

**ENVIRONMENTAL ASSESSMENT OF THE  
INSTALLATION AND OPERATION OF AN  
INTEGRATED ANTI-SWIMMER SYSTEM  
SAN PEDRO, CALIFORNIA**



**COMMANDANT  
UNITED STATES COAST GUARD (G-OPC)**

**MAY 2005**

### *Acronyms and Abbreviations*

°C	degrees Celsius	Leq(24)	24-hour sound level equivalent
μPa	microPascal	MHLS	Maritime Homeland Security
ARG	Architectural Resources Group	mHz	megahertz
ARL-UT	Applied Research Laboratory- University of Texas	MMPA	Marine Mammal Protection Act
CCC	Criterion Continuous Concentration	MSST	Maritime Safety and Security Team
CCMP	California Coastal Management Program	MTS	Marine Transportation System
CEQ	Council on Environmental Quality	MTSA	Marine Transportation Security Act
CEQA	California Environmental Quality Act	NEPA	National Environmental Policy act
CFR	Code of Federal Regulations	NMSA	National Marine Sanctuaries Act
COMDTINST	Commandant's Instructions	NOAA	National Oceanic and Atmospheric Administration
CONEX	Container Express [box]	NOAA Fisheries	NOAA's National Marine Fisheries Service
CWA	Clean Water Act	NRHP	National Register of Historic Places
dB	Decibels	P.L.	Public Law
dba	A-weighted decibel scale	PAHs	polycyclic aromatic hydrocarbons
dbc	C-weighted decibel scale	PFMC	Pacific Fishery Management Council
DDT	dichlorodiphenyltrichloroethane	ppb	parts per billion
DHS	Department of Homeland Security	PSMFC	Pacific States Marine Fisheries Commission
DNL	day-night level	ROI	Region of Influence
DOD	Department of Defense	SAE	Society of Automotive Engineers
DOT	Department of Transportation	SHPO	State Historic Preservation Office
EA	Environmental Assessment	SIP	State Implementation Plan
EEZ	Exclusive Economic Zone	SPL	Sound Pressure Level
EFH	Essential Fish Habitat	U.S.C.	U.S. Code
EIS	Environmental Impact Statement	USACE	U.S. Army Corps of Engineers
EO	Executive Order	USCG	U.S. Coast Guard
ESA	Endangered Species Act	USEPA	U.S. Environmental Protection Agency
FMP	fishery management plan	USFWS	U.S. Fish and Wildlife Service
FONSI	Finding of No Significant Impact	USN	U.S. Navy
GPS	Global Positioning System		
HAPC	Habitat Areas of Particular Concern		
Hz	Hertz		
IAS	Integrated Anti-swimmer System		
ISC	Integrated Support Command		
kHz	Kilohertz		
km	kilometers		

USCG  
FINDING OF NO SIGNIFICANT IMPACT

FOR

**U.S. COAST GUARD IMPLEMENTATION AND OPERATION OF THE INTEGRATED ANTI-SWIMMER SYSTEM AT SAN PEDRO, CALIFORNIA**

The proposed action includes the implementation and operation of an Integrated Anti-swimmer System (IAS) based out of San Pedro, California. The USCG intends to co-locate the IAS as part of the USCG's existing Maritime Safety and Security Team (MSST) in San Pedro. The IAS is designed to detect underwater threats to the U.S. using five primary components: a land-based sonar, a portable sonar, a data processor, a vehicle guidance system, and an underwater loud hailer. The land-based sonar has a source level of 206 decibels (dB) at 90 kilohertz (kHz). The portable sonar has a frequency of 1.0 megahertz (mHz) and 1.8 mHz. The underwater loud hailer would have a source level of 180 dB at 1 kHz and would be used only if a potential threat was detected.

The IAS is designed to detect, track, classify, and alert security forces of potential underwater threats to designated high value vessels and/or critical port infrastructure. Potential threats include combat swimmers and divers, whether moving or still, who may or may not be using a propulsion device, and who may be using either closed or open circuit breathing equipment; and unmanned vehicles, either autonomous or remotely operated. The IAS would be used at a range necessary to maintain general awareness and allow security forces sufficient time to react and counter the threat. Extensive research and analysis of alternatives has led to the conclusion that an active sonar system is the only existing technology that affords this capability.

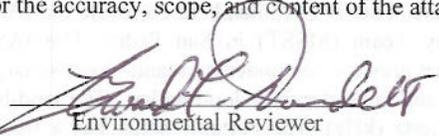
The IAS components are portable and would be transported to mission locations by already existing MSST vehicles. The land-based, data processor, and components of the vehicle guidance system would be based onshore. The portable sonar, underwater loud hailer, and remaining components of the vehicle guidance system are designed for use on an MSST Defender Class boat operating in direct coordination with the onshore IAS components. Under normal circumstances, the IAS would be assigned to specific existing port infrastructure or vessels. The Region of Influence (ROI) for the IAS encompasses the near shore area where the IAS would be deployed. Under normal circumstances, the ROI would be limited to the waters within approximately 300 m of specific, existing shore side, port infrastructure from Santa Barbara to San Clemente, including: Los Angeles Harbor, Long Beach Harbor, and the Ports of Los Angeles and Long Beach. The IAS is not designed or intended for operation offshore. In general, the IAS would be setup at a particular location for some defined period. Operational protocols that would be implemented to minimize adverse effects on protected marine mammal and other species include:

- USCG personnel would monitor the IAS at all times of deployment.
- If IAS is deployed and marine mammal or sea turtle activity is noted which may approach or enter the 160 dB isopleth (200 meter safety zone) of the land-based sonar, the operational commander would take prudent measures to avoid impacting the wildlife which, situation permitting. These may include shutting down the system.
- When conducting training activities, if marine mammals or sea turtles are detected within the 160 dB isopleth (200 meter safety zone) of the land-based sonar, the system shall be shutdown until the marine mammals have left the IAS 200 meter safety zone.
- As there is no warm-up period for the land-based sonar, the safety zone would be visually monitored for 20 minutes prior to turning on the device to be sure it is clear of marine mammals and sea turtles. If the land-based is started during nighttime, night vision devices would be used to monitor the safety zone.
- Barring exceptional circumstances that require such deployment, the IAS would not be placed in a location such that it interferes with obvious marine mammal or sea turtle throughways, or prevents entry or exit of marine mammals or sea turtles into and out of an area, e.g., the mouth of a bay or narrow choke-points, where sonar may deter them from traveling through or by.
- Continuance of existing USCG programs to guard against adverse impacts on marine mammals, e.g., operational guidance, APLMRI, and Ocean Guardian.
- If the IAS were to be deployed in the vicinity of nesting colonial waterbirds, the operational commander would take prudent measures to avoid and/or minimize impacting the wildlife as permitted by the situation.

This project has been thoroughly reviewed by the U.S. Coast Guard (USCG) and it has been determined, by the undersigned, that this project will have no significant impact on the human environment including marine mammals, sea turtles and protected fisheries.

This finding of no significant impact (FONSI) is based on the attached contractor prepared environmental assessment which has been independently evaluated by the USCG and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project and provides sufficient evidence and analysis for determining that an environmental impact statement is not required. The USCG takes full responsibility for the accuracy, scope, and content of the attached environmental assessment.

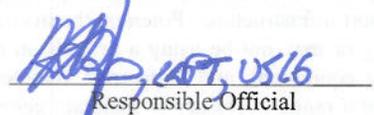
24 MAY '05  
Date

  
Environmental Reviewer

CHIEF, CG-443  
Title/Position

I have considered the information contained in the EA, which is the basis for this FONSI. Based on the information in the EA and this FONSI document, I agree that the proposed action as described above, and in the EA, will have no significant impact on the environment.

30 JUN 2005  
Date

  
Responsible Official

CHIEF, OFFICE OF DEFENSE OPERATIONS  
Title/Position  
(6-OPD)

USCG

ENVIRONMENTAL ASSESSMENT

FOR

**COAST GUARD IMPLEMENTATION AND OPERATION OF THE INTEGRATED ANTI-SWIMMER SYSTEM AT SAN PEDRO, CALIFORNIA**

This USCG environmental assessment was prepared in accordance with Commandant's Manual Instruction M16475.1D and is in compliance with the National Environmental Policy Act of 1969 (P.L. 91-190) and the Council of Environmental Quality Regulations dated 28 November 1978 (40 CFR Parts 1500-1508).

This environmental assessment serves as a concise public document to briefly provide sufficient evidence and analysis for determining the need to prepare an environmental impact statement or a finding of no significant impact.

This environmental assessment concisely describes the proposed action, the need for the proposal, the alternatives, and the environmental impacts of the proposal and alternatives. This environmental assessment also contains a comparative analysis of the action and alternatives, a statement of the environmental significance of the preferred alternative, and a list of the agencies and persons consulted during the preparation of the environmental assessment.

