter) buffer surrounding each area of ground disturbance and associated activities correspond to the Area of Potential Effect for cultural resources.

4.4.2.2 Relevant Past, Present, and Future Actions

The relevant past, present, or reasonably foreseeable action that might interact with the ROI for cultural resources is the *2017 Maintenance and Upgrades to Infrastructure at NALF EA*. Based on the Programmatic Agreement (PA), NALF SCI archaeologists must be consulted prior to all ground-disturbing activities, vehicular travel, siting of laydown yards within archaeologically sensitive areas and that impacts are avoided to historic properties. Implementation of avoidance and minimization measures as part of the Proposed Action, as discussed in **Section 3.2.3**, along with past, present, and reasonably foreseeable projects would not impact cultural resources. The Navy's cultural resource management program at NALF SCI, including the PA and Integrated Cultural Resources Management Plan (Navy, 2012), ensures that potentially significant cultural resources are protected and is not subject to incremental degradation.

4.4.2.3 Cumulative Impact Analysis

Cumulative impacts to cultural resources from past, present, and future actions within the ROI would be less than significant because all actions would comply with the NALF SCI PA and the Integrated Cultural Resources Management Plan (Navy, 2012). Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts within the ROI for cultural resources.

4.4.3 Climate Change

The U.S. Environmental Protection Agency (USEPA) developed a “State of knowledge” website following the 2007 Intergovernmental Panel on Climate Change report. The USEPA affirms that while the contribution is uncertain, human activities are substantially increasing greenhouse gas (GHG) emissions, which, in turn, are contributing to a global warming trend (USEPA, 2015). The U.S. Global Change Research Program (USGCRP) is a working group coordinating the efforts of 13 different federal agencies, including the U.S. Department of Agriculture, the Department of the Interior, the Department of Defense, and the Department of Energy. The USGCRP releases regular reports presenting the most current scientific consensus of predicted changes associated with global climate change. The 2014 National Climate Assessment report is the most recent complete report. This report summarizes the science of climate change and the impacts of climate change on the U.S., now and in the future.

4.4.3.1 Predicted Future Conditions

The USGCRP looks to two potential future conditions as part of its predictive modeling process. Under conditions of lower GHG emissions, the average temperature may increase as much as 2.5 Fahrenheit (°F) by 2050, 3.5 °F by 2070, and 4.5 °F by 2099. Under conditions of higher continuous GHG emissions, the potential increase is greater in the long-term, and may be as much as 7.5 °F by 2099. Projected changes in long-term climate predict more frequent extreme events such as heat waves and droughts (USGCRP 2014).

Current simulations predict decreasing precipitation, snowpack, runoff, and soil moisture for the region into the future. Specifically, winter and spring precipitation may decrease between 0 and 30 percent from currently observed levels, with biggest reduction predicted under the higher emissions scenario. While total precipitation is projected to decrease, the frequency of extreme rain events with the high potential for flooding is projected to increase. At the same time, extreme heat events are also expected to increase in frequency and magnitude. The temperatures observed during extreme events are projected to increase by 3 °F to 9 °F, depending on the emissions scenario used for predictive modeling (USGCRP 2014). This change in precipitation and heat would likely alter agricultural and ecosystem conditions.

4.4.3.2 Impact of the Proposed Action on Climate Change

Emissions under the Proposed Action would be well below 25,000 metric tons of carbon dioxide, which is considered as a viable threshold warranting a more substantial evaluation of—but not necessarily a determination of—significance of climate change impact. Thus, the implementation of the Proposed Action would not contribute significantly to global climate change.

4.4.3.3 Impact of Climate Change on the Proposed Action

Climate change has the potential to impact the operations included in the Proposed Action, primarily via sea level rise. As sea levels rise, coastal infrastructure may experience stress of increased water inundation. Neither a higher sea level nor coastal flooding would affect the Proposed Action site due to its distance from the coastline as well as its elevation.

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5 Other Considerations Required by National Environmental Policy Act

5.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations

In accordance with 40 Code of Federal Regulations (CFR) section 1502.16(c), analysis of environmental consequences shall include discussion of possible conflicts between the Proposed Action and the objectives of federal, regional, state and local land use plans, policies, and controls. **Table 5-1** identifies the principal federal and state laws and regulations that are applicable to the Proposed Action, and describes briefly how compliance with these laws and regulations would be accomplished.

Table 5-1. Principal Federal and State Laws Applicable to the Proposed Action

<i>Federal, State, Local, and Regional Land Use Plans, Policies, and Controls</i>	<i>Status of Compliance</i>
National Environmental Policy Act (NEPA) (42 United States (U.S.) Code [U.S.C.] section 4321 et seq.); Council on Environmental Quality (CEQ) NEPA implementing regulations (40 CFR parts 1500-1508; Navy procedures for Implementing NEPA (32 CFR part 775 and Office of the Chief of Naval Operations Instruction 5090.1D)	This Environmental Assessment (EA) has been prepared in accordance with the Council on Environmental Quality regulations implementing NEPA, and Navy NEPA procedures. The appropriate public participation and review are being conducted in compliance with NEPA.
Clean Air Act (42 U.S.C. section 7401 et seq.)	The region of influence is in nonattainment for multiple criteria pollutants. The air quality analysis in this EA concludes that under the Proposed Action no significant impacts to air quality would occur. As such, a Record of Non-Applicability for Clean Air Act conformity has been prepared (Appendix B).
Clean Water Act (33 U.S.C. section 1251 et seq.)	The Navy has determined the Proposed Action would be in compliance with the Clean Water Act. The use of best management practices would limit potential erosion and runoff.
Coastal Zone Management Act (CZMA)(16 U.S.C. section 1451 et seq.)	The applicable regulatory setting is discussed in Section 5.2 . The Navy has determined the Proposed Action would have no effects to the uses or resources of the coastal zone and no further documentation or consultation is required.
National Historic Preservation Act (NHPA) (Section 106, 16 U.S.C. section 470 et seq.)	The applicable regulatory setting and impact analysis is discussed in Sections 3.2 (Cultural Resources). There is one archaeological site located with the area of potential effect for the Proposed Action. The site has not received a formal NRHP evaluation, however, it is considered eligible as stipulated in the SCI Programmatic Agreement. Under the Proposed Action, the Navy would act pursuant to and consistent with the 2008 SCI Programmatic Agreement. Avoidance and Minimization Measures described in Table 3-4 would reduce potential impacts to cultural resources. With implementation of the Avoidance and Minimization Measures, the Navy has determined the Proposed Action meets the standard for a <i>no adverse effect</i> determination.

Table 5-1. Principal Federal and State Laws Applicable to the Proposed Action

<i>Federal, State, Local, and Regional Land Use Plans, Policies, and Controls</i>	<i>Status of Compliance</i>
Endangered Species Act (ESA) (16 U.S.C. section 1531 et seq.)	The applicable regulatory setting and impact analysis is discussed in 3.1 (Biological Resources). The Navy has determined that the Proposed Action is <i>likely to adversely affect</i> the San Clemente bell's sparrow at SCI and has conducted formal consultation with the U.S. Fish and Wildlife Service (USFWS). In a letter dated May 17, 2018, the USFWS determined the Proposed Action is not likely to jeopardize the continued existence of the Bell's sparrow and provided an Incidental Take Statement. Correspondence with the USFWS is included in Appendix C . For all other federally listed species identified with potential to occur within the action areas, the Navy has determined that the Proposed Action would have <i>no effect</i> .
Migratory Bird Treaty Act (MBTA) (16 U.S.C. sections 703-712)	The Navy has determined that the Proposed Action would be in compliance with the MBTA.
Executive Order (EO) 11988, <i>Floodplain Management</i>	No floodplains are mapped on SCI. All of the drainages on SCI are confined within narrow channels that flow for relatively brief periods in immediate response to rainfall and discharge directly into the ocean.
EO 12088, <i>Federal Compliance with Pollution Control Standards</i>	The Navy is completing the analysis and special conservation measures needed for proper compliance with federal environmental pollutions control statutes.
EO 12898, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations</i>	The Proposed Action would not result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.
EO 13045, <i>Protection of Children from Environmental Health Risks and Safety Risks</i>	The Proposed Action would not result in environmental health risks and safety risks that may disproportionately affect children.
EO 13693, <i>Planning for Federal Sustainability in the Next Decade</i>	Under the Proposed Action, the Navy would implement environmental management systems to ensure integrated, continuously improving, efficient, and sustainable practices in federal facility operation.

5.2 Coastal Zone Management Act (CZMA)

The federal CZMA of 1972 establishes a federal-state partnership to provide for the comprehensive management of coastal resources. Coastal states and territories develop site-specific coastal management programs based on enforceable policies and mechanisms to balance resource protection and coastal development needs. The California Coastal Commission (CCC) lays out the policy to guide the use, protection, and development of land and ocean resources within the state's coastal zone. Under the Act, federal activity in, or affecting, a coastal zone requires preparation of a Coastal Zone Consistency Determination or a Negative Determination. In other words, any federal agency proposing to conduct or support an activity within or outside the coastal zone that would affect any land or water use or natural resource of the coastal zone is required to do so in a manner consistent with the CZMA or applicable state coastal zone program to the maximum extent practicable. However, Federal lands, which are "lands the use of which is by law subject solely to the discretion of...the Federal Government,

its officers, or agents,” are statutorily excluded from the State’s “coastal zone”. If, however, the proposed federal activity affects coastal resources or uses beyond the boundaries of the federal property (i.e., has spillover effects), the CZMA Section 307 federal consistency requirement applies. As a federal agency, the Navy is required to determine whether its proposed activities would affect the coastal zone. This takes the form of either a Negative Determination or a Consistency Determination.

The Proposed Action is essentially construction of a two new concrete pads and improving an existing road. The construction activity would occur entirely outside the coastal zone as it would occur on federal land. The potential natural or cultural effects are to resources restricted to NALF SCI. Any potential construction runoff would be confined to Navy property through the use of standard construction best management practices (BMPs), preventing runoff from reaching the ocean or other portions of the coastal zone. Further, the Proposed Action would not change coastal access or any existing coastal uses. Therefore, no impacts to coastal zone resources would occur. The Navy has determined that the Proposed Action would have no effect on uses or resources of the coastal zone and no further documentation is required.

5.3 Irreversible or Irretrievable Commitments of Resources

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and natural or cultural resources. These resources are irretrievable in that they would be used for this project when they could have been used for other purposes. Human labor is also considered an irretrievable resource. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

The Proposed Action would comply with EO 13693, *Planning for Federal Sustainability in the Next Decade*. EO 13693 superseded EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, and EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*. The goal of EO 13693 is to maintain federal leadership in sustainability and GHG emission reductions.

Implementation of the Proposed Action would involve irretrievable commitments of non-renewable and renewable resources and would cause the unavoidable destruction of natural resources.

Material Resources. Material resources used for the Proposed Action would include concrete, gravel, and various other material supplies used for concrete pad construction and improvements to the existing road, and these would be irreversibly lost. The materials that would be consumed are not in short supply, would not limit other construction activities, and would not be considered significant.

Energy Resources. No significant effects would be expected on energy resources used as a result of the Proposed Action, though any energy resources consumed would be irretrievably lost. These include petroleum-based products (e.g., gasoline, diesel). During construction, gasoline and diesel would be used for the operation of construction vehicles. Consumption of these energy resources would not place a significant demand on their availability at SCI.

Human Resources: The use of human resources for construction is considered an irretrievable loss in that it would preclude such personnel from engaging in other work activities. However, the use of human resources for the Proposed Action represents employment, and is considered beneficial.

Natural Resources: The permanent destruction of habitat as a result of the Proposed Action would be irretrievably lost. However due to avoidance and mitigation measures described in **Table 3-4**, the destruction of natural resources would not be considered significant.

Compliance with EO 13693 requirements would minimize irreversible or irretrievable effects to multiple non-renewable and renewable resources. Implementing the Proposed Action would not result in significant irreversible or irretrievable commitment of resources.

5.4 Unavoidable Adverse Impacts

This EA has determined that the Proposed Action would not result in any significant impacts. No resource area would be subject to significant adverse impacts that would require mitigating. **Table 3-4** presents the resource area impact avoidance and minimization measures identified for the Proposed Action.