24 MAY 05      *Kent J. Paul* (ANTEON CORP.)      TECH. DIRECTOR -  
Date      Preparer/Environmental Project Manager      G-OPD-UNDERWATER PROSECUTOR  
Title/Position  
(as applicable)

24 MAY 05      *Thomas J. De Santis*      CHIEF, CG-443  
Date      \*\*Environmental Reviewer      Title/Position

In reaching my decision/recommendation on the USCG's proposed action, I have considered the information contained in this environmental assessment on the potential for environmental impacts.

30 JUN 2006      *[Signature]*, CAPT, USCG      CHIEF, OFFICE OF DEFENSE  
Date      Responsible Official      OPERATIONS  
(G-OPD)

\* The USCG preparer signs for NEPA documents prepared in-house. The USCG environmental project manager signs for NEPA documents prepared by an applicant, a contractor, or another outside party.  
\*\* Signature of the Environmental Reviewer for the Bridge Administration Program may be that of the preparer's.



**ENVIRONMENTAL ASSESSMENT OF THE  
INSTALLATION AND OPERATION OF AN  
INTEGRATED ANTI-SWIMMER SYSTEM  
SAN PEDRO, CALIFORNIA**

**Contract No.: DTCG23-02-D-EXB001**

**Prepared for:**

**COMMANDANT  
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**MAY 2005**



**ENVIRONMENTAL ASSESSMENT OF THE  
INSTALLATION AND OPERATION OF AN INTEGRATED ANTI-SWIMMER SYSTEM  
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# 1. Purpose of and Need for the Action

## 1.1 Introduction

As the lead Federal agency for Maritime Homeland Security (MHLS)<sup>1</sup>, the United States Coast Guard (USCG) is proposing to install and operate a suite of equipment termed the Integrated Anti-swimmer System (IAS) that will enhance their underwater swimmer detection capabilities. The IAS is designed to detect, track, classify, and alert security forces of potential underwater threats to designated high value vessels and/or critical port infrastructure. The IAS would be established at the Ports of Long Beach and Los Angeles, CA.

The USCG, one of the country's five armed services, is the nation's oldest maritime agency. As an agency of the Federal government, the USCG affords the nation a single maritime service dedicated to saving lives at sea and enforcing the nation's maritime laws. The USCG has continued to protect the nation throughout its long history and has served proudly in every one of the nation's conflicts. National defense responsibilities remain one of the USCG's most important functions.

Today, the USCG operates in all maritime regions:

- Approximately 95,000 miles of U.S. coastlines, including inland waterways and harbors
- More than 3.36 million square miles of Exclusive Economic Zone (EEZ) and U.S. territorial seas
- International waters and other maritime regions of importance to the U.S.

The events of September 11, 2001, significantly changed the nation's homeland security posture. Terrorism is a clear and present danger to the U.S. The USCG has dramatically shifted its mission activity to reflect its role as a leader in MHLS. On March 1, 2003, in response to growing national security demands, the newly formed Department of Homeland Security (DHS) assumed control of the USCG from the Department of Transportation (DOT) in the largest reorganization of the Federal government since the 1940s (Public Law [P.L.] 107-296). The reorganization resulted in the USCG as the lead Federal agency for MHLS. The USCG's heightened maritime security posture will remain in place indefinitely.

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<sup>1</sup> MHLS is the concerted national effort lead by the USCG to secure the homeland associated with or in the U.S. Maritime Domain from terrorist attacks.

## **1.2 Coast Guard Missions**

The USCG is the only maritime service with regulatory and law enforcement authority, military capabilities, and humanitarian operations. USCG activities in warfare encompass critical elements of naval operations in littoral regions, including port security and safety, military environmental response, maritime interception, coastal control, and force protection. More than two centuries of littoral warfare operations at home and overseas have honed the USCG's skills most needed in support of the nation's military and naval strategies for the 21st century. The USCG's missions include maritime law enforcement, maritime safety, national defense, and marine environmental protection.

Under the newly formed DHS, one of the USCG's primary missions is to protect the U.S. Maritime Domain<sup>2</sup> and the U.S. Marine Transportation System<sup>3</sup> (MTS) and deny their use and exploitation by terrorists as a means for attacks on U.S. territory, population, and critical infrastructure. The Maritime Transportation Security Act (MTSA) of 2002 contains several provisions relating to the USCG's role in MHLS. It creates a U.S. maritime security system and requires Federal agencies, ports, and vessel owners to take numerous steps to upgrade security. The MTSA required the USCG to develop national and regional area maritime transportation security plans; it also required ports, waterfront terminals, and certain types of vessels to submit security and incident response plans to the USCG for approval.

The USCG has several additional:

- Protect ports, the flow of commerce, and the marine transportation system from terrorism.
- Maintain maritime border security against illegal drugs, illegal aliens, firearms, and weapons of mass destruction.
- Ensure that U.S. military assets can be rapidly deployed and re-supplied, by keeping USCG units at a high state of readiness, and by keeping marine transportation open for the transit of assets and personnel from other branches of the armed forces.
- Protect against illegal fishing and indiscriminate destruction of living marine resources.
- Prevent and respond to oil and hazardous material spills—both accidental and intentional.
- Coordinate efforts and intelligence with Federal, state, and local agencies.

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<sup>2</sup> The U.S. Maritime Domain encompasses all U.S. ports, inland waterways, harbors, navigable waters, Great Lakes, territorial seas, contiguous waters, custom waters, coastal seas, littoral areas, the U.S. EEZ, and oceanic regions of U.S. national interest, as well as the sealanes to the United States, U.S. maritime approaches, and high seas surrounding the nation.

<sup>3</sup> The U.S. MTS consists of waterways, ports, and their intermodal connections, vessels, vehicles, and system users, as well as federal maritime navigation systems.

In response to the increased homeland security threat level, the USCG is engaged in Operations Liberty Shield and Iraqi Freedom. Operation Liberty Shield is a multi-department, multi-agency, national team effort to protect American citizens and infrastructure while minimizing disruption to our economy and way of life. Overseas, the USCG is playing a crucial role supporting the other military services in the implementation of Operation Iraqi Freedom. Several USCG cutters, aircraft, reserve, and active duty personnel are currently deployed in the Persian Gulf region and in the Mediterranean to perform waterside security, maritime force protection, and environmental response duties.

In addition, the USCG and Department of Defense (DOD) are partners in two major actions: Operation Enduring Freedom and Operation Noble Eagle. Operation Enduring Freedom generally refers to U.S. military operations associated with the war on terrorism outside the U.S. Operation Noble Eagle generally refers to U.S. military operations associated with homeland defense and civil support to Federal, state, and local agencies in the U.S., and includes the increased security measures taken after the terrorist attacks on September 11, 2001. The operation involves joint agency coordination and cooperation to ensure our nation and its borders are protected from future attacks. The increased USCG maritime security presence prevents and deters those who would cause harm to innocent Americans.

### **1.3 Purpose and Need for the Action**

#### **1.3.1 Purpose of the Action**

The USCG is at a heightened state of alert, protecting more than 361 ports and 95,000 miles of coastline, America's longest border. The USCG continues to play an integral role in maintaining the operations of our ports and waterways by providing a secure environment in which mariners and the American people can safely live and work (USCG 2002a). USCG operational forces are required to protect the MTS and critical infrastructure in and around U.S. ports and waterways from underwater threats, including swimmers and divers potentially using a variety of weapons, gear, and vehicles.

The purpose of the Proposed Action is to enhance the USCG's underwater swimmer detection capability in the San Pedro, California region, in order to protect personnel, ships and property from sabotage and or other subversive acts. To support this goal, the USCG is proposing to install and operate an IAS based out of San Pedro, California. The USCG is also planning to establish IAS units in other locations around the country. Separate National Environmental Policy Act (NEPA) documentation will be prepared for these actions.

### **1.3.2 Need for the Action**

The USCG has a broad range of environmental and geographic responsibilities throughout the EEZ. In the wake of the events of September 11, 2001, the USCG expanded its homeland security duties in addition to maintaining its current missions. Threats facing the national security and well being of the U.S. are neither bi-polar nor symmetrical, meaning the threats aren't always obvious or conventional. Intelligence reports establish a credible underwater threat to U.S. ports and waterways that includes combat swimmers/divers. A system is needed to address underwater threats to our nation's ports. The system must be able to operate underwater, detect underwater swimmers and threats in all water conditions at a range that allows effective action, and is not easily defeated. The system must also be mobile, immediate and timely (readily available), proven effective and affordable with respect to both procurement and operations. With the IAS in place, Operational Commanders responsible for maritime security will have at their disposal underwater capabilities to detect, track, intercept, and, if necessary, interdict a combat swimmer/diver.

## **1.4 Project Scope and Area**

This Environmental Assessment (EA) encompasses the USCG's intended use of the IAS that will be co-located with the Maritime Safety and Security Team (MSST) assigned to San Pedro, California (see Figure 1-1). The IAS is designed to detect underwater threats to the U.S. using five primary components: a land-based sonar, a portable sonar, a data processor, a vehicle guidance system, and an underwater loud hailer. The land-based sonar has a source level of 206 decibels referenced 1 microPascal at 1 meter (dB re  $\mu$ PA at 1m) at 90 kilohertz (kHz). The portable sonar has a frequency of 1.0 megahertz (mHz) and 1.8 mHz. The underwater loud hailer has a frequency range of 0.2 to 20 kHz and a source level of 180 dB re  $\mu$ PA at 1m at 1 kHz. The vehicle guidance system is not a source of underwater sound; it uses radio frequencies and a global positioning system (GPS) to direct the MSST vessel to the underwater threat. The IAS would be monitored by USGS personnel at all times of deployment.