5.5 Relationship between Short-Term Use of the Environment and Long-Term Productivity

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one development site reduces future flexibility in pursuing other options, or that using a parcel of land or other resources often eliminates the possibility of other uses at that site.

Short-term uses of the environment associated with the Proposed Action would include the elimination of vegetative ground cover within the project area. Project-related construction activities would temporarily increase air pollution emissions in the immediate vicinity of the affected area(s).

As discussed in **Chapter 3**, the Proposed Action would result in both short- and long-term environmental effects. However, no element of the Proposed Action is expected to result in the types of impacts that would reduce environmental productivity, have long-term impacts on sustainability, affect biodiversity, or narrow the range of long-term beneficial uses of the environment. Implementation of the Proposed Action would not result in any impacts that would significantly reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.

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7 List of Preparers

This EA was prepared by Naval Facilities Engineering Command (NAVFAC) Southwest (SW). Members of the Navy staff responsible for directing the preparation of the EA are listed as follows:

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APPENDIX A

PUBLIC NOTIFICATIONS AND AGENCY CORRESPONDENCE

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Notice of Availability of a Draft Environmental Assessment for the Relocation of the Aerial Target Launch Site at Naval Auxiliary Landing Field San Clemente Island, California

The United States Department of the Navy (Navy) announces the availability of, and invites public comments on, the Draft Environmental Assessment (EA) prepared for the proposed relocation of the existing aerial target launch site at Naval Auxiliary Landing Field San Clemente Island, California. The Draft EA summarizes the environmental effects of the proposed action, which includes construction of a concrete pad; creation and maintenance of a fuel break; improvements to an existing road; installation of a vehicle gate and warning signs; and future repairs and upgrades. The purpose of the proposed action is to support Fleet readiness requirements by providing continued Navy missile exercise training capabilities within the Southern California Range Complex.

The Draft EA, prepared in accordance with National Environmental Policy Act, is available electronically for public review at <https://www.cnmc.navy.mil/navysouthwestprojects>

Submit comments on the Draft EA at any time during the 15-day public comment period from **March 30 through April 13, 2018**, via U.S. mail, postmarked by April 13, 2018, to the following address:

Naval Facilities Engineering Command Southwest

Attn: Code EV21.JG

1220 Pacific Highway

San Diego, California 92132

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Notice of Availability of Final Environmental Assessment for the Relocation of the Aerial Target Launch Site at Naval Auxiliary Landing Field San Clemente Island, California

The United States Department of the Navy (Navy) announces the availability of the Final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) prepared for the proposed relocation of the existing aerial target launch site at Naval Auxiliary Landing Field San Clemente Island, California. The Final EA summarizes the environmental effects of the proposed action, which includes: construction of two concrete pads; creation and maintenance of a fuel break; improvements to an existing road; installation of a vehicle gate and warning signs; and future repairs and upgrades. The purpose of the proposed action is to support Fleet readiness requirements by providing continued Navy missile exercise training capabilities within the Southern California Range Complex. The Final EA, prepared in accordance with National Environmental Policy Act, is available electronically at <https://www.cnmc.navy.mil/navysouthwestprojects>.

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APPENDIX B

RECORD OF NON-APPLICABILITY AND AIR QUALITY CALCULATIONS

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U.S. Department of the Navy

Clean Air Act – General Conformity Rule

Record of Non-Applicability (RONA)

Proposed Federal Action: Relocation of Aerial Target Launch Site at Naval Auxiliary Landing Field, San Clemente Island

Introduction

The U.S. Environmental Protection Agency published *Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule*, in the 30 November 1993, Federal Register (40 CFR Parts 6, 51, and 93). On 05 April 2010, the EPA finalized revisions to the General Conformity Rule (75 FR 17253-17279). The U.S. Navy published *Navy Guidance for Compliance with the Clean Air Act (CAA) General Conformity Rule (30 July 2013)*, as referenced in Chief of Naval Operations Instruction 5090.1D, Environmental Readiness Program Manual dated 10 January 2014. These publications provide implementing guidance to document Clean Air Act Conformity Determination requirements.

Federal regulations state that no department, agency, or instrumentality of the federal government shall engage in, support in any way or provide financial assistance for, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the federal agency to determine whether a federal action conforms to the applicable implementation plan, before the action is taken (40 CFR 51.850[a]).

The general conformity rule applies to federal actions proposed within areas which are designated as either nonattainment or maintenance for a National Ambient Air Quality Standard (NAAQS) for any of the criteria pollutants. Former nonattainment areas that have attained a NAAQS are designated as maintenance areas. Emissions of pollutants for which an area is in attainment are exempt from conformity analyses.

The Proposed Action would occur at and on San Clemente Island (SCI), which is located in Los Angeles County, California. SCI is in extreme nonattainment for 8-hour ozone (O₃), serious nonattainment for particulate matter (with an aerodynamic size less than or equal to 2.5 microns [PM_{2.5}]), and in maintenance for CO, NO₂, and PM₁₀. SCI attains the NAAQS for all other criteria pollutants. Therefore, only project emissions of O₃ (or its precursors, volatile organic compounds [VOCs] and oxides of nitrogen [NO_x]), CO, oxides of sulfur (SO_x), PM_{2.5}, and PM₁₀ are analyzed for conformity rule applicability.

The annual *de minimis* levels for this region are listed in **Table 1**. Federal actions may be exempt from conformity determinations if they do not exceed designated *de minimis* levels (40 CFR Part 1, Section 51.853[b]).

Table 1. De minimis Levels for Criteria Pollutants in the Project Area

Criteria Pollutant/Precursor	De minimis level (tons per year)
Volatile Organic Compounds (VOC)	10
CO	100
Oxides of Nitrogen (NO _x)	10
Oxides of Sulfur (SO _x)	100
PM ₁₀	100
PM _{2.5}	100

Relocation of the Aerial Target Launch Site
RONA for Clean Air Act Conformity

Proposed Action

Action Proponent: U.S. Department of the Navy

Location: Naval Auxiliary Landing Field (NALF) San Clemente Island (SCI)

Proposed Action Name: Relocation of the Aerial Target Launch Site

The Proposed Action is to relocate the existing aerial target launch site from the Red Label Area at NALF SCI. The relocation would involve the construction of two concrete pads, creation and maintenance of a fuel break, improvement of an existing road, construction of a new road turn-around loop, installation of a vehicle gate and warning signs, and future sustainment (repairs) and modernization (upgrades).

Air Emissions Summary

Air emissions associated with the Proposed Action would result from construction actions from the combustion of fuel in heavy equipment. Particulate matter air emissions, such as fugitive dust, would be produced from ground-disturbing activities and from the combustion of fuels in heavy equipment. Air emissions from construction would be temporary in nature and brief in duration (e.g., assumed to be approximately one year).

There would be no expected long-term air quality impacts. Under the Proposed Action, one stationary air emission source, a power generator, would be utilized on SCI under the Proposed Action.

Air emissions from the Proposed Action are presented in **Table 2**. Based on the air quality analysis, the estimated emissions would be below *de minimis* levels.

Table 2. Estimated Air Emissions from Proposed Action

Emissions Source	VOC (tpy)	CO (tpy)	NO_x (tpy)	SO_x (tpy)	PM₁₀ (tpy)	PM_{2.5} (tpy)
Combustion	0.08	0.65	0.46	0.00	0.02	0.02
Fugitive Dust	0.00	0.00	0.00	0.00	0.89	0.09
Total	0.08	0.65	0.46	0.00	0.92	0.11
General Conformity <i>de minimis</i> Thresholds	10	10	100	100	100	100

ey: NA = not applicable; tpy = tons per year; NO_x = oxides of nitrogen; VOC = volatile organic compounds; CO = carbon monoxide; SO_x = oxides of sulfur; PM₁₀ = suspended particulate matter measured less than or equal to 10 microns in diameter; PM_{2.5} = suspended particulate matter measured less than or equal to 2.5 microns in diameter; CO₂e = carbon dioxide equivalents.

Affected Air Basin: South Coast Air Quality Basin

Date RONA prepared: 29 January 2018

RONA Prepared By: U.S. Navy

Attainment Area Status and Emissions Evaluation Conclusion

The project area is in extreme non-attainment for 8-hour O₃ NAAQS; VOCs and NO_x are precursors to the formation of O₃, serious non-attainment for PM_{2.5}; SO_x is a precursor to PM_{2.5}, and maintenance for PM₁₀, CO, and NO₂. Emissions for the Proposed Action were calculated based on standardized methodologies.

Relocation of the Aerial Target Launch Site
RONA for Clean Air Act Conformity

Emissions were then compared with *de minimis* thresholds for the South Coast Air Quality Management District which includes SCI.

The U.S. Navy concludes that *de minimis* thresholds for applicable criteria pollutants would not be exceeded as a result of implementation of the Proposed Action. The emissions data supporting these conclusions are shown in **Table 2**. Therefore, the U.S. Navy concludes that further formal Conformity Determination procedures are not required, resulting in this RONA.

RONA APPROVAL

To the best of my knowledge, the information presented in this RONA is correct and accurate, and I concur in the finding that the Proposed Action does not require a formal Clean Air Act Conformity Determination.

Signature: **GOLUMBFSKIE.
JASON.C.13661
37404**

Digitally signed by
GOLUMBFSKIE.JASON.C.1366137404
DN: c=US, o=U.S. Government,
ou=DoD, ou=PKI, ou=USN,
cn=GOLUMBFSKIE.JASON.C.1366137
404
Date: 2018.06.26 12:22:51 -07'00'

Date: _____

Jason Golumbfskie-Jones
Environmental Director, NBC

Relocation of the Aerial Target Launch Site Final Environmental Assessment

July 2018

Relocation of the Aerial Launch Site at SCI

CONSTRUCTION

Combustion - Equipment

Equipment	Hp (3)	Amount	Hrs/Day	Days/Yr	Hrs/Yr	LF (3)	Emission Factors (lb/hr)							Emissions (lbs)						
							VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}	CO2	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}	CO2
Skid Steer	(1)	65	2	8	365	5840	0.0253	0.2146	0.1799	0.0004	0.0074	0.0074	0.002	54.7	463.7	388.7	0.9	16.0	16.0	5
Backhoe	(1)	98	1	8	365	2920	0.0435	0.3426	0.2937	0.0006	0.0184	0.0184	51.7	47.0	370.2	317.3	0.7	19.8	19.8	55887
Rubber Tired Dozer	(1)	255	1	8	14	112	0.1890	0.5640	1.4879	0.0021	0.0605	0.0605	183.5	8.5	25.3	66.7	0.1	2.7	2.7	8220
Grader	(1)	175	1	8	30	240	0.1059	0.7294	0.7002	0.0014	0.0385	0.0385	124.0	10.4	71.8	68.9	0.1	3.8	3.8	12202
Concrete Truck	(2)	1	8	120	960	1	0.0017	0.0052	0.0556	0.0002	0.0000	0.0000	23.3	1.6	5.0	53.3	0.1	0.0	0.0	22354
TOTAL (Lbs/Yr)														122.1	935.9	894.9	1.9	42.3	42.3	98668
TOTAL (Tons/Yr)														0.06	0.47	0.45	0.00	0.02	0.02	49.3

(1) From SCAQMD Off-Road Mobile Source Emission Factors (Scenario Year 2018)

(2) Estimated with the use of the ARB EMFAC2014 model, version 1.0.7. Based on aggregated model years and annual season high idle emission rates for summer, as presented in the EMFAC2014 Volume III – Technical Documentation Table 3.2-41 (ARB, 2015).