All IAS components would be transported to mission locations using existing MSST vehicles and vessels. The land-base sonar and components of the vehicle guidance system would be based onshore. The portable sonar, underwater loud hailer, and remaining components of the vehicle guidance system are designed for use on an MSST response vessel. No new vessels would be added to MSST fleets as a result of the Proposed Action. Therefore, this EA does not analyze the impacts of

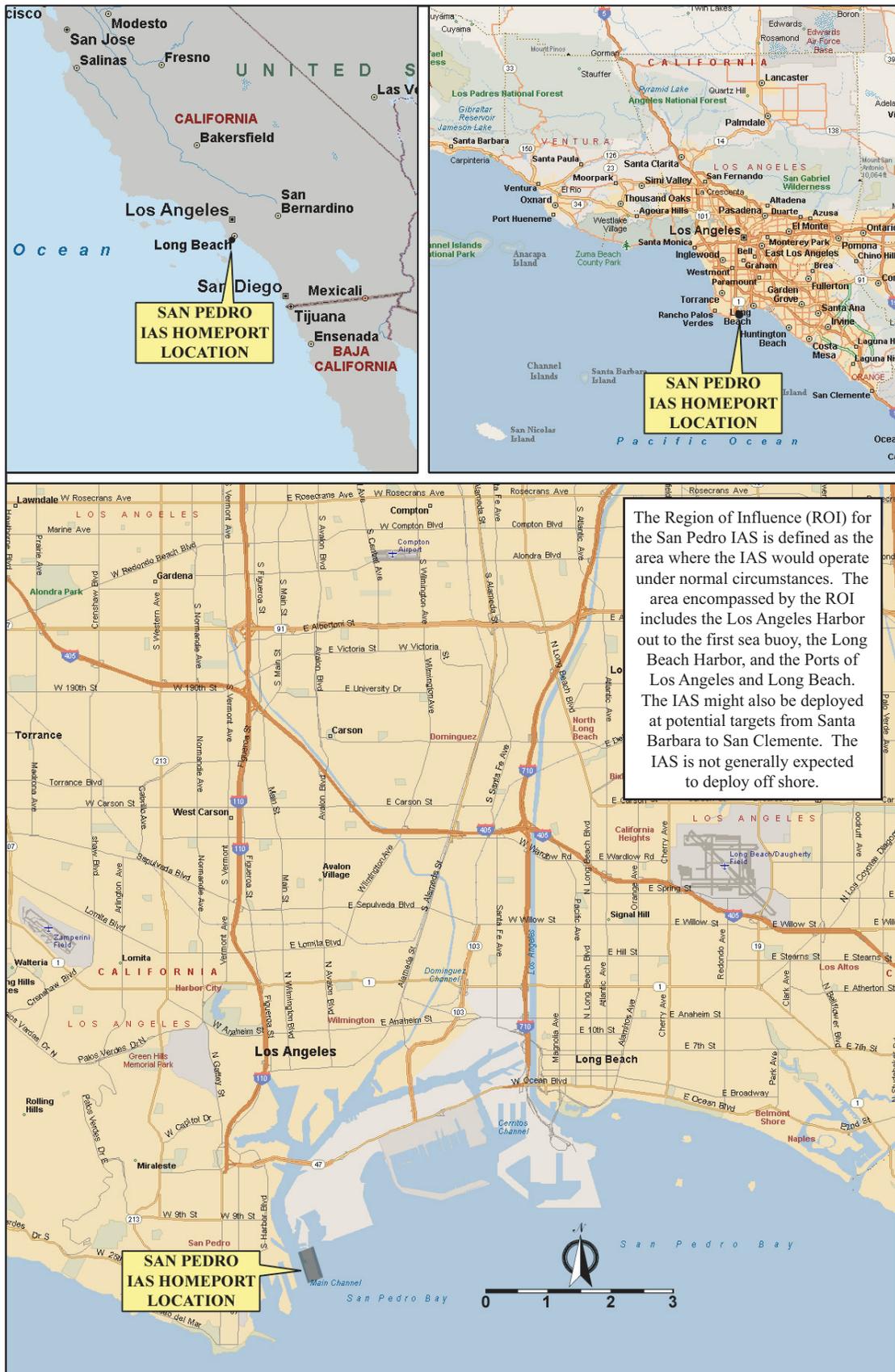


Figure 1-1. Location Map of San Pedro IAS Homeport

the MSST trucks and vessels. These have already been assessed in an EA entitled *Environmental Assessment of the Stand up and Operation of the Maritime Safety and Security Team San Pedro, California* and were found to have no significant environmental impact (USCG 2003).

The IAS is designed to detect, track, classify, and alert security forces of potential underwater threats to designated high value vessels and/or critical port infrastructure. Potential threats include combat swimmers and divers, whether moving or still, who may or may not be using a propulsion device, and who may be using either closed or open circuit breathing equipment; and unmanned vehicles, either autonomous or remotely operated. The IAS would be used at a range necessary to maintain general awareness and allow security forces sufficient time to react and counter the threat. The system is designed to operate to a depth of 100 feet in fresh, salt, and brackish waters; day or night regardless of visibility; and in air and water temperatures and thermoclines normal for a port/harbor environment (arctic to sub-tropical). As outlined in Section 2.2, extensive research and analysis of alternatives has lead to the conclusion that an active sonar system is the only existing technology that affords this capability.

For the purposes of this EA, the Region of Influence (ROI) is defined as the area where the IAS is expected to operate under normal circumstances. For the San Pedro IAS, the ROI would be limited to coastal waters from Santa Barbara to San Clemente, including: Los Angeles Harbor, Long Beach Harbor, and the Ports of Los Angeles and Long Beach (Figure 1-2). The area of influence would be limited to the waters within approximately 100 meters of specific, existing, shore side port infrastructure. Currently, unforeseeable security concerns could require the IAS to protect any port facilities or assets outside of the ROI. The IAS is not designed or intended for offshore deployment or operation.

The IAS would typically be deployed within the harbor or port to which it is assigned; however, the actual position would be determined by the asset that is being protected, so it could be located anywhere in the ROI. Under normal circumstances, the IAS would be assigned to specific existing port infrastructure or vessels within the ROI; however, currently unforeseeable security concerns could require the IAS to protect any port facilities or assets outside of the ROI.

In general, the IAS would be setup at a particular location for some defined period. During that time, the IAS would be operated continuously. The location and duration of each individual event is impossible to predict and would depend on a number of currently unknown circumstances; therefore,

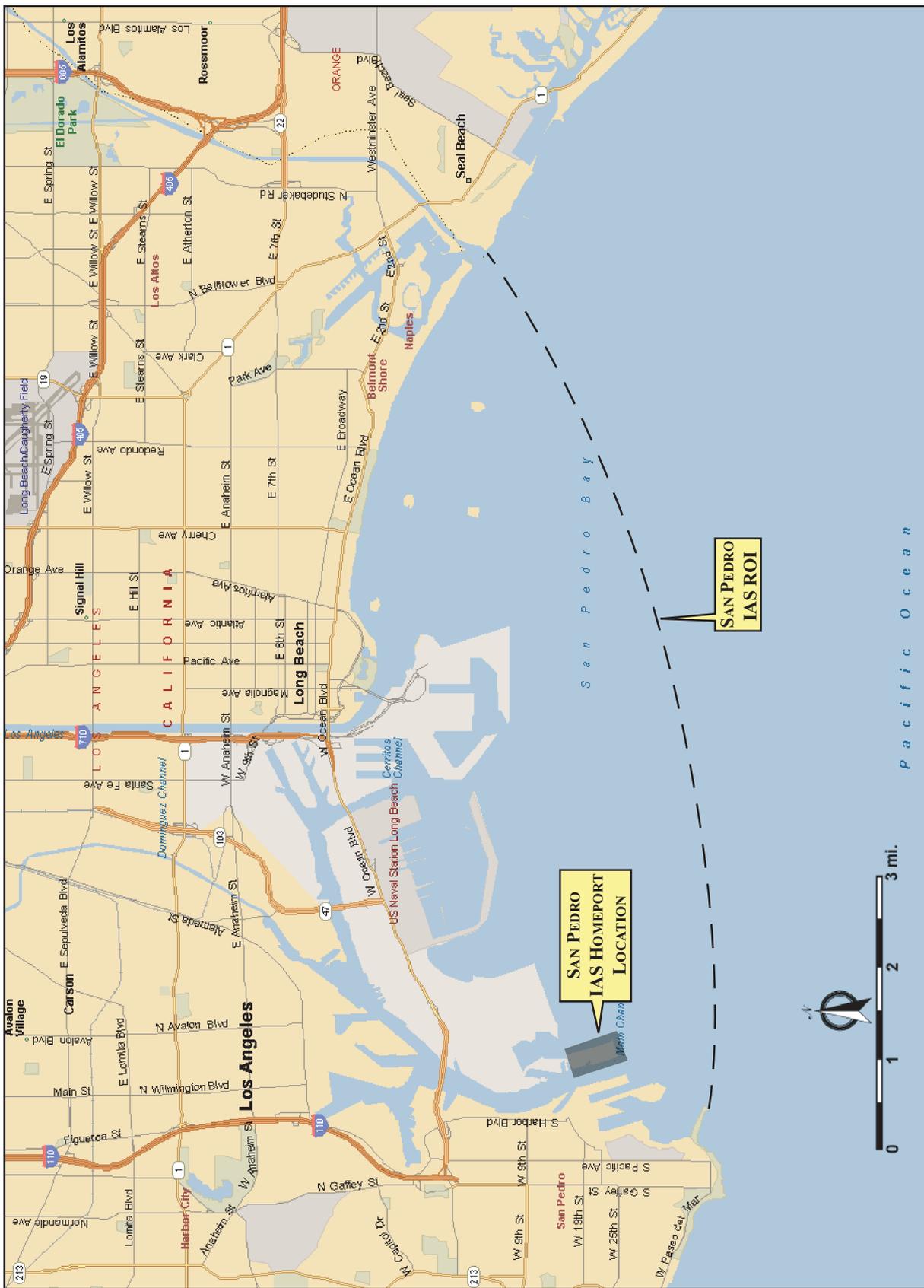


Figure 1-2. Region of Influence for San Pedro IAS

potential impacts from these types of operations would also be speculative in nature. There are too many variables to adequately assess all potential locations. As such, this EA focuses on the potential impacts on developed waterfront areas within the ROI.

## **1.5 Public Involvement Process**

An advertisement was published in the *Long Beach Press-Telegram* on December 15, 2003, announcing the availability of this EA and the draft Finding of No Significant Impact (FONSI) (Appendix A). The USCG will accept comments on this Proposed Action until throughout the EA process. An announcement on the availability of the Final EA and, if appropriate, the FONSI will also be placed in the *Long Beach Press-Telegram*.

## **1.6 Organization of the EA**

Acronyms and abbreviations are used throughout the document to avoid unnecessary length. A list of acronyms and abbreviations used can be found on the inside cover of this EA.

**Section 1:** Purpose and Need for the Action. As required under the NEPA, this Section provides an overview of the action, describes the area in which the Proposed Action would occur, and explains the public involvement process.

**Section 2:** Proposed Action and Alternatives. This Section describes the Proposed Action and the No Action Alternative.

**Section 3:** Affected Environment. This Section describes the existing environmental conditions in the area in which the Proposed Action would occur.

**Section 4:** Environmental Consequences. Using the information in Section 3, this Section identifies the potential for significant environmental effects on each resource area under both the Proposed Action and No Action Alternative. Direct and indirect effects as a result of the Proposed Action are identified on a broad scale as appropriate in an EA.

**Section 5:** Cumulative Impacts. This Section discusses the potential cumulative effects that may result from the impacts of the Proposed Action, combined with foreseeable future actions.

**Sections 6 and 7:** These Sections provide references and a list of this document's preparers.

**Appendices:** This EA includes five appendices that provide additional information. Appendix A contains the agency correspondence with U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NOAA Fisheries). Appendix B is the notice of availability. Appendix C is a list of those regulations, laws, and executive orders that may reasonably be expected to apply to the Proposed Action. Appendix D contains a description of the USCG's Ocean Steward Program, as well as Commandant's Instructions (COMDTINSTs) regarding Protected Living Marine Resources and USCG Participation in the Marine Sanctuary Program. Appendix E contains the NOAA Consultation Summary letter.

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## **2. Proposed Action and Alternatives**

### **2.1 Proposed Action**

The USCG is proposing to establish and operate an IAS to be co-located with the MSST operating out of San Pedro, California. Threats facing the national security and well being of the U.S. are neither bi-polar nor symmetrical, meaning the threats aren't always obvious or conventional. Intelligence reports establish a credible underwater threat to U.S. ports and waterways that includes combat swimmers/divers. With the IAS in place, Operational Commanders responsible for maritime security will have at their disposal underwater capabilities to detect, track, intercept, and, if necessary, interdict a combat swimmer/diver. The IAS would improve existing security capabilities within the ROI on an ongoing basis.

The IAS system would be able to detect and track a combat swimmer/diver that may or may not be using a propulsion device, whether moving or still, and who may be using either closed or open circuit breathing equipment, at such a range as to maintain general awareness and allow security forces sufficient time to react and counter the threat. The system is expected to operate in typical harbor, anchorage, and wharf environments including fresh, salt, and brackish waters, and in air and water temperatures as would typically be expected in a port/harbor environment. Extensive research and assessment of alternatives has led to the conclusion that an active sonar system is the only existing technology that affords this capability.

The IAS has five primary components: a land-based sonar, a portable sonar, a data processor, a vehicle guidance system, and an underwater loud hailer.

The land-base sonar, which is a commercially available sound head that integrates with software developed at Applied Research Laboratory-University of Texas (ARL-UT), is used to detect potential threats such as unidentified swimmers or divers. When tested, the land-based sonar unit demonstrated an average threat detection range of 393 yards, and an average alert range of 338 yards. The system detected and alerted 17 of 17 divers.

The land-based sonar provides raw data to the processor, which, in turn, tracks and classifies the threat. The processor enables the IAS to distinguish between a swimmer/diver, a marine mammal, a sea turtle or some other submerged object. It uses a classified algorithm to consider several different criteria and to classify a contact as a swimmer, diver, or another type of object. The highly accurate

system only alerts USCG security response personnel for a target that has been classified as a swimmer or diver.

Under normal circumstances, the land-based sonar (and data processor) would be used from either a pier or a vessel tied to a pier and would be powered from an available electrical connection to the municipal power system. The less preferred alternative would require a portable generator that would be transported by a truck assigned to the MSST. If the land-based sonar was installed at the mission location, the signal receiving equipment could be housed in a vehicle, Container Express (CONEX) box (a military shipping container), or tent located on a pier. The land-based sonar would be transportable and could be moved anywhere in the ROIs, depending on where additional protection was required.

The portable sonar, vehicle guidance system, and underwater loud hailer would be located on an MSST Defender Class Boats. The vehicle guidance system, which receives radio signals from the land-based sonar, is designed to guide security forces to a potential threat. The portable sonar would be used by security forces on the Defender Class Boats to positively identify a potential threat once it has been localized out to 20 to 30 yards. The underwater loud hailer is similar to commercially available diver recall systems that use submerged speakers to transmit human voices underwater and would be used only in the event of a suspected threat. The loud hailer would allow security team members to contact unidentified swimmers/divers before further action is considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat. Under normal circumstances continuous use of the loud hailer would not exceed the exposure duration thresholds outlined in Section 4.4.1.

The system described above would allow the USCG to detect (with the sonar suite) and classify (using the processor) potential underwater threats, guide security forces to them (using the vehicle guidance system), positively identify them (using the portable sonar), and contact them (with the underwater loud hailer) before taking action. The processor (a component of the IAS) enables the system to distinguish a human swimmer from a marine organism or other object. It uses a classified algorithm that considers several different criteria to classify a contact as a swimmer, diver, or another type of object. The highly accurate system only alerts USCG security response personnel for a target that has been classified as a swimmer or diver. Only then would security forces react, using the underwater loud hailer to convey a warning message to a diver that they have entered a restricted area.

The support structure for the land-based sonar would have sacrificial zinc anodes attached to it to prevent metal corrosion from occurring due to immersion in salt water. It is estimated that 10 to 15 pounds (lbs) of zinc would be attached to the structure depending on the setup.

It is anticipated that only one IAS would be used in conjunction with the MSST in the San Pedro area. The IAS would operate on an as needed basis and would be deployed, when and where additional protection is necessary. The IAS would be transported by the MSST as part of its mission requirements. It is anticipated that the IAS would be transported approximated 1.5 times per month and would operate approximately 180 days per year (i.e., approximately 18 times per year for a duration of approximately 10 days).

## **2.2 Alternatives Analysis**

A bedrock principle of NEPA requires an agency to consider reasonable alternatives to a proposed action. Considering alternatives helps to ensure that ultimate decisions concerning the proposed action are well founded are in the National interest and consistent with National security and other National policy goals and objectives.

### **2.2.1 Alternatives Considered and Eliminated**

To warrant detailed evaluation by the USCG, an alternative must be reasonable and satisfy the purpose and need. To be considered reasonable, an alternative must be "ripe" for decision-making (any necessary preceding events have taken place). The system must be able to operate underwater, detect underwater swimmers and threats in all water conditions at a range that allows effective action, and is not easily defeated. The system must also be mobile, immediate and timely (readily available), proven effective and affordable with respect to both procurement and operations as stated in the purpose and need for the Proposed Action (Section 1.3). The USCG evaluated several potential alternatives to satisfy the purpose and need. This section describes the alternatives considered to provide anti-swimmer capabilities that were eliminated from further study and the basis for that finding. These alternatives are not carried forward for detailed evaluation in this EA.