(3) Default Horsepower and Load Factor from CalEEMod Appendix D: Table 3.3

Combustion - Vehicles

Vehicle Type		Vehicles	Days	Trips/Day (2)	Emission Factors (lbs/mile)							Emissions (lbs)						
					VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}	CO2	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}	CO2
Pickup Trucks	(1)	20	365	1	0.001	0.005	0.000	0.000	0.000	0.000	2.846	41.7	367.1	34.5	0.8	6.9	4.6	207792
Tractor Trailer	(1)	1	2	1	0.000	0.001	0.014	0.000	0.000	0.000	3.632	0.0	0.0	0.3	0.0	0.0	0.0	73
Roundtrip distance to project site: 10 miles										TOTAL (Lbs/Yr)		41.7	367.1	34.8	0.8	6.9	4.6	207865
										TOTAL (Tons/Yr)		0.02	0.18	0.02	0.00	0.00	0.00	103.9

(1) From ARB EMFAC2014 model, version 1.0.7 (Scenario Year 2018)

(2) Each trip is assumed to be 10 miles

Fugitive Dust

Equipment	Acre	Hrs/Day	Days/Yr	Emission Factors (lb/hr)							Emissions (lbs)						
				VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}	CO2	VOC	CO	NOx	SOx	PM ₁₀	PM _{2.5}	CO2
Disturbed Ground - Fugitive Dust	(1)	1	8	180				9.9300	0.9900						1787.4	178.2	
TOTAL (Lbs/Yr)											0.0	0.0	0.0	0.0	1787.4	178.2	0.0
TOTAL (Tons/Yr)											0.00	0.00	0.00	0.00	0.89	0.09	0.0

(1) From Table 3-2 for active large-scale earth moving operations (Countess Environmental, 2008). Emissions reduced by 74% from uncontrolled levels to simulate water application every 2.1 hours and use the best management practices for fugitive dust control (Table 3-7). Converted to units of lbs/acre-day of disturbance assuming 22 work days/month.

CONSTRUCTION TOTALS

Construction Emissions:

Source	Emissions (Tons)						
	VOC	CO	NOx	SO2	PM ₁₀	PM _{2.5}	CO2
Combustion	0.08	0.65	0.46	0.00	0.02	0.02	153.2
Fugitive Dust	0.00	0.00	0.00	0.00	0.89	0.09	0.0
TOTAL	0.08	0.65	0.46	0.00	0.92	0.11	153.2
De Minimis Thresholds	10	100	10	100	100	100	
Exceed Threshold	NO	NO	NO	NO	NO	NO	

APPENDIX C

ENDANGERED SPECIES ACT DOCUMENTATION

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008



In Reply Refer To:
FWS-LA-09B0027-09F0040-R005

May 17, 2018
Sent by Email

Captain Scott T. Mulvehill
Commanding Officer
Naval Base Coronado
P.O. Box 357033
San Diego, California 92135-7033

Attention: Melissa Booker, San Clemente Island Wildlife Biologist

Subject: Amendment to the Biological Opinion on the U.S. Navy's San Clemente Island Military Operations and Fire Management Plan (FWS-LA-09B0027-09F0040), and Consistency Determination for the San Clemente Island Fox Conservation Agreement, San Clemente Island, Los Angeles County, California

Dear Captain Mulvehill:

This letter responds to your October 23, 2017, request to amend the *San Clemente Island (SCI) Military Operations and Fire Management Plan Biological Opinion* (2008 Biological Opinion; Service 2008). The purpose of the amendment is to include relocation and future operation of an aerial target launch site and address associated effects to the San Clemente Bell's (=sage) sparrow [*Artemisiospiza* (= *Amphispiza*) *belli clementeae*; Bell's sparrow].

CONSULTATION HISTORY

In November 2008, the U.S. Fish and Wildlife Service (Service) issued the 2008 Biological Opinion to address the effects of military operations and fire management on 11 federally listed species on SCI, including the Bell's sparrow. Since issuance, the Service has amended the 2008 Biological Opinion four times to address changes in military operations and fire management actions. The Navy requested re-initiation of consultation to analyze the effects of the proposed project on October 23, 2017. The Service coordinated by email and telephone regarding the project between January 2, 2018, and May 14, 2018.

BIOLOGICAL OPINION

PROJECT DESCRIPTION

The Navy proposes to relocate an aerial target launch site and future launch operations from the SCI airfield (the “Red Label Area”), to a site approximately 984 yards to the southeast (Site Capitaine, Figure 1). The relocation would include:

1. Construction of a concrete launch pad;
2. Construction of a safety bunker on a concrete pad;
3. Widening, lengthening, and stabilizing an existing dirt road, including a turnaround loop at the road terminus;
4. Installation of a vehicle access gate across the road;
5. Closure of a spur road and roadway turnaround loop; and
6. Six training exercises per year (up to four targets each).

Site Improvements

An existing 2,000-foot long dirt road will be widened from 8 feet to 12 feet, modified to include a new turn-around loop, and stabilized with gravel. A signed, lockable vehicle gate will be installed in a previously disturbed area to restrict access during launch activities. Two concrete pads will be constructed: a 90 feet by 45 feet launch pad, and a 14 feet by 12 feet concrete pad for a safety bunker. The safety bunker will be a rectangular steel modular unit, approximately 10 feet by 12 feet by 8 feet, 6 inches. The short side of the modular unit will have one personnel door, electrical panel, and HVAC opening located on its exterior. No utilities or exterior lighting will be installed. Vegetation will be manually trimmed, as necessary, to maintain a 50-foot wide fuel break surrounding the launch pad, compliant with Navy policy. Vegetation surrounding the proposed launch pad footprint is currently less than 18 inches tall, so no vegetation trimming will be required at this time. Existing disturbed areas, including the existing road, will be used for laydown and staging (Figure 2).

Launch Operations

An “aerial target launch event” consists of preparing and launching aerial targets to allow ships to practice defensive operations. A minimum of 1 hour is needed to complete equipment set-up and launch. For each launch, a generator and launch equipment will be transported to the site and up to eight people and three trucks will be present in the launch area. Aerial targets (for example, the BQM-74, a commonly used target, Figure 3), require the use of a rail system and jet-assisted take-off bottles for launching. During launch events a 600-foot radius explosive safety arc is established around the launch site when the jet-assisted take-off bottles are brought to the launch site for mounting until completion of the launch event. If any mishap on the launch occurs (e.g., failed launch or explosion) the Explosive Ordnance Disposal Unit responds and conducts an investigation.

Up to six aerial target launch events, each with four targets launched, will be conducted each year (i.e., up to 24 aerial targets will be launched each year). Upon launch, each aerial target will travel over the water, and the spent fuel-propellant bottle will drop into the ocean near West Cove.

Consistency Determination for the San Clemente Island Fox Conservation Agreement

In 2003, the Navy and the Service signed the *San Clemente Island Fox Conservation Agreement* (CA; Service and Navy 2003) to address and offset potential threats that could result in a need to list the San Clemente Island fox (*Urocyon littoralis clementae*; fox) under the Endangered Species Act. Consistent with the CA, the Navy proposes to include the following conservation measure that will reduce the potential for construction impacts to the fox:

If construction activities include trenching or excavation that results in exposed holes or trenches, the design will include a gently sloped edge or provide an improvised ramp to avoid entrapment of animals. In addition, the construction manager and project proponent will coordinate with the SCI Wildlife Biologist regarding the construction schedule and will provide access for hand removal of animals, if necessary. If it is infeasible for the SCI Wildlife Biologist to support trench inspection for animal removal, then trenches and/or holes will be inspected daily by construction personnel (briefed by Natural Resources Office staff) prior to re-initiating work, and any entrapped animals will be removed by hand placed directly outside the construction footprint.

With the proposed measure, we find the proposed project consistent with the CA.

Conservation Measures

To avoid and minimize impacts associated with relocation of the target launch site and future operations at the site, the Navy will implement the following additional conservation measures (CM):

- CM 1. Site preparation and construction will take place outside the Bell's sparrow breeding season. Construction will occur between August 15 and December 1, unless the SCI Wildlife Biologist determines and notifies the Service that Bell's sparrow breeding season has ended before August 15. If the SCI Wildlife Biologist notifies the Service that the Bell's sparrow breeding season has ended before August 15, and the Service approves a request for early construction, then construction may proceed prior to August 15.
- CM 2. A Carlsbad Fish and Wildlife Office (CFWO) approved biologist (Biological Monitor)¹ will be on site: (a) during clearing and grubbing, and (b) weekly during project construction within 500 feet of Bell's sparrow habitat to ensure compliance with all conservation measures. The Navy will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO at least 5 working days prior to initiating project impacts. The Biological Monitor will be provided with a copy of this consultation. The Biological Monitor will be available during pre-construction

¹ The Biological Monitor will be a trained ornithologist with at least 40 hours of independent Bell's sparrow observation in the field and documented experience of at least 20 hours of locating and monitoring Bell's sparrow nests. If necessary, more than one biologist may be used.

and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the Resident Engineer to ensure that issues relating to biological resources are appropriately and lawfully managed. The Biological Monitor will perform the following duties:

- a. For vegetation clearing/grubbing outside the Bell's sparrow breeding season, perform a minimum of three focused preconstruction surveys, on separate days, to determine the presence of Bell's sparrows in the project impact footprint. Surveys will begin a maximum of 30 days prior to performing vegetation clearing/grubbing, and one survey will be conducted the day immediately prior to the initiation of vegetation clearing. If any Bell's sparrows are found in the project impact footprint, the Biological Monitor will direct construction personnel to begin vegetation clearing/grubbing in an area away from the Bell's sparrows. It will be the responsibility of the Biological Monitor to ensure that Bell's sparrows will not be injured or killed by vegetation clearing/grubbing. The Biological Monitor will record the number and location of Bell's sparrows disturbed by vegetation clearing/grubbing. The Navy will notify the CFWO at least 7 days prior to vegetation clearing/grubbing to allow the CFWO to coordinate with the Biological Monitor on potential bird flushing activities.
-
- CM 3. The Navy will prohibit off-roading outside of operational areas that have been approved for off-road use (e.g. Assault Vehicle Maneuver Areas, Artillery Firing Points). To create a clear boundary at the road's edge and encourage compliance with the "no off-roading" policy, the Navy will create an aggregate/dirt mound along the roadway but within the widened roadway footprint, where feasible.
 - CM 4. Vehicles will not exceed 15 miles per hour (mph) while transiting and operating on the construction site and aerial launch pad.
 - CM 5. The contractors and support personnel working on the launch pad relocation construction project will receive a pre-project brief regarding: (a) the sensitive resources in the project area, (b) project footprint and transit route delineation, and (c) conservation measures to reduce the impacts of the project. All contractors and support personnel will sign acknowledgement of the training brief, and acceptance of the conservation measures.
 - CM 6. All vehicles and equipment transported to SCI will be washed free of visible plant material, dirt, or mud before embarking for SCI.
 - CM 7. Imported project construction and maintenance materials (e.g., gravel, soil, wood, pallets, straw wattles etc.) will be inspected for non-native invertebrates (e.g., insects, worms, snails) and cleared to the maximum extent practical through direct removal (washing clean) or application of pesticides prior to transit to SCI. Materials staged at SCI will be further inspected for any evidence of non-native, invasive species on a weekly basis throughout staging. If any invasive species are found the SCI Wildlife

Biologist and Botanist will be contacted immediately to approve removal and/or treatment actions.

- CM 8. The executing agent/contractor will assure that the transit route and all project work areas, including laydown, staging, and parking areas, and transit route are clearly identified and marked in the field, in coordination with the SCI Wildlife Biologist and a project Biological Monitor.
- CM 9. Workers will restrict vehicular activities to the delineated transit route and project work areas including laydown, staging, and parking areas.
- CM 10. The Navy will identify and implement Best Management Practices (BMPs) that contain erosion and sedimentation to the direct project footprint and prevent short-term and long-term erosion.
- CM 11. To reduce the potential for direct impacts from the presence of people, the Navy will educate aerial target launch personnel about the presence and sensitivity of the Bell's sparrow and will ensure that all personnel remain on the roadway and concrete pad/bunker during launch setup and demobilization.

Action Area

According to 50 CFR § 402.02 pursuant to section 7 of the Act, the “action area” includes all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area. This consultation amends the 2008 Biological Opinion, which includes all of SCI and its offshore rocks and nearby waters as the action area. For this project, we have defined the action area to include the project footprint, including the transit route and 600-foot explosive safety arc (Figures 1 and 2). The action area also includes habitat within 65 feet of the transit route, which may be exposed to project-related effects such as noise, light, dust and human activity during project construction.

STATUS OF THE SPECIES

The status of the Bell's sparrow was described in the 2008 Biological Opinion; however, since issuance of the 2008 Biological Opinion, the documented distribution of the species has changed, and we have gained additional information pertaining to Bell's sparrow abundance and distribution on SCI. Please refer to the 2008 Biological Opinion for general information on Bell's sparrow life history requirements, threats, and conservation needs. Herein we include updated information pertaining to Bell's sparrow distribution and abundance.

The Bell's sparrow is a non-migratory subspecies endemic to SCI (Navy 2013) that is distributed throughout SCI in a variety of plant communities, although significant differences in density exist in different areas of SCI. Within the broadly defined plant communities, Bell's sparrows demonstrate a positive association with structural shrub cover (Meiman *et al.* 2015a). Bell's sparrows are detected at relatively high densities in maritime desert scrub characterized by California boxthorn (*Lycium californicum*) along the north western half of SCI. They are also detected at moderate to high

densities in sagebrush and shrub habitat near canyons and along the eastern escarpment, and at low densities in mixed shrub, cactus and grassland habitats along the central plateau (Meiman *et al.* 2015a, 2015b, 2015c).

Bell's sparrow monitoring has occurred on SCI since 1999. From 1999-2009, researchers monitored the population along transects within 5,184 acres of maritime desert scrub limited to the western marine terraces of SCI, which was recognized as the extent of Bell's sparrow habitat on SCI. Exploratory survey efforts over a larger area from 2010-2012 indicate that Bell's sparrow distribution was broader than previously reported, presumably as a result of vegetation recovery and Bell's sparrow expansion into recovering habitat (Ehlers *et al.* 2012, 2013).

Since 2013, Bell's sparrow surveys have included "rapid" survey plots, each assigned to one of nine strata located throughout SCI combined with "intensive" surveys at a subset of the plots. "Rapid" survey plots are surveyed only once during the season, providing an estimate with unknown accuracy, and "intensive" survey plots are surveyed multiple times to more accurately determine the number of territories present. Density information obtained at the plots is extrapolated across the strata to arrive at an estimate of the number of territories. The number of Bell's sparrow territories is then used to estimate the population size, assuming monogamy and an equal sex ratio. Bell's sparrows maintain breeding territories, and adult Bell's sparrows remain in the vicinity of the breeding territory year-round. However, during the non-breeding season, Bell's sparrows rarely exhibit behavior indicative of territory defense (Munoz *et al.* 2016)

The 2016 Bell's sparrow population estimate was 4,354, with a 95 percent confidence interval of 3,190 to 5,517 birds. The corresponding number of sparrow territories present on SCI was estimated as 2,176.86, with a 95 percent confidence interval of 1,595.02 to 2,758.70 territories (Meiman *et al.* 2016).

ENVIRONMENTAL BASELINE

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

Past and present human activities that affect the environmental baseline of SCI at a landscape level are the introduction, and subsequent removal, of non-native grazing animals (Service 1979) and the alteration of natural fire frequency associated with ongoing military activities (2008 Biological Opinion). In addition, facilities construction has resulted in the permanent alteration of Bell's sparrow habitat in some areas. SCI is in a state of change: for example, shrub distribution has expanded on the eastern escarpment (Meiman *et al.* 2015a), and ignition sources and elevated fire frequency continue on the island (2008 Biological Opinion; Munson 2017, pers. comm.). Within this framework, the Bell's sparrow abundance and distribution has expanded on SCI in response to the increase in shrub habitat. Bell's sparrows may be more frequently exposed to and affected by military operations, fires and fire management activities.

Per the 2008 Biological Opinion, the environmental baseline for the Bell's sparrow on SCI includes incidental take of 63 adult sparrows and 43 nests per 5-year period, from various causes, as follows:

- Harm to 52 adults per 5-year period due to fires (based on acreage disturbance to habitat recognized as Bell's sparrow habitat);
- Harm to between 62 to 71 Bell's sparrows due to habitat loss and/or repeated modification associated with facilities maintenance of up to 374 acres habitat;
- Harm to 25 nests per 5-year period from fires;
- Impact to 5 nests per 5-year period as a result of fire suppression activities;
- Impact to 2 nests per 3-year period as a result of rotor-wash;
- Loss of 5 nests per 5-year period year from trampling;
- Death of 5 individuals per 5-year period from vehicle collision;
- Loss of 5 nests per 5-year period from military training vehicles;
- Harm or death of 1 adult per 5-year period from projectiles;
- Harm or death of 1 nest per 5-year period from projectiles; and
- Harm and injury in the form of nest abandonment and loss of reproduction of 2 pairs of Bell's sparrows per 5-year period as a result of maintenance, repair, and vegetation management activities that disrupts or impairs breeding activities

Low detection probability and lack of monitoring access in Restricted Access Areas limit the ability to accurately quantify incidental take of Bell's sparrows. There has been no reported detection of Bell's sparrows harmed or killed as a direct result of military operations (e.g. projectiles, vehicles, trampling); however, fire occurrence in Bell's sparrow habitat exceeds that anticipated in the 2008 Biological Opinion.

Between 2011 and 2013, fires burned approximately 241 Bell's sparrow territories on SCI (Table 1). In addition, fires in 2017 burned approximately 151 Bell's sparrow territories. This significantly exceeds the degree of impact anticipated in the 2008 Biological Opinion and incidental take statement, in which we exempted take of 52 Bell's sparrows per 5-year period as a result of fire. The Navy estimates that the 2012 "Ranch 7 Fire" may have injured at least 12 Bell's sparrows by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering (Booker 2016, pers. comm.). Assessment of the approximately 3,608 acres of habitat burned indicates that, based on updated (2014) Bell's sparrow habitat maps, breeding habitat for approximately 482 Bell's sparrows (7.5 percent of the Bell's sparrows on SCI, using density estimates in Meiman *et al.* 2015b) burned between 2011 and 2013 (Table 2). Additional breeding

habitat that supported an estimated 302 Bell's sparrows (151 territories) burned in fires in 2017 (Munson 2017, pers. comm.).

Despite these impacts, including additional incidental take beyond what was anticipated, the Bell's sparrow population has increased since issuance of the 2008 Biological Opinion.

The aerial target relocation site addressed in this amendment is located on SCI at Site Capitaine, 0.2 miles south of the Cable Termination Shelter adjacent to West Cove. The site is on lowermost marine terraces near the northern end of the island and supports Maritime Desert Scrub habitat. The site is near the northern edge of the lowest marine terrace, which supports the highest densities of Bell's sparrows observed on SCI [0.21 territories/acre (2014); 0.16 territories/acre (2016)].

Table 1. Territory Estimate and Acreage of San Clemente Bell's Sparrow Habitat Burned 2011-2013. Source: Service 2016

Strata	Acres Burned 2011-2013	Bell's Sparrow Density Category (Territories/acre) (Meiman et al. 2015)	Estimated Territories Burned 2011-2013	Number of Bell's Sparrows in Areas Burned
1	.32	.21	0	0
2	0	.04-.05	0	0
3	1,095.87	.08- .11	87	174
4	1,137.59	.08-.11	92	184
5	2.47	.08-.11	0	0
6	46.74	.15	7	14
7	577.67	.04-.05	26	52
8	647.93	.04-.05	29	58
9	12.22	.01-.02	0	0
10	11.68	.01-.02	0	0
11	74.81	Not estimated	Not estimated	Not estimated
Total	3,607.8	n/a	241	482

Project-specific surveys have not been conducted; however, based on the habitat conditions and reported density of Bell's sparrows in this area, we estimate each Bell's sparrow territory to be approximately 4.76 to 6.25 acres in size. Thus, between 5 and 8 Bell's sparrow territories are within the project area, including the construction footprint, fuel break, explosive safety arc, and road corridor (Table 2).

EFFECTS OF THE ACTION

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

Table 2. Estimated Number of Bell's Sparrow Territories in Action Area: Based on 2014 and 2016 Bell's Sparrow Density Estimates

Action Area Component	Area (acres)	Number of Bell's sparrow territories (based on 2014 and 2016 densities)
Cement pads and fuelbreak	0.82	< 1
65-foot road corridor	3	< 1
600-foot radius explosive safety arc	26	4 to 6 territories
Total	29.82	5 to 8 territories

The proposed action will result in the direct and indirect modification of occupied Bell's sparrow habitat and include human activities, noise, and vibrations that will disrupt Bell's sparrows and increase vulnerability of Bell's sparrows to injury or fire.

Death or Injury Related to Vegetation Clearing

Construction activities associated with the project are not anticipated to kill, injure, or destroy Bell's sparrows or their nests. Clearing and grubbing of native habitat will be conducted between August 15 and December 1 to avoid the Bell's sparrow breeding season. A CFWO-approved Biological Monitor with experience observing Bell's sparrows and locating nests will be present to ensure that Bell's sparrows are not directly killed or injured during vegetation removal and other construction activities.

Habitat Loss Associated with Project Construction and Fuelbreak Maintenance

The project will permanently impact 0.82 acre of occupied Bell's sparrow habitat, including 0.47 acre of direct impacts during construction, and 0.35 acre of direct impacts associated with fuel break maintenance (Table 2). Removal of 0.82-acre of Bell's sparrow habitat to accommodate the launch pad, safety bunker, stabilized access route, and fuelbreak represents up to 17 percent of a Bell's sparrow territory.

Adult Bell's sparrows are territorial, and they remain in the general vicinity of their territory during the non-breeding season. Removal of a substantial portion of a Bell's sparrow pair's breeding territory will likely force the pair to expand their existing territory or establish a new territory. Expanding or establishing a new territory can lead to competitive interactions with neighboring sparrows, and reduce fitness or productivity. We lack information regarding the effect of different amounts of habitat removal on Bell's sparrow reproductive output, so we used our best professional judgment to estimate that the loss of more than 20 percent of the Bell's sparrow habitat within a territory will substantially increase the risk of mortality or interfere with breeding activity, whereas loss of less than 20 percent of a territory may force a pair to adjust its territory boundaries slightly or result in a limited increase in territorial interactions with neighboring pairs, but will not result in a substantial increase in mortality or reproductive output (i.e., effects would not rise to the level of "take").

Because of the density of Bell's sparrows in the general project area, a pair losing more than 20 percent of its territory may not be able to find sufficient nearby habitat to survive or reproduce or it may be forced to compete with other resident Bell's sparrows for the remaining suitable habitat and

be subject to increased predation risk. However, since the project would remove less than 20 percent of a territory, we expect the affected Bell's sparrow pair to adjust territory boundaries slightly and remain unharmed as a result of this habitat loss. This permanent loss comprises a small fraction (less than 1 percent) of the "high density" Bell's sparrow habitat on SCI. In addition, habitat availability on SCI has increased since issuance of the 2008 Biological Opinion, as evidenced by the expanded distribution of Bell's sparrows now detected on the island.

Disturbance Associated with Project Construction

In addition to direct removal of Bell's sparrow habitat, the project may result in disturbance to Bell's sparrows during construction and present increased risk of vehicle strike, because human and vehicle activity will be increased in the project area during construction. Noise associated with construction is expected to range from 75 to 80 decibels at 50 feet, which is the range of similar construction projects (FHWA 2018). Noise and vibrations associated with the use of heavy equipment during construction and operation of the project have the potential to disrupt behaviors in adjacent habitat by masking intraspecific communication and startling birds (Dooling and Popper 2007). Approximately 5 to 8 Bell's sparrow territories are within the project area (including the explosive safety arc and roadway buffer) and would be subject to the temporary increase in human activity, noise, vibration, and vehicle traffic associated with construction.

Project construction will occur outside the nesting season, so we do not anticipate impacts to nesting birds. Non-nesting Bell's sparrows will, however, be present in the surrounding habitat. Bell's sparrows are likely to respond to the human activities and noise by flying from the disruption. Bell's sparrows that use habitat in the vicinity of the project outside of the nesting season are likely to move away from the construction site into adjacent habitat. Although Bell's sparrows remain in the vicinity of their nesting territories year round, they rarely exhibit behavior indicative of territorial defense during the non-nesting season (Munoz *et al.* 2016). Thus, we anticipate the temporary disturbance and displacement outside the nesting season will not result in competitive interactions that would harm individuals. The impact of the temporary disturbance and displacement from the construction activities will likely be insignificant (i.e., scope of the impact is not likely to result in harm, injury, or death of individuals) due to the small scale of the project, the availability of suitable habitat adjacent to the project site, and the short duration of the construction activity.