The anti-swimmer alternatives that were considered include: radar, optical systems, underwater barriers, marine mammals, underwater patrols, and other sonar-based systems. For the reasons described below the only type of system that would satisfy the actions purpose and need is a sonar-based system.

## **RADAR**

RADAR (Radio Detection and Ranging) that is currently used in detecting swimmers and other potential threats at the surface of the water were considered. The USCG's evaluation found that RADAR systems have no capability to detect swimmers in the water. RADAR systems are currently available on the Defender Class Boats and would be used in conjunction with the IAS. However, RADAR by itself would be insufficient to look under the surface of the water.

## **Optics**

Available underwater optical devices (visible light and infrared) were found to have little or no capability to see swimmers in turbid water and only limited capability in clear water, except in cases where the swimmer is very near the surface. Some consideration was given to supplementing the IAS with an optical system in order to more definitively classify a target, but the potential for additional benefit was not clear and use of optics alone would not sufficiently detect underwater threats.

## **Underwater Barriers**

Underwater anti-swimmer barriers have been used in the past by the military. While these barriers were somewhat successful, swimmers going under, around, or through very easily defeated them. Barriers are also very susceptible to underwater growth weighting them down and causing them to sag making them even more easily defeated. Mobile, surface to bottom barriers were also found to have impacts associated with unintended impingement of sea life.

## **Marine Mammals**

The U.S. Navy (USN) currently has programs that use marine mammals to detect and warn of underwater threats. Although this alternative was not removed from future consideration, the concept has significant cost, maintenance, time and deployment issues generally associated with the training, care, and handling of large marine mammals that make the use of this alternative unreasonable to meet the immediate port security needs provided by the IAS.

## **Other SONAR-Based Systems**

The USCG also investigated the use of other sonar-based systems to meet the purpose and need. The proposed IAS system was readily available, cost effective and it had been thoroughly tested by the USN and proven effective. The EA developed by the USN for similar systems found no significant environmental impacts associated with the deployment or operation of the proposed IAS system

(USN 2002). Table 2-1 shows the comparative analysis that was used by the USCG in selecting the IAS system over other sonar-based systems. Details of the systems evaluated and selected are not being made available for security reasons.

### 2.2.2 No Action Alternative

NEPA implementing regulations require that a No Action Alternative be analyzed to provide a baseline for comparison with the action alternatives. The No Action Alternative identifies and describes the potential environmental impacts if the action agency does not choose the Proposed Action or one of the other action alternatives, if applicable.

**Table 2-1. Comparison of Sonar Systems for Anti-Swimmer Detection**

Sonar System	Range	Sector Scanned	Cost	Track Function	Issues
A	Greater	Larger Area	Much Greater	Advanced Auto track	This system is not mobile and, as such, not suitable for MSST deployment. It could, however, be considered in the future as a permanent fixture. Already deployed by the USN.
B	Acceptable	-	-	Advanced Auto track	This is the system chosen for the IAS. It is immediately available, and is relatively cheap and mobile. At the time, it was the only sound-head compatible with the USN processor. Since then USN was tasked to make their processor an open architecture that can use input from any sound-head.
C	Acceptable	Much smaller area.	Much Greater	Simple tracker	High cost for small sector. This system failed at every test the conducted.
D	Acceptable	Similar Area	Greater	Simple tracker	High cost for small sector scan.
E	Unacceptably low.	Variable within acceptable limits	Lower	Minimal	Single beam scanning, short range, slow update rate.
F	Acceptable (estimated)	Larger Area	Unknown	Unknown	A working prototype has not yet been developed
G	Acceptable (estimated)	Smaller area demo. Similar area claimed	Much Greater	Simple tracker	Not in production. The design specifications for this unit show great promise, but they have yet to develop a working prototype

The continuation of the existing conditions without implementation of the Proposed Action is referred to as the No Action Alternative. For the purposes of this project, the No Action Alternative is defined as not installing and operating an IAS in the San Pedro MSST operating area. The No Action Alternative serves as the benchmark against which Federal actions can be evaluated. Inclusion of the No Action Alternative is prescribed by the Council on Environmental Quality (CEQ) regulations and, therefore, will be carried forward for further analysis in this EA.

If the No Action Alternative were selected, as described in this EA, it would not fulfill the USCG's requirement to enhance protection of the MTS and critical infrastructure in and around U.S. ports and waterways from underwater threats. The result might create the potential for significant adverse environmental impacts. Terrorists could strike at military or commercial facilities in these ports, creating health and safety hazards for the surrounding populace and impacting appropriate emergency responses, employment and trade, and marine life. The impacts could be immediate (loss of life) or long-lasting (disruption of commerce activities) that could affect the long-term economy. Recovery time would be dependent on the severity and extent of the loss.

### **2.3 Selection of the Proposed Action**

The Proposed Action was selected because it meets the purpose and need has the potential or positive impacts on security and safety, as well as easing environmental concerns and had no foreseeable significant environmental impacts and had distinct advantages over the alternative systems considered (Section 2.2). Specific considerations included:

- The installation of underwater sonar could provide added security from terrorist attacks for the safety of ships entering and leaving the San Pedro area, numerous commercial interests, and the general population who work and live in and near the port.
- Preventing such attacks would also protect the environment from the impacts resulting from damaged or destroyed infrastructure.
- The Proposed Action would provide additional protection from potential environmental impacts associated with permanent installation of similar systems at multiple locations.

Operating the IAS from a pier or docked vessel is unlikely to result in significant adverse impacts on the environment. In addition, locating the portable sonar unit on the MSST vessels would provide beneficial impacts. The MSST vessels have already been assessed in an EA that found no significant environmental impact (USCG 2003). Operational protocols that would be implemented to minimize adverse effects to protected marine mammal species include:

- USCG personnel will monitor the IAS at all times of deployment.
- If the IAS is deployed and marine mammal activity is noted which may approach or enter the 160 dB isopleth (200 meter safety zone), the operational commander will take prudent measures to avoid impacting the wildlife which, situation permitting, may include shutting down the system.
- When conducting training activities, if marine mammals are detected which may approach or enter the 160 dB isopleth (200 meter safety zone), the system shall be shutdown until the marine mammals have left the IAS 200 meter safety zone.
- As there is no warm-up period for the land-based sonar, the safety zone will be visually monitored for 20 minutes prior to turning on the device to be sure it is clear of marine mammals. If the land-based sonar is started during nighttime, night vision devices will be used to monitor the safety zone.
- Barring exceptional circumstances that require such deployment, the IAS will not be placed in a location such that it interferes with obvious marine mammal throughways, or prevents entry or exit of marine mammals into and out of an area, e.g., the mouth of a bay or narrow choke-points, where sonar may deter them from traveling through or by.
- Continued implementation of existing USCG programs to guard against adverse impacts to marine mammals, e.g., the Ocean Steward Plan.

Furthermore, the USCG would continue to follow existing measures that it has developed to guard against adverse vessel effects to marine protected species. The USCG incorporates the Ocean Steward plan and strategy into its operating procedures, as well as other long-standing initiatives and programs related to living marine resource protection (Appendix D). Ocean Steward is the USCG's national strategic plan to help the recovery and maintenance of healthy sustainable populations of protected marine species to achieve healthy, sustainable populations. Ocean Steward helps ensure that no significant impacts on marine protected species would occur from IAS operations and other USCG operations.

Under the No Action Alternative, the added safety and security provided by the IAS would not be available. While the USCG would continue with their current level of protection, this level has already been determined to be inadequate for the San Pedro operating area. The potential environmental damage from a terrorist attack could be significant. Table 2-2 summarizes the impacts of the Proposed Action and No Action Alternative. For these reasons the Proposed Action will be carried forward for evaluation in this EA.

**Table 2-2. Impact Summary Matrix**

<b>Resource Area</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
Water Quality	Due to the use of zinc anodes, the proposed action would have minor adverse impacts on water and sediment quality. However, the release of zinc would be transient and below U.S. Environmental Protection Agency (USEPA) limits.	Ambient water quality conditions would not be impacted. Significant adverse impacts could be expected due to the increased risk of a terrorist attack and the potential for significant adverse effects on the environment. Recovery time would depend on the severity and extent of the impact.
Noise	Implementation of the Proposed Action would result in minor adverse impacts on existing ambient airborne and waterborne noise levels. The areas of potential effect for the land-based and portable sonars would be less than 100 meters. The use of the loud hailer would be temporary and only under suspicion of threat. Under normal circumstances continuous use of the loud hailer would not exceed the exposure duration thresholds outlined in Section 4.4.1.	Existing conditions would remain as is. Significant adverse impacts could be expected should this alternative be selected due to the increased risk of a terrorist attack and the potential for significant adverse effects on the noise environment. Recovery time would depend on the severity and extent of the impact.