Bell's sparrows could also be struck by heavy equipment or other vehicle traffic moving within the construction/road corridor, since occupied habitat is present on both sides of the road and Bell's sparrows have a low flight pattern as they move between shrubs. The potential for vehicle strike is reduced, however, because construction would occur outside of the nesting season, and we anticipate Bell's sparrows to be displaced from the area as a result of noise and human activity. The Navy will further reduce the potential for vehicle strike by implementing a 15 mph speed limit within the transit corridor and project work area. Thus, we consider the potential for vehicle strike during construction discountable (e.g., highly unlikely to occur).

Indirect effects of the construction activity may occur as a result of erosion and invasive plant species introduction or spread. To reduce the potential for erosion, the Navy will implement BMPs that will contain sediment to the project site and prevent future erosion adjacent to the site. To reduce the potential for the spread of invasive species, the Navy will monitor the transit route and launch pad area once per year and treat for invasive plant species that are detected.

Disturbance or Injury During Aerial Target Launch Events

Target launches at this site will result in increased vehicle traffic on the existing road at punctuated intervals and human activity, noise, and vibration at the site for up to 24 target launches per year. Launches could occur at any time of year, including the nesting season. Human activities associated with target launches will include vehicle travel through Bell's sparrow habitat on the access road, generator and launch equipment setup and operation, aerial target launch, equipment demobilization, and investigation of misfires or accidents.

Increased vehicle traffic on the access road will increase the potential for vehicle strike of Bell's sparrows during the nesting and non-nesting season. Each launch represents a risk of vehicle strike, and although the Navy will post and adhere to a 15 mph speed limit when traveling to and from the aerial target launch site, we anticipate occasional vehicle strike of a Bell's sparrow adult or fledgling associated with the training events.

Equipment setup and operation, launch events, equipment demobilization, and investigation of misfires will increase the level of human activity, noise, and vibration 24 times per year in and adjacent to occupied Bell's sparrow habitat. Noise measurements for the BQM-74 launch were not available, so the available noise measurements for the larger BQM-34 target were used as a basis for assessment (Booker 2018, pers. comm.). The BQM-34 is larger, and presumably noisier, than the BQM-74. The A-weighted sound pressure levels observed during the BQM-34 launch ranged from 145 decibels at 50 feet to 92 decibels at 1,200 feet (Navy 2002). This level of noise may result in physical harm to incubating adult sparrows or nest abandonment due to the intensity of the disturbance.

Outside of the nesting season, Bell's sparrows that use habitat in the vicinity of the launch pad are likely to move away from the disturbance into adjacent habitat. Since Bell's sparrows do not exhibit behaviors indicative of territoriality during the non-breeding season, we do not anticipate competitive interactions between the displaced individuals during the non-nesting season. We anticipate the temporary disturbance and displacement outside the nesting season will likely be insignificant, as discussed above.

During the nesting season, however, between 4 and 6 pairs of Bell's sparrows will likely be nesting in the vicinity of the launch pad (i.e. within the 600-foot radius explosive safety arc). They will be less likely to move from the area if active nests are present, but they may alter breeding behavior, incubation, or parental attendance of young in response to the presence of people and noise and vibration from the launch. If Bell's sparrows remain in the vicinity of the launch, they could be injured by the extreme noise, blast, or vibration associated with the launch. If they depart from the nest, the reduction in incubation or parental attendance may impact eggs or chicks by a reduction in feeding rate, increased potential for depredation, or a reduction in incubation or brooding. In addition, Bell's sparrows are territorial during the nesting season, and displaced individuals may experience competitive interactions or reduced fitness if displaced from their territories. To reduce the potential for direct impacts from the presence of people, the Navy will educate aerial target launch personnel about the presence and sensitivity of the Bell's sparrow and will ensure that all personnel remain on the roadway and concrete pad/bunker during launch setup and demobilization.

Based on the effects described above, the anticipated frequency of aerial target launches, and the density of Bell's sparrows in the vicinity of the target launch, we estimate that infrequent nest loss or

abandonment, or harm to incubating individuals from noise or vehicle traffic will occur. We have previously estimated infrequent effects of ongoing activities on SCI in 5-year increments, and we continue that approach herein. We estimate abandonment or loss of three nests per 5-year period as a result of extreme noise associated with aerial target launch operations and death or injury of two Bell's sparrow adults or fledglings per 5-year period from vehicle strike or extreme noise associated with aerial target launch operations. We have determined that this level of impact is not likely to result in an appreciable reduction in the reproduction, numbers, or distribution of the Bell's sparrow on SCI.

A 600-foot radius explosive safety arc surrounds the launch pad, and identifies the area that could be impacted by a catastrophic accident. Based on 2014 and 2016 density estimates, 4 to 6 Bell's sparrow territories lie within the 600-foot radius explosive safety arc, where they will be more susceptible to accidents, misfires, or wildfire. To reduce the potential for ignition and wildfire from a rocket while the aerial target is still on the ground, the project design includes a concrete launch pad apron and fuel break. To reduce the potential from an ignition from a spent fuel bottle, the launch site was located close to the ocean, and targets will be launched over the water. If Bell's sparrow habitat is burned, it would also be evaluated post-fire to assess habitat recovery. If habitat is not recovering, the Navy will implement restoration activities that may include erosion control, focused weed control, consistent with Term and Condition 6.1 of the 2008 Biological Opinion.

Effect on Recovery

The proposed action will result in the loss of less than 1 acre of Bell's sparrow habitat in the optimal habitat on the west shore of SCI and will indirectly affect habitat adjacent to the launch pad by increasing human activities in the area and vulnerability to fire. The proposed action, however, will not substantially reduce the acreage of available habitat or the number of individual Bell's sparrows on SCI. The proposed conservation measures will avoid and minimize the impacts of the relocation of the aerial launch pad, and the impacts of relocation of the aerial launch pad and the training, as proposed, will not preclude recovery of the Bell's sparrow.

We anticipate that the Navy will continue work towards recovery of the Bell's sparrow as stated in their SCI Integrated Natural Resources Management Plan (INRMP, Navy 2013): "*Conserve and maintain high quality Bell's sparrow habitat and control non-native predation pressure to meet recovery objectives for delisting*", and "*Protect a sufficient high-density area and cover of California boxthorn and associated native shrubs and forbs to ensure the long-term viability of the San Clemente Bell's sparrow population*". Overall Navy management of Bell's sparrow includes ongoing oversight of projects proposed in Bell's habitat, predator management, avoidance of the nesting season for construction activities, and invasive species control. These actions reduce impacts to, and support the recovery of the species.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act and, therefore, are not considered cumulative to the proposed project. Because SCI is owned and thus under the control of the Navy, we are unaware of

any non-Federal actions affecting listed species that are reasonably certain to occur in the action area considered by this biological opinion.

CONCLUSION

After reviewing the current status of the Bell's sparrow and the effects of the proposed action, it is the Service's biological opinion that relocation of the aerial target launch pad is not likely to jeopardize the continued existence of the Bell's sparrow. We have reached this conclusion for the following reasons:

1. Bell's sparrow habitat and distribution on SCI has expanded, and despite impacts from fires, the population estimate has increased since issuance of the 2008 Biological Opinion.
2. The loss of 0.82 acre of "high density" Bell's sparrow habitat would remove less than 1 percent of the "high density" Bell's sparrow habitat on SCI.
3. The loss of two Bell's sparrow adults or fledglings and three nests per 5-year period, when added to the environmental baseline, will not appreciably reduce the abundance or sustainability of the Bell's sparrow population.

INCIDENTAL TAKE STATEMENT

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

AMOUNT OR EXTENT OF TAKE

1. Death or injury of two Bell's sparrow adults or fledglings per 5-year period from vehicle strike or extreme noise associated with aerial target launch events;
2. Abandonment or loss of three Bell's sparrow nests per 5-year period as a result of extreme noise associated with aerial target launch events.

EFFECT OF THE TAKE

The environmental baseline for the Bell's sparrow includes the permitted take of 63 adult or fledgling Bell's sparrows and 43 Bell's sparrow nests per 5-year period, and documented modification of

habitat in excess of that anticipated in the 2008 Biological Opinion. The additional take anticipated as a result of the relocation of the aerial target launch site will increase the overall permitted take to 65 adults or fledglings and 46 nests per 5-year period. In the accompanying biological opinion, we determined that this level of anticipated incidental take of Bell's sparrows is not likely to result in jeopardy to this species.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize, monitor, and report the incidental take of Bell's sparrows associated with the proposed action:

1. The Navy will minimize the potential for incidental take of Bell's sparrows during aerial target launches at the Site Capitaine.
2. The Navy will periodically monitor the Bell's sparrow population within the 600-foot radius explosive safety arc at the Site Capitaine launch site in conjunction with the SCI-wide monitoring program.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Navy must comply with the following terms and conditions, which implement the reasonable and prudent measures described above, and outline reporting/monitoring requirements. These terms and conditions are nondiscretionary.

- 1.1 When consistent with training requirements, the Navy will preferentially schedule aerial target launches between August 2 and January 31 to avoid the Bell's sparrow breeding season (February 1 to August 1).
- 1.2 Onsite fire suppression capabilities will be staged on the launch site or road during all aerial target launches, to assure that accidental ignition will be immediately contained, to prevent spread of fire in Bell's sparrow habitat.
- 2.1 Any detected incidental take associated with aerial target launch events will be reported to the Service as soon as possible but no later than 72 hours from detection (i.e., 3 calendar days). Reporting may be accomplished through telephone message with later follow-up via email or written correspondence.
- 2.2 The Navy will include one or more Bell's sparrow survey plots within the 600-foot radius explosive safety arc. The survey plot(s) will be surveyed using the existing survey methods and frequencies.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species.

Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided here relate only to the proposed action and do not necessarily represent complete fulfillment of the Navy's responsibility for these species, pursuant to section 7(a)(1) of the Act.

1. We recommend re-initiation of consultation on baseline training activities on SCI to account for the impacts of military training and resulting fire, in light of the expanded distribution of Bell's sparrow, and the expanded overlap between the species' range and military operation impacts. Re-initiation will provide a re-evaluation of the effects of military operation, fires and fire management s in light of the species' current abundance and distribution. Since it was based on the earlier distribution of Bell's sparrows, the 2008 Biological Opinion does not adequately qualify or quantify the impacts from military operations, fires and fire management.
2. We recommend, in coordination with our agency, the development and implementation of a Bell's Sparrow Conservation Plan. The conservation plan should identify the Navy's population goals for Bell's sparrow conservation, and a commitment to preserve key locations and acreage of un-fragmented Bell's sparrow habitat adequate to sustain the population at the target size. Ideally, the conservation plan would identify the management area(s) that the Navy, consistent with training needs, will prioritize for ongoing habitat conservation and management for the Bell's sparrow. This would facilitate planning for future training and facilities while providing conservation assurance. We are interested in re-assessing the status of this population and would like to include in the assessment any such long-term conservation commitment by the Navy.
3. We recommend that the Navy include restoration or enhancement of listed species habitat in the *San Clemente Island Integrated Natural Resources Management Plan* (INRMP) as a general practice to address permanent habitat loss from construction or training impacts. Specifically, we recommend that the Navy quantify the habitat loss, identify commensurate restoration or enhancement, and propose projects for funding in the annual Program Objective Memorandum (POM) cycle or request project-driven funding to support the restoration or enhancement.

REINITIATION NOTICE

This concludes formal consultation on the proposed amendment to the 2008 Biological Opinion. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

We look forward to forward to continuing our partnership to conserve the natural resources on SCI, consistent with the Navy's military training mission. If you have any questions concerning this amendment, please contact Sandy Vissman at 760-431-9440, extension 274.

Sincerely,

DAVID
ZOUTENDYK

Digitally signed by
DAVID ZOUTENDYK
Date: 2018.05.17
07:08:29 -07'00'

David A. Zoutendyk
Acting Assistant Field Supervisor

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Figure 1. Existing and Proposed Aerial Target Launch Site. *Source: Navy 2017*

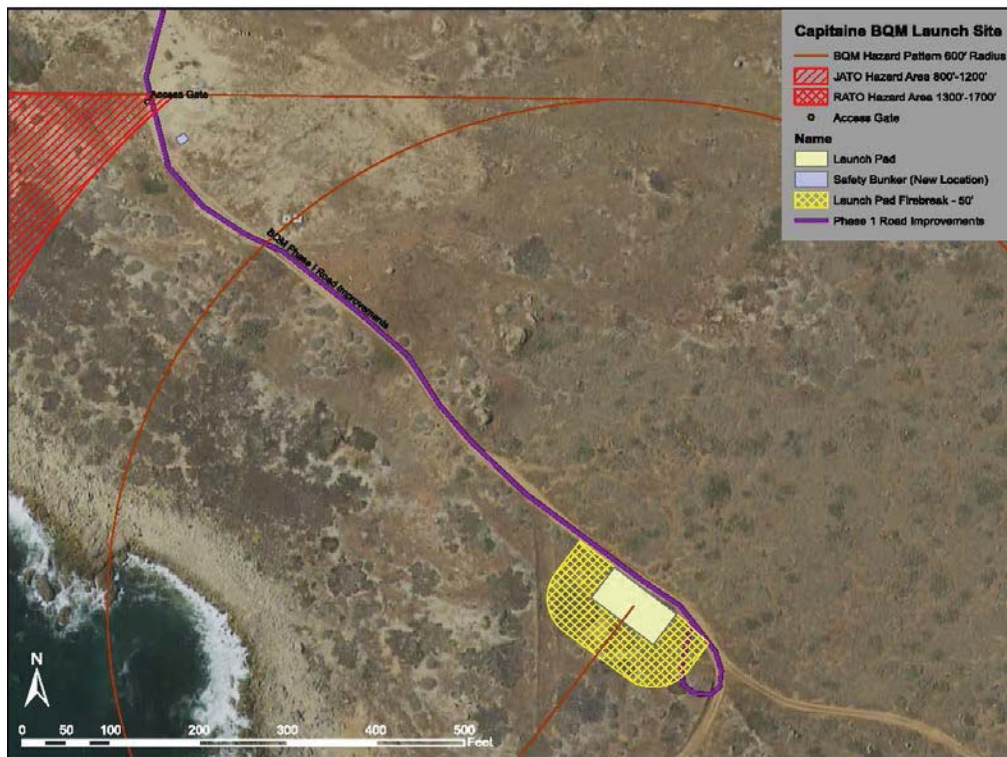


Figure 2. Proposed Aerial Target Launch Site and Safety Bunker. *Source: Golombfskie 2018, pers. comm.*



Figure 3. BQM-74 Launch. *Source: Navy 2017*



DEPARTMENT OF THE NAVY

NAVAL BASE CORONADO
BOX 357033
SAN DIEGO, CALIFORNIA 92135-7033

IN REPLY REFER TO:

5090
Ser N00/836
23 Oct 17

Mr. G. Mendel Stewart, Field Supervisor
U.S. Fish and Wildlife Service
Carlsbad Field Office
ATTN: Ms. Sandy Vissman
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Dear Mr. Stewart:

SUBJECT: RE-INITIATION OF ESA SECTION 7 FORMAL CONSULTATION IN SUPPORT OF
ENVIRONMENTAL ASSESSMENT AT NAVAL AUXILIARY LANDING FIELD SAN
CLEMENTE ISLAND

The Department of the Navy is preparing an Environmental Assessment for relocation of the aerial target launch site at Naval Auxiliary Landing Field (NALF) San Clemente Island (SCI), Naval Base Coronado, CA. The purpose of this relocation is to support naval surface fleet requirements by providing missile exercise training within the Southern California Range Complex from a location on NALF SCI that does not encumber airfield operations. The current launch site, within the Red Label/Hazardous Cargo Area on the airfield, is operating under an explosive safety waiver which will soon expire, ending aerial target launches from the Red Label Area in the near future and dramatically impacting Fleet training. The proposed action would establish a new launch site which would not encumber the airfield and complete the Navy's explosive site approval process for the launch site.

The proposed action includes activities that may affect species protected under the Endangered Species Act (ESA) and under the jurisdiction of the U.S. Fish and Wildlife Service. Therefore, in accordance with Section 7 of the ESA and its implementing regulations, the Navy is requesting re-initiation of formal consultation of the Biological Opinion on the U.S. Navy's SCI Military Operations and Fire Management Plan (FWS-LA-09B0027-09F0040), SCI, Los Angeles County, CA. Enclosure (1) provides the Final Biological Assessment for this proposed action. We request written acknowledgement of our consultation request, including a point of contact from your office to facilitate and expedite the consultation process.

We appreciate your support of our continued effort to facilitate military training while minimizing impacts to federally-listed species at NALF SCI. My point of contact in this matter is Ms. Melissa Booker, Wildlife Biologist for NALF SCI. She can be reached at melissa.booker@navy.mil or (619) 545-7188.

Sincerely,

S. T. MULVEHILL
Captain, U.S. Navy
Commanding Officer
Naval Base Coronado

Enclosure: 1. Final Biological Assessment for Relocation of the Aerial Target Launch Site at Naval Auxiliary
Land Field San Clemente Island, California

Copy to: NAVBASE CORONADO Public Works Office

Biological Assessment

Relocation of the Aerial Target Launch Site at Naval Auxiliary Landing Field San Clemente Island, California

September 2017



Prepared for:
United States Fish and Wildlife Service

Prepared by:
Naval Facilities Engineering Command, Southwest

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Introduction

The purpose of this Biological Assessment (BA) is to review the United States Department of the Navy's Proposed Action to relocate the aerial target launch site on Naval Auxiliary Landing Field San Clemente Island (NALF SCI) in sufficient detail to determine whether it may affect any taxa listed as threatened, endangered, or proposed for listing under the federal Endangered Species Act (ESA). This BA has been prepared in accordance with legal requirements set forth under Section 7 of the ESA (16 United States Code 1536 [c]) and follows the standards established in 50 Code of Federal Regulations 402.14 (c).

The only listed taxa expected to occur in the Proposed Action area is the San Clemente Bell's sparrow (*Artemisiospiza belli clementeae*). All other ESA listed taxa on SCI were eliminated from further analysis either because suitable habitat is not present, the taxon is not known from surveys in the area, and/or the taxon occurs as transient only. There is no critical habitat designated on SCI. Additional impacts related to the Proposed Action will be discussed in an Environmental Assessment (EA) that is currently under preparation.

Consultation to Date

In 2008, the Navy requested formal consultation pursuant to the Programmatic Terrestrial Biological Assessment for the San Clemente Island Range Complex and the Southern California Range Complex Environmental Impact Statement (EIS). This process resulted in the U. S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) FWS-LA-09B0027-09F0040 San Clemente Island Military Operations and Fire Management Plan 2008 (USFWS 2008).

Construction of the Landing Craft Air-Cushion (LCAC) vessels landing pad at West Cove Beach in 2012 widened the beach creating more back beach and presumably increasing habitat suitability for nesting plovers; in 2013, western snowy plovers bred at West Cove Beach, which had typically supported only wintering plovers in recent years. As a result of this species status change, the Navy requested reinitiation of formal consultation to amend The Final BO for San Clemente Island Military Operations and Fire Management Plan (FWS-LA-09B0027-09F0040) for Effects on Nesting Western Snowy Plovers from Navy Activities at TAR 5/West Cove Beach. In May 2013, the Navy and USFWS completed this amendment to the BO to allow for continued Navy operations at West Cove Beach (USFWS 2013). At the Navy's request, this amendment was further refined in January 2015 to address maintenance of the LCAC landing pad and beach ingress/egress area in support of military training at West Cove Beach (USFWS 2015).

The Navy is herein requesting another reinitiation of formal consultation to assess the impacts of constructing a new aerial target launch site and conducting Missile Exercise training from this new location on NALF SCI, insofar as the operational impacts change with the new location, as well as to establish appropriate conservation measures.

Description of the Proposed Action

The Proposed Action is the relocation of the existing aerial target launch site on NALF SCI to a nearby area which was used for launch activities in the 1960s and 70s. The purpose of the Proposed Action is to support Fleet readiness requirements by providing Navy Missile Exercise training capabilities within the Southern California Range Complex. The need for the Proposed Action is to unencumber the airfield

from aerial target launches in accordance with explosive safety stand-off distances associated with various aerial targets.

The existing aerial target launch site is within the Red Label/Hazardous Cargo Area (Figure 1). Missile Exercises have been conducted in this location for over 20 years, impacting airfield operations. The BQM-74, a typical aerial target, requires the use of jet-assisted take-off bottles to launch it. An “aerial target launch event” consists of launching aerial targets for ships to practice defensive operations against (see cover for picture of typical launch event). During launch events an explosive safety arc activates when the jet-assisted take-off bottles are brought to the Red Label Area for mounting until completion of the launch event. If the launch event proceeds on time, at least one hour is needed to complete the set-up, launch, and post-launch “all-clear”. The airfield and Class D airspace must be cleared of all aircraft and shut down from the time the jet-assisted take-off bottles are brought to the Red Label Area until completion of the launch event. If any mishap on the launch occurs (e.g., failed launch or explosion) the airfield must remain shut down until Explosive Ordnance disposal can respond and conduct an investigation.

Launches are currently conducted under a Chief of Naval Operations explosive safety event waiver which allows these activities on the airfield while specifying that an alternative launch site must be identified and explosives safety site approval requested prior to July 2019; this waiver cannot be extended. An alternative site to the existing location must be approved for use by 1 July 2019 to ensure there is no disruption in operations and fleet readiness activities.

The Navy identified prioritized site selection criteria for assessing the best alternate launch site, including: line of sight impacts to training operations, launch site impacts to island operations, time and cost to implement, required infrastructure improvements, and impacts to natural and cultural resources. Based on the selection criteria, the navy selected Site Capitaine as the preferred alternative.

The Proposed Action would relocate the aerial target launch site to the Capitaine site, near West Cove, approximately 900 meters southeast of the currently used Red Label Area (Figure 1). The relocation would involve construction of two concrete pads (launch pad and safety bunker), improvement of an existing dirt road to gravel, relocation of a turnaround, and installation of a vehicle gate across the road to restrict access.

Since the location of launch events would change, the Proposed Action also includes potential changes in land-based impacts from launch operations at the proposed location. Over water impacts would remain the same as the aerial target trajectory nearly overlaps with that of the current launch location.