**Table 2-2. Impact Summary Matrix (continued)**

<b>Resource Area</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
<p>Biological Resources</p>	<p>The Proposed Action is not expected to cause adverse effects to biological resources that do not occur underwater. Since, the land-based and portable sonar signal frequencies are above the perceptible range of most organisms, the Proposed Action would have temporary minor adverse effects on marine organisms in the IAS operating vicinity. The areas of potential effect would be less than 100 meters. Most marine mammals are not commonly associated with the types of areas where the IAS would be deployed. Dolphins are the species of primary concern, as they are known to be present in regional ports and harbors and they could be adversely affected by noise in close proximity land-based sonar. As outlined in Section 2.3, IAS operating procedures would include protocols to avoid and/or minimize adverse effects to protected marine species.</p> <p>The use of the loud hailer would be temporary (a maximum of a few minutes) and used only under suspicion of threat. Under normal circumstances continuous use of the loud hailer would not exceed the exposure duration thresholds outlined in Section 4.4.1. Additionally, operational protocols and existing USCG policies, regulations, and programs (e.g., Ocean Steward) would be used to minimize adverse effects to marine mammals.</p>	<p>Existing conditions would remain as is, and the IAS would not be used. Under this scenario, it would be easier for a terrorist attack or an attack that could spread to areas frequented by marine mammals or other biological resources to occur. Significant adverse impacts could be expected should this alternative be selected due to the increased risk of a terrorist attack and the potential for significant adverse effects on biological resources, including marine mammals. Recovery time would depend on the extent of loss.</p>
<p>Public Safety</p>	<p>Beneficial impacts can reasonably be expected from the Proposed Action. The Proposed Action would increase the USCG's ability to protect critical domestic ports and the U.S. MTS from warfare and terrorist attacks. The installation and operation of the IAS will close significant security gaps in our nation's strategic ports.</p>	<p>Under the No Action Alternative, existing conditions would remain as is, and the IAS would not be used, installed or operated. Significant adverse impacts could be expected should this alternative be selected due to the increased risk of a terrorist attack and the potential for significant adverse effects on public safety. Terrorists could strike at military or commercial facilities in the ROI creating health and safety hazards for the surrounding populace. The impacts could be immediate or long lasting. Recovery time would depend on the severity and extent of the impact.</p>

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## 3. Affected Environment

### 3.1 Introduction

#### 3.1.1 Resources for Analysis

This Section describes the environmental and socioeconomic conditions most likely to be affected by the Proposed Action and serves as a baseline from which to identify and evaluate potential impacts from implementation of the Proposed Action. In compliance with NEPA, CEQ guidelines, and NEPA Implementing Procedures and Policy for Considering Environmental Impacts (COMDTINST M16475.1D), the description of the affected environment focuses on those conditions and resource areas that are potentially subject to effects. These resources include water and sediment quality, soils and land use, water resources, socioeconomics, environmental justice, cultural resources, hazardous materials and waste management, biological resources, air quality and climate, noise, and public safety. Because of the size and limited range of effects associated with the IAS, some environmental resources and conditions that are often analyzed in an EA have been omitted from this analysis. The following paragraphs identify the omitted resource areas and the basis for such exclusions:

- *Air Quality.* Operation of the IAS would not produce any emissions. Additionally, the IAS would use existing MSST vessels and would not require any additional MSST vessel trips. The MSSTs were assessed for air quality in the *Environmental Assessment of the Stand Up and Operations of the MSST, San Pedro, CA* (USCG 2003). For these reasons, no significant air quality effects are anticipated from installation and operation of the IAS. Accordingly, the U.S. Coast Guard (USCG) has omitted detailed examination of air quality from this EA.
- *Soils and Land Use.* The Proposed Action would not involve any physical disturbances, earth moving, or construction activities, nor would it involve any actions inconsistent with present or foreseeable land use patterns in the San Pedro area. IAS deployment is consistent with the Los Angeles Master Plan and the San Pedro Specific Plan (REF). The Port of Los Angeles Master Plan is currently undergoing revision. However, based on the present and foreseeable land use patterns at Terminal Island and the Ports of Los Angeles and Long Beach, the Proposed Action should not impact the Port's Master Plan. Generally the IAS will be deployed at existing developed shore side infrastructure and would not alter the existing soils or land use. Integrated Support Command (ISC) San Pedro, where the IAS would be based, falls within the jurisdiction of the California Coastal Act; however, the IAS could be deployed throughout the San Pedro MSST operating area. A letter identifying the Proposed Action was sent to the California Coastal Commission in December 2003 (see Appendix A). The implementation and operations of the IAS will be undertaken in a manner that is consistent to the maximum extent practicable with the California Coastal Management Program (CCMP). Accordingly, the USCG has omitted detailed examination of soils and land use.
- *Socioeconomics.* The Proposed Action does not involve any activities that would contribute to changes in socioeconomic resources. The IAS would be operated by the MSST in Los Angeles. No additional personnel would be required as a result of the Proposed Action.

Therefore, there are no significant socioeconomic effects. Accordingly, the USCG has omitted detailed examination of socioeconomics.

- *Environmental Justice.* Implementation of the Proposed Action would not result in adverse effects on any environmental resource area that would be expected to disproportionately affect minority and low-income populations. Therefore, there are no significant environmental justice effects. Accordingly, the USCG has omitted detailed examination of environmental justice.
- *Cultural Resources.* The Proposed Action does not involve any activities that would affect cultural resources. There would be no ground-disturbing activities; therefore, there would be no effect on archaeological sites. The only historic property at ISC San Pedro is Building 10 in the northeast portion of the base. To accommodate the MSST mission, the USCG has installed a temporary modular structure in the southwest portion of ISC San Pedro approximately 2,100 feet (0.4 miles) from Building 10. Building 10 and the MSST trailer site where the IAS will be stored and mobilized, are on opposite ends of the base with numerous buildings, parking lots, and an athletic field occupying the space between them. ISC San Pedro has had numerous past tenants and missions. Buildings have been continually constructed over time to accommodate the changes in missions. In 1998, the Architectural Resources Group (ARG) conducted a cultural resource survey to determine National Register of Historic Places (NRHP) eligibility of the cultural resources at ISC San Pedro, both as individual resources and as contributing elements to a historic district. Buildings 10, 12, 14, 19, 32, 36, 40, Quarters A and C, the pier and boat basin sheet pile bulkhead, the industrial wharf, and the saluting battery gun mount were evaluated during this study. Only Building 10 was determined to be eligible for listing on the NRHP. ARG also determined that a district is not present at the site. Because the one eligible building and the new modular building are separated by a large distance and other buildings and Building 10 is not visible from the new modular building, the installation of the new building will not have a direct or indirect effect on Building 10 or its immediate surroundings. Operations associated with the MSST program are similar to ongoing USCG operations and, therefore, would not have a direct or indirect effect on Building 10. Therefore, this undertaking will not have an effect on historic properties. Accordingly, the USCG has omitted detailed examination of cultural resources. A letter, with the subject Finding of No Historic Properties Affected for Establishing a U.S. Coast Guard Maritime Safety Security Team in San Pedro, California, was sent to the State Historic Preservation Office (SHPO) in December 2003 (see Appendix A).
- *Hazardous Materials and Waste Management.* The Proposed Action would only involve minor maintenance and repair work, which would be performed by MSST personnel at the homeport location. Major maintenance and repair work would occur at a commercial facility that would have an appropriate hazardous waste management plan. Therefore, the Proposed Action would not require or add a significant amount of hazardous materials or wastes. The land-based sonar unit would not have a dedicated zinc source. When not in use, the unit would be stored onshore, and would be cleaned frequently; therefore, corrosion or any other type of fouling would not be an issue. Should hazardous materials or waste be generated as a result of this action, USCG personnel would abide by existing regulations governing hazardous materials and waste. Accordingly, the USCG has omitted detailed examination of hazardous materials and hazardous wastes.

### **3.1.2 Region of Influence**

This ROI is defined as the area where the IAS would be operated the majority of the time. The IAS would normally be deployed in the harbor or port to which it is assigned; however, currently unforeseeable security concerns could require the IAS to protect any port facility or assets outside of the ROI. Under normal circumstances, the IAS would be assigned to protect high value vessels and/or critical port infrastructure within the ROI. The IAS is transportable and would be deployed as required, to provide additional protection for specific targets throughout the region. The IAS is not designed or intended for offshore deployment or operation

Under the Proposed Action, the IAS would be homeported and maintained with the MSST at ISC San Pedro on Reservation Point on Terminal Island (see Figure 1-2) in Los Angeles. The IAS would be used primarily to protect existing harbor infrastructure in the San Pedro area, including the coastal waters from Santa Barbara to San Clemente: Los Angeles Harbor, Long Beach Harbor, and the Ports of Los Angeles and Long Beach. The area of influence would be defined as the range in which the sound pressure level (SPL) for the land-based sonar would drop below 180 dB. This area is approximately from 9.8 to 328 ft (3 to 100 meters) (at 100 meters the SPL is expected to be at or below 164 dB) from the sound head of the sonar unit, which would be connected to a pier or shore-side structure.