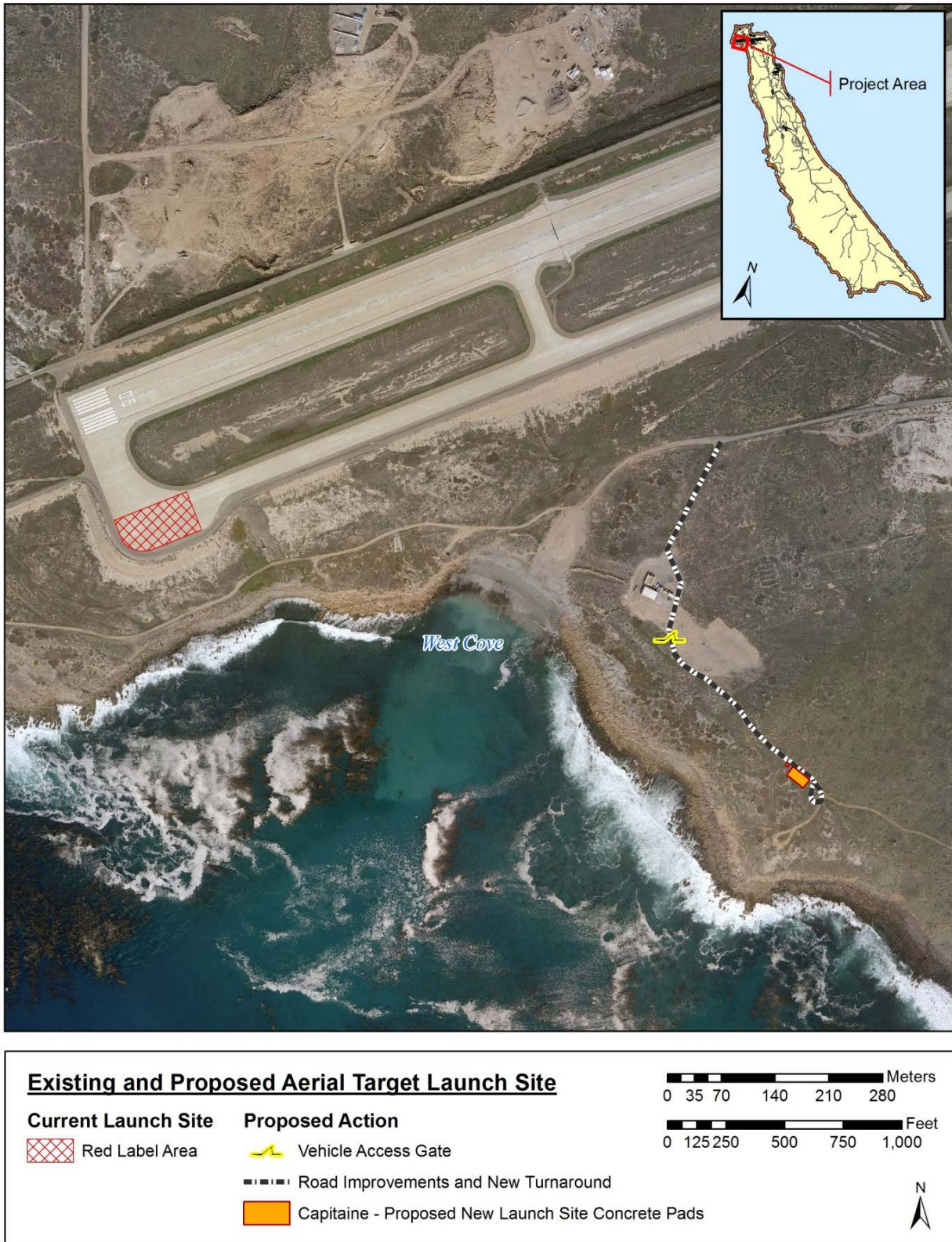


Figure 1: Current and Proposed Aerial Target Launch Site and Associated Improvements

Site Improvements

Figure 2 depicts the Proposed Action in additional detail. The gravel road improvement will replace approximately 2,000 feet of existing dirt road surface with gravel at approximately 12 foot width, to include a new turn-around loop to accommodate trucks with trailers in tow. The existing turn-around loop will be abandoned. About mid-way down the road improvement, a signed lockable vehicle gate will be installed in a disturbed area, allowing the site to be restricted during launch activities. The launch pad will be concrete, 90 feet by 45 feet in finished size, while an additional adjacent concrete pad measuring 14 feet by 12 feet will be installed to accommodate a safety bunker which will be used during launch operations.

No utilities will be installed. Power required for launch operations will be supplied by an existing generator placed on the launch pad during operations. There is no exterior lighting proposed for the site. Existing disturbed areas will be used for laydown and staging.

For fire safety, a 50 foot fuel break is required around the launch pad. As mandated by the Ammunition and Explosives Safety Ashore Manual, vegetation within 50 feet of any potential explosive site shall be maintained at a height no more than 18 inches to create a fuel break (NAVSEA 2015). Vegetation currently surrounding the site is less than 18 inches tall, but growth would require trimming to remain compliant with Navy policy.

Training

The Navy proposes to continue the type and tempo of aerial target exercise training described in the Southern California Range Complex EIS and Hawaii-Southern California Training and Testing EIS, and as analyzed in the Biological Opinion for San Clemente Island Military Operations and Fire Management Plan (US Navy 2008, 2013a, and USFWS 2008).

The Navy is proposing to move the launch site to an area just south of West Cove. The explosive safety arc (600 foot radius) depicted in Figure 2 is the area where unprotected personnel are not permitted during launch activities. Once the aerial target is airborne its over-water trajectory and the area in which fuel-propellant bottles drop remains approximately the same, over West Cove. The only training impacts that are addressed in this document are the launches themselves, since land-based effects may differ at the new location.

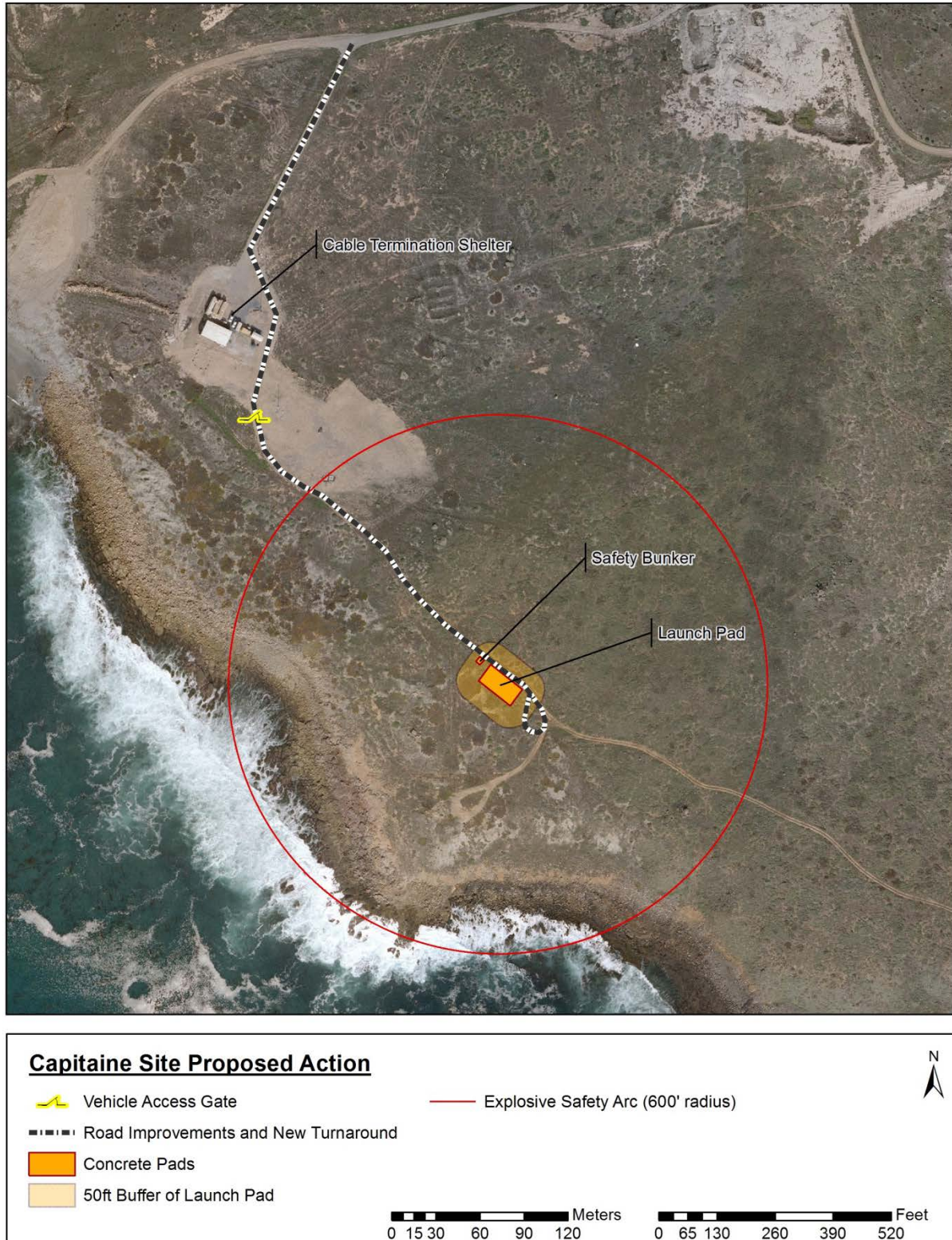


Figure 2: Elements of the Proposed Action at the Capitaine Site

Impact Minimization Measures

The Navy proposes the following conservation measures to be implemented during the construction of the aerial target launch site:

1. To the maximum extent possible, site preparation and construction will take place outside the San Clemente Bell's sparrow breeding season. This will allow construction outside of January-mid-August and within late August to December 2018. If the breeding season ends earlier than mid-August, construction may begin earlier, with SCI Wildlife Biologist approval.
2. The existing turnaround and road spur leading southwest to it will be blocked with boulders and abandoned south of the new turnaround.
3. To the extent feasible, the road maintenance will leave an aggregate/dirt mound immediately adjacent to the roadside to serve as a clear boundary of the road's edge, assisting with control of off-roading and decreasing the likelihood of fox road kill.
4. All current and new SCI personnel and visitors will be provided with the Navy's brochure on the island fox and/or wallet card on Natural Resources regulations compliance. Brochures and/or cards can be obtained from the SCI Wildlife Biologist at (619) 545-7188.
5. All vehicles and equipment transported to SCI will be washed free of visible plant material, dirt, or mud before embarking for SCI.
6. All imported materials (e.g., gravel, soil, wood, pallets, straw wattles etc.) will be inspected and cleared of non-native invertebrates (e.g., insects, worms, snails) through direct removal (washing clean) or application of pesticides prior to transit to SCI.
7. The executing agent/contractor will assure that all project work areas, including transit routes necessary to reach construction sites, are clearly identified or marked.
8. Workers will restrict vehicular activities to roads and associated features (e.g., parking areas), including designated "turn-arounds", pull-outs, and staging areas.
9. Project erosion control Best Management Practices that contain erosion and sedimentation to the direct project footprint and prevent indirect (long-term) erosion as a result of the project will be designed and implemented.
10. Any trenching or excavation work will use a gently sloped edge or provide an improvised ramp to avoid entrapment of animals. The construction manager and project proponent will coordinate with the SCI Wildlife Biologist regarding the construction schedule and will provide access for hand removal of animals, if necessary. If it is infeasible for the SCI Wildlife Biologist to support trench inspection for animal removal, then trenches and/or holes will be inspected daily by construction personnel (briefed by Natural Resources Office staff) prior to re-initiating work, and any entrapped animals will be removed by hand placed directly outside the construction footprint.

Environmental Baseline

Historical and Current Land Use

Site Capitaine was used as an aerial target launch site in the 1960s and 70s for Research, Development, Test and Evaluation projects. Positioned 0.2 miles south of the Cable Termination Shelter at West Cove,

Site Capitaine is located on the west side of SCI. While the area does not have an existing concrete pad, it is in close proximity to the airfield and existing facilities that can support some of the aerial target launch infrastructure requirements.

Vegetation and Habitat

Island-wide vegetation mapping indicates the project site is bordered by three vegetation types (RECON 2011). Upslope and east of the road is primarily maritime desert scrub dominated by California boxthorn (*Lycium californicum*), coast prickly pear (*Opuntia littoralis*), and golden club cactus (*Bergerocactus emoryi*). On the other side of the road and toward the shore, the vegetation transitions to a more disturbed, ruderal vegetation type with more hottentot fig (*Carpobrotus edulis*) and other iceplant species intermixed. The road itself and areas around the proposed vehicle access gate are unvegetated/developed (Figure 3). These vegetation types were verified with a field visit in late May 2017. These types of vegetation, especially the California boxthorn alliance, serve as nesting habitat for the San Clemente Bell's sparrow.

The San Clemente Bell's sparrow is a non-migratory federally threatened subspecies endemic to SCI (US Navy 2013b). During the breeding season, San Clemente Bell's sparrows occur at their highest densities along the lower western and southern marine terraces that are characterized by maritime desert scrub and dominated by California boxthorn. Documentation of expanded Bell's sparrow population and range (2013-2015) countered the assumption that birds previously not re-sighted were deceased. In contrast, Bell's sparrows appear to have colonized recovered sage scrub habitats on the island's eastern slope and associated canyons. Under new monitoring, the highest densities of Bell's sparrows were found in boxthorn habitat along the northern part of the western bench, but sparrows also were found in moderate densities along the eastern escarpment and in moderate to low densities in almost all other areas of the island.

The 2016 Bell's sparrow population monitoring estimated the island-wide Bell's sparrow population to be 4,354, with a 95% confidence interval of 3,190–5,517 birds. The corresponding number of sparrow territories present on the 13,126 hectares of SCI is 2,176.86, with a 95% confidence interval of 1,595.02–2,758.70 territories (Meiman et al. 2016). The project action area supports a 2016 estimated density of 0.39 territory per hectare (Figure 4).

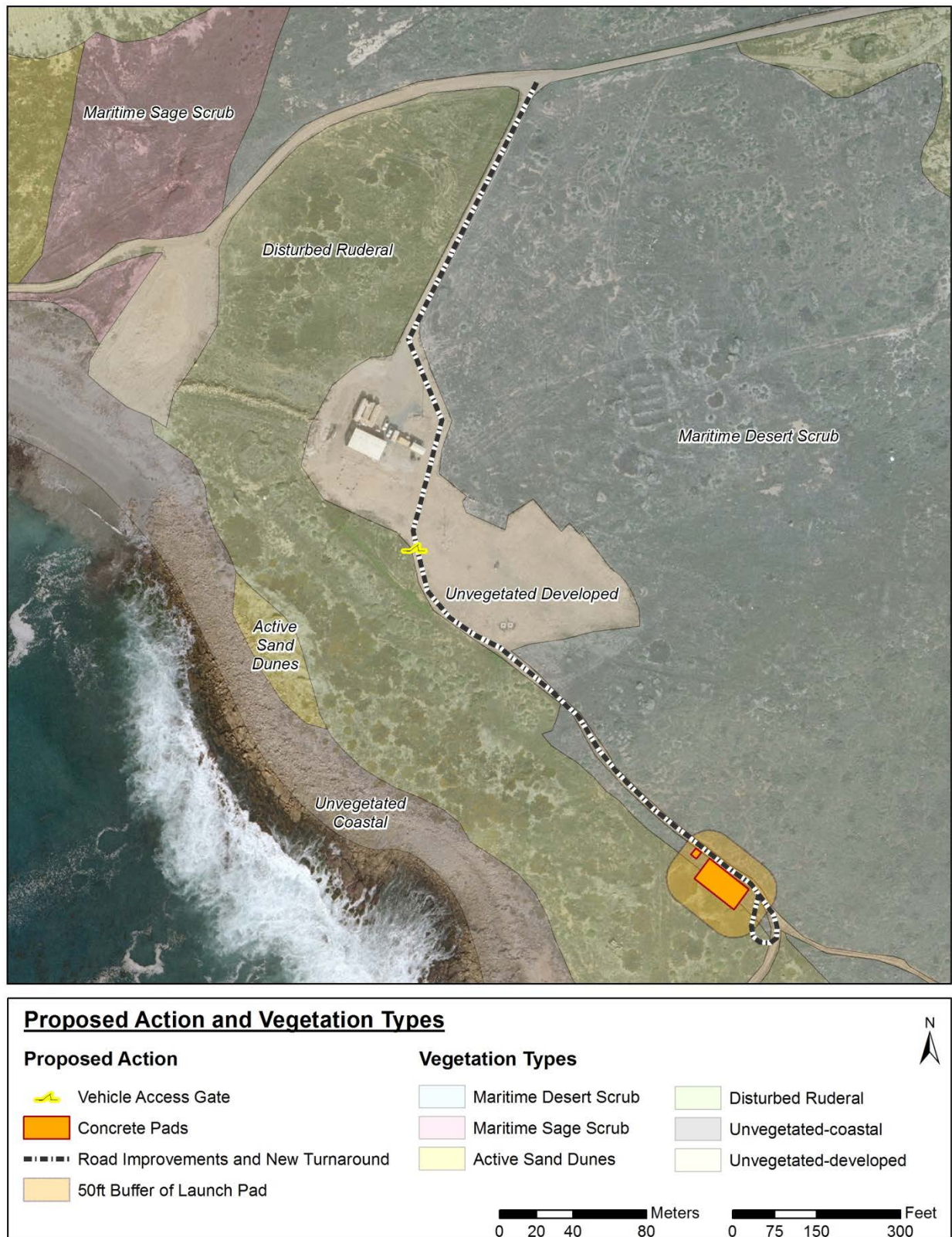


Figure 3: Vegetation Types Surrounding the Proposed Action Location

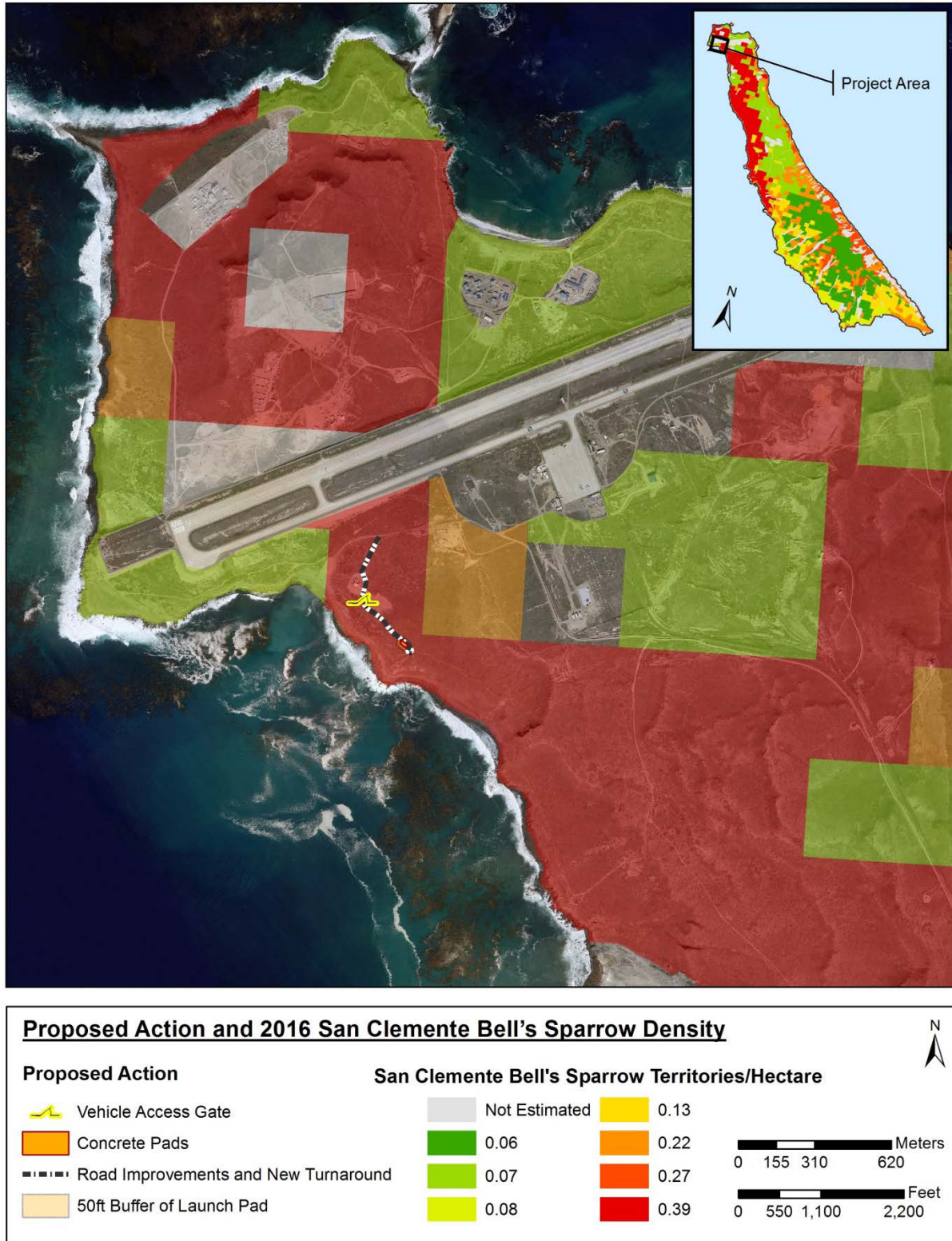


Figure 4: The Proposed Action and 2016 San Clemente Bell's Sparrow Territory Density

Effects

The Proposed Action is likely to affect San Clemente Bell's sparrow habitat. Since construction activities are taking place outside the breeding season to the maximum extent practical, habitat loss is minimal, and training tempo will be the same as already analyzed, effects expected from this project will be minimal at both the individual and population level. As described in detail below, the Proposed Action will not appreciably affect the long-term reproduction, numbers, or distribution of this species on SCL.

Construction

All aspects of site construction are analyzed here as permanent loss to San Clemente Bell's sparrow habitat. Since construction will be limited to the non-breeding season, no direct effects to nesting sparrows are anticipated. Table 1 lists components of the project with anticipated impacts.

The newly graveled road will impact approximately 2 feet of habitat on either side of the existing dirt road. The new turnaround leaves the dirt road just southeast of the launch pad and will impact an area 125 feet long and 12 feet wide, before rejoining the main part of the road.

The concrete pads, which will be installed for launching aerial targets and as a foundation for the safety bunker, will permanently impact 0.10 acre, together. The fuel break around these pads, where vegetation will not currently be trimmed but may be in the future, is 0.47 acre in size, once permanent road and pad impacts are subtracted. Of the 0.82 acre of anticipated impacts, the majority of it is in the fuel break, which does not need to be modified at this time.

In addition to these planned impacts, a 20% construction buffer has been applied (Table 1). Since the Navy is providing actual anticipated construction footprint data for this project, and not design-build bubbles, this 20% buffer will provide the maximum extent of the project footprint.

Table 1: Project impact area by component

Project Component	Area Impacted (sq ft/acre)	
Expanded road	3,762	0.09
New portion of turnaround	1,500	0.03
Safety Bunker and Launch Pads	4,218	0.10
50 foot fuel break (minus pad and road areas)	20,320	0.47
Subtotal	29,800	0.68
20% buffer	5,960	0.14
Grand Total	35,760	0.82

The maximum habitat impact of 0.82 acre (0.33 hectare) will occur in sparrow habitat with a 2016 estimated density of 0.39 territory per hectare, as described in the Vegetation and Habitat section. This equates to a maximum of 0.13 territory directly impacted from construction activities as a result of this project. This represents an impact of 0.006 percent of the 2016 estimated total of 2,177 territories on the Island.

Training

Impacts to San Clemente Bell's sparrow from launch activities at the Capitaine site could happen year round. They would be infrequent brief episodes of loud noise. These temporary events are not

anticipated to impact sparrow behavior outside of a potential startle response during the launch event itself.

In addition to noise, fire safety is a perennial concern at SCI. This site was chosen because of its proximity to shore so that spent fuel-propellant bottles would fall into the ocean in approximately the same location they currently do, decreasing the risk of fire. The Proposed Action also includes a large concrete launch pad apron and fuel break to decrease the risk of ignition from a rocket while the aerial target is still on the ground.

While the Navy does not anticipate a fire at the Capitaine launch site, any incidental take of Bell's sparrows and/or loss of its habitat as a result of fire and training activities will be included in the annual report to the Carlsbad Fish and Wildlife Office, per the San Clemente Island Military Operations and Fire Management Plan Biological Opinion. Any burned habitat would also be subject to the terms and conditions identified in the Biological Opinion, such as term and condition 6.1, requiring the Navy to "evaluate post-fire habitat recovery in sage sparrow habitat that burns along the West Shore (i.e., from the airfield to Seal Cove) outside [Training Area Range] TAR boundaries. If habitat is not recovering, the Navy will implement restoration activities that may include erosion control, focused weed control, outplanting and/or seeding" (USFWS 2008).

Cumulative Effects

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the Proposed Action area. Future federal actions that are unrelated to the Proposed Action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA. Because SCI is a federal installation, no future non-federal actions are expected to occur in the Proposed Action area.

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