### **3.1.3 Environmental Regulations, Laws, and Executive Orders**

A table containing a listing of regulations, laws, and executive orders that might reasonably be expected to apply to the Proposed Action is included in Appendix C. It is not intended to be a complete description of the entire legal framework under which the USCG conducts its missions.

## **3.2 Water and Sediment Quality**

### **3.2.1 Definition of the Resource**

Water quality is defined as the ability of a waterbody to maintain the ecosystems it supports or influences. In the case of coastal and marine environments, water quality is influenced by river drainage (including sediments), wet (e.g., precipitation), and dry (e.g., dust) atmospheric deposition. The natural aquatic processes of mixing and circulation can either improve the water quality through flushing or contribute to the decline in water quality. Besides these natural inputs, human activities affect water quality through discharges, runoff, burning, dumping, air emissions, and oil or chemical spills.

Sediment quality is defined as the ability of sediment to support a healthy benthic population and helps determine the relative biodiversity and ecological health of the aquatic systems (Birch undated). Sediments provide an important habitat for animals and are a food source for many species and influence the nature of overlying and interstitial waters. Sediments are important in the transport and storage of contaminants and are therefore valuable in identifying sources of contamination and determining dispersion pathways. Contaminants integrate over time within sediments. As such, sediments provide an indicator of the level of contamination (Birch undated). Human activities can affect sediment quality are the same as those that affect water quality and include discharges, runoff, burning, dumping, air emissions, and oil or chemical spills.

### **3.2.2 Affected Environment**

Los Angeles and Long Beach Harbors are adjacent to the Ports of Los Angeles and Long Beach, one of the world's largest, busiest, and most successful seaport complexes. The Ports of Los Angeles and Long Beach encompass approximately 15,000 acres of land and water area in San Pedro Bay. It is one of the world's largest artificial harbor complexes with 57 miles of waterfront. Together, Los Angeles and Long Beach Harbors handle more containerized cargo than any port in the U.S. (MESC 2003). In 2002, a total of 5,386 vessels called at the Ports of Los Angeles and Long Beach.

The Los Angeles Regional Water Quality Control Board recognizes that the waters of the Ports of Los Angeles and Long Beach do not achieve the water quality objectives of the Clean Water Act (CWA). Pollutants of concern include dichlorodiphenyltrichloroethane (DDT), polycyclic aromatic hydrocarbons (PAHs), tributyltin, chlordane, chromium, zinc, lead, and copper (MESC 2003).

## **3.3 Noise**

### **3.3.1 Definition of the Resource**

Webster's dictionary defines noise as "sound or a sound that is loud, disagreeable, or unwanted." However, the definition of noise is highly subjective. To some people the roar of an engine is satisfying or thrilling; to others it is an annoyance. Loud music may be enjoyable, depending on the listener and the circumstances. While no absolute standards define the threshold of "significant adverse effect," there are common precepts about what constitutes adverse noise in certain settings, based on empirical studies. Noise is "adverse" in the degree to which it interferes with activities (such as speech, sleep, and listening to the radio and television) and the degree to which human health might be impaired. Noise can also cause "adverse effects" on marine mammals, depending on the

type of noise and duration. Noise can result in stressful situations that disrupt sleep, reproduction, feeding habits, and communication in marine mammals.

This section defines noise standards and methodology, discusses the effects of noise on humans and marine organisms, and describes the existing ambient sound level in the ROI (Ports of Los Angeles and Long Beach). To understand the effect of noise on humans and marine organisms it is necessary to understand the properties of noise in air and water and the existing ambient noise levels in the ROI.

Noise is customarily measured in dB. A dB is defined as the ratio between a measured pressure and a reference pressure. It is a logarithmic unit that accounts for large variations in amplitude and is the accepted standard unit measurement of sound. The ambient sound level of a region is defined by the total noise generated, including sounds from both natural and artificial sources. The magnitude and frequency of environmental noise can vary considerably over the course of the day and throughout the week, due in part to changing weather conditions.

### **Airborne Noise**

To evaluate the total community noise environment (airborne noise), two measurements are used by some Federal agencies to relate the time-varying quality of environmental noise to its known effect on people, the 24-hour equivalent sound level (Leq(24)) and the day-night sound level (DNL). The Leq(24) is the level of steady sound with the same total (equivalent) energy as the time-varying sound of interest, averaged over a 24-hour period. DNL is the average acoustical energy during a 24-hour period with a 10 dB penalty added to nighttime levels (i.e., hours between 10 p.m. and 7 a.m.) to account for people's greater sensitivity to sound during nighttime hours. When measuring sound to determine its effects on the human population, A-weighted sound levels (dBA) are typically used to account for the response of the human ear. A-weighted sound levels represent adjusted sound levels. The adjustments are made according to the frequency content of the sound. Another sound scale is the C-weighted scale (dBC). In contrast to the A-weighted scale, the C-weighted scale provides no adjustment to the noise signal over most of the audible frequency range. The C-weighted scale is generally used to measure impulsive noise such as airblasts from explosions, sonic booms, and gunfire.

### **Waterborne Noise**

Waterborne (underwater) sound measurements are different from airborne sound measurements. Because of these differences in reference standards noise levels cited in air do not equal underwater levels. The reference pressure used for underwater noise measurements is 1 micro-Pascal ( $\mu$ PA) at 1

meter (re 1 $\mu$ PA-m), which is lower than that used for airborne sound measurements. In addition, underwater noise measurements typically do not have any frequency weighting applied (i.e., A-weighted or C-weighted), while airborne noise is often measured using one of several frequency weighting scales. In many cases, underwater noise levels are reported only for limited frequency bands, while airborne noise is usually reported as an integrated value over a very wide range of frequencies. To compare noise levels in water to noise levels in air, one must subtract 61.5 dB from the noise level referenced in water in order to account for the difference in reference pressure (USN undated).

Furthermore, because the mechanical properties of water differ from those of air, sound moves at a faster speed in water (1,500 meters per second [m/s]) than in air (about 340 m/s) (Entrix 2002). Temperature also affects the speed of sound, traveling faster in warm water than in cold water. A lower frequency sound has a longer wavelength, and the wavelength of a sound equals the speed of sound in either air or water divided by the frequency of the wave. Therefore, a 20-Hertz (Hz) sound wave in the water is 75 meters long, whereas a 20-Hz sound wave in air is only 17 meters long (Entrix 2002).

### **Regulatory Framework for Noise and Standard Operating Procedures**

USCG NEPA Implementing Procedures (COMDTINST M16475.1-D) require a discussion of the existing conditions in the surrounding communities, including noise regulations. USEPA, the Department of Defense, and other Federal agencies with nonoccupational noise regulations, use the DNL as their principal noise descriptor for community assessments (Cowan 1994).

The USCG Safety and Environmental Health Manual (COMDTINST M5100.47) establishes requirements for noise, which include compliance with local noise ordinances and the identification and assessment of hazardous noise sources. USCG defines a hazardous noise as continuous sound levels exceeding 84 dBA or impact noises exceeding 140 dBA. Noise produced by USCG watercraft or by other USCG facility activities should comply with USCG, state, and local noise guidelines. Using Society of Automotive Engineers (SAE) J34 method, USCG recommends 86 dBA as the maximum noise level that watercraft may generate at 50 feet at full speed (PWIA 2002). USEPA has determined 75 dBA at 50 feet as an acceptable noise level to protect public health and welfare (PWIA 2002). For analysis purposes of this EA, the USEPA standard will be used.

Most states and territories have developed land use plans and regulations that incorporate noise thresholds and standards in accordance with the Federal Noise Control Act of 1972 (42 United States

Code [U.S.C.] 4901, 4918). No ordinances or provisions requiring engine muffling devices for watercraft are contained in the California Codes for the IAS operating area.

The USCG's *Reference Guide to State Boating Laws, 6<sup>th</sup> edition, 2000*, states that the State of California does not have a maximum operational noise level for watercraft, confirming the regulatory records review. Although the State of California has not, most states have established a maximum noise level operating range of 75 dBA to 90 dBA at 50 feet, which incorporates the SAE tests: SAE J-2005 (stationary test) and SAE J-1970 (shoreline test). Furthermore, USEPA uses 75 dBA as an acceptable noise level to protect public health and welfare (PWIA 2002).

The USCG also cooperates with local governments or the host agency to ensure that the facilities comply with local noise standards and land use regulations, where applicable. There are no known noise ordinances in the expected operating area of the IAS.

### **Human Response to Noise**

Human response to noise varies according to the type and characteristics of the noise source. Examples of these characteristics are distance between source and receptor, receptor sensitivity, and time of day. Human hearing varies in sensitivity for different sound frequencies. The ear is most sensitive to sound frequencies between 0.8 and 8 kilohertz (kHz) and is least sensitive to sound frequencies below 0.4 kHz or above 12.500 kHz. Several different frequency-weighting metrics have been developed using different dB adjustment values. The most commonly used dB weighting schemes are the A-weighted and C-weighted scales, as described above.

Most people are exposed to sound levels of DNL 50 to 55 dB or higher on a daily basis. Studies specifically conducted to determine noise impacts on various human activities show that about 90 percent of the population is not significantly bothered by outdoor sound levels below DNL 65 dB (USDOT 1980). Studies of community annoyance in response to numerous types of environmental noise show that DNL correlates well with impact assessments and that there is a consistent relationship between DNL and the level of annoyance. The methodology employing DNL and percent highly annoyed has been successfully used throughout the U.S. in a variety of settings ranging from urban to rural.

### **Marine Organism Response to Noise**

Increasing attention is being paid to the impacts of anthropogenic (human-generated) noise sources on marine mammals and sea turtles, especially those associated with the military, as these sources tend to

be much louder and can be widespread (ONR 2000, Richardson et al. 1995). Both above-water (e.g., helicopters) and underwater (e.g., vessels) noise is recognized as a disturbance to marine mammals and sea turtles. Most marine animals can perceive underwater sounds over a broad range of frequencies from about 0.01 kHz to more than 10 kHz. Peak acoustic sensitivity of most invertebrates, fish, sea turtles, and baleen whales is below about 1 kHz. For most toothed cetaceans, pinnipeds, manatees, and sea birds, hearing is best at frequencies greater than 1 kHz (USCG 1996). Little is known about sea turtle hearing ability. Individual responses of marine organisms to noise are discussed in more detail in Section 3.4.2.

### **3.3.2 Affected Environment**

#### **Airborne Noise**

Currently, ISC San Pedro is adjacent to compatible areas, a majority of which is zoned for industrial use. The base is equipped with a variety of piers that meet the needs of roll-on/roll-off, break bulk cargo, and other large vessels. Los Angeles Harbor is adjacent to the Port of Los Angeles, one of the world's largest, busiest, and most successful seaports. Approximately 20 miles south of downtown Los Angeles, the port complex occupies 7,500 acres of land and water along 35 miles of waterfront. The port has 29 major cargo terminals, including facilities to handle automobiles, containers, dry bulk products, and liquid bulk products (Port 2002a).

While home ported or in transit to offshore areas, noise produced by IAS transport and supporting vessels can combine with other noise sources to affect nearby communities and natural resources. Industrial areas border the ISC San Pedro. The USCG has established guidelines and developed cooperative agreements to mitigate impacts on neighboring communities. Federal and state laws and local ordinances establish standards and limitations for noise output from ports, airfields, heliports, helipads, power generating plants, and motor vehicles.

ISC San Pedro is part of the USCG 11th District. The primary operating function of this district is maritime safety and search and rescue, but also includes maritime law enforcement, such as drug law enforcement and alien migrant interdiction operations; environmental protection for living marine resources; and more recently, national security. The units are established and managed based on their functions according to the mission. Since all units are multimission, there is some overlap in the responsibilities of each mission, and therefore, no one type of watercraft is limited to a mission (USCG11 2002).

## Waterborne Noise

Anthropogenic noise sources in ROI include shipping, recreational boating, dredging, shoreline construction (bulkheads, revetments, and docks, and pile-driving), urban and industrial development, helicopters and sonars. Noise generated from these activities can be generated through water or air, and may be stationary or transient. The intensity and frequency of the noise emissions are highly variable, both between and among industry sources. In general, the frequencies of anthropogenic sounds are below 1 kHz.

Shipping is a major contribution to underwater noise and ranges in frequency from 0.005 to 0.5 kHz (NRC 2003). SPLs for various types of ships are presented in Table 3-1. Underwater noise generated by the shipping industry is variable and largely unquantifiable. Helicopters generate sounds with frequencies generally below 0.5 kHz (USCG and MARAD 2003). The sounds are usually transient.

**Table 3-1. Underwater Sound Pressure Levels for Various Vessels**

Vessel (length) and Description	Frequency	Source Level (dB re 1 $\mu$ Pa-meter)
Outboard drive – 23 feet (2 engines, 80 horsepower each)	630, 1/3 octave	156
Twin Diesel – 112 feet	630, 1/3 octave	159
Small Supply Ships – 180 to 279 feet	1000, 1/3 octave	125–135 (at 50 meters)
Freighter – 443 feet	41, 1/3 octave	172

Source: Richardson, et al. 1995

Note: USCG cutters range from 110 to 387 feet. These underwater sound pressure levels cannot be directly compared to airborne decibel levels.

## 3.4 Biological Resources

### 3.4.1 Definition of the Resource

Biological resources include native or naturalized plants and animals, and the habitats (e.g., wetlands, forests, and grasslands) in which they exist. Sensitive and protected biological resources include plant and animal species listed as threatened or endangered by the USFWS, NOAA Fisheries, a state regulatory agency, or otherwise protected under Federal or state laws. Determining which species and habitats occur in an area affected by a proposed action was accomplished through literature reviews and coordination with appropriate Federal and state regulatory agency representatives, resource managers, and other knowledgeable experts.

The USCG has a number of long-standing initiatives and programs relating to Living Marine Resource Protection, a primary mission of the USCG:

- *National Marine Sanctuary Law Enforcement Program.* Among other activities, this provides routine surveillance of marine sanctuaries concurrently with other USCG operations and provides specific, targeted, or dedicated law enforcement, as appropriate.
- *Ocean Guardian.* This long-range fisheries law enforcement strategy supports national goals for fisheries resource management and conservation.
- *Ocean Steward.* This is the USCG's national strategy to help the recovery and maintenance of healthy populations of marine protected species (see Appendix D).
- *Sea Partners.* This environmental and outreach program is designed to develop community awareness of maritime pollution issues and to improve compliance with marine environmental protection laws and regulations (USCG 2002b).
- *COMDTINSTs.* This is the USCG's implementation and guidance document for policy and procedures.
- *Conservation Program.* This program promotes USCG involvement with other Federal and state agencies, and public and non-governmental organizations to conserve and protect living marine resources (USCG 1996).

### **Protected and Sensitive Habitats**

Protected and sensitive habitats are usually defined as those regions that are identified as marine sanctuaries, critical habitats, fisheries management areas, national parks, wildlife refuges, and estuarine research reserve sites. These regions and areas can be under Federal, state; and in some cases, local jurisdictions.

### **Wetlands**

Biological resources also include wetlands. Wetlands are an important natural system and habitat because of the diverse biologic and hydrologic functions they perform. These functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient cycling, wildlife habitat provision, unique flora and fauna niche provision, storm water attenuation and storage, sediment detention, and erosion protection. Wetlands are protected as a subset of the "waters of the United States" under the CWA. The term "waters of the United States" has a broad meaning and incorporates deepwater aquatic habitats and special aquatic habitats (including wetlands). The U.S. Army Corps of Engineers (USACE) defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 Code of Federal Regulations [CFR] 328).

Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill materials into the waters of the U.S., including wetlands. In addition, Section 404 of the CWA also grants states with sufficient resources the right to assume these responsibilities. Section 401 of the CWA authorizes states to use their water quality standards to protect wetlands. The permit provided by the state under Section 401 is generally referred to as a 401 Water Quality Certification.

### **Marine Mammals and Sea Turtles**

Protection of marine protected species such as mammals, sea turtles, or other threatened or endangered marine species, is an important USCG mission. A number of factors can impact the distribution of marine mammals and sea turtles, including environmental, biotic, and human-generated impacts. Environmental factors include chemical, climate, or physical (those related to the characteristics of a location). Biotic factors include the distribution and abundance of prey, competition for prey, reproduction, natural mortality, catastrophic events (e.g., die-offs), and predation. Human impacts include but are not limited to noise, hunting pressure, pollution, oil spills, habitat loss and degradation, shipping traffic, recreational and commercial fishing, oil and gas development and production, and seismic exploration. It is the interrelationships of environmental and biotic factors and human impacts that can affect the location and temporary distribution of prey species. This, in turn, influences diversity, abundance, and distribution of marine mammals and sea turtles.

The USCG has a long-standing role in protecting marine mammals and sea turtles. It enforces all U.S. laws in the EEZ, including laws protecting marine species. The USCG enforces the ESA, the Marine Mammal Protection Act (MMPA), the National Marine Sanctuaries Act (NMSA), a number of maritime Executive Orders (EOs), and Federal and international laws, as applicable. COMDTINSTs include a number of USCG policies, directions, and procedures that include specific rules to ensure that impacts with marine mammals and sea turtles are avoid whenever possible. The USCG's Ocean Steward and Ocean Guardian initiatives and speed guidance also support these goals (USCG 2002a). Additionally, the Ocean Steward initiative protects marine mammals by prohibiting harassment of marine mammals from close or repeated approach by vessels.

The ESA of 1973 (16 U.S.C. 1531-1534) establishes protection and conservation of threatened and endangered species and the ecosystems upon which they depend. The ESA is administered by USFWS and NOAA Fisheries. Under the ESA, an "endangered species" is defined as any species in danger of extinction throughout all or a significant portion of its range. A "threatened species" is

defined as any species likely to become an endangered species in the foreseeable future. Section 7 of the ESA requires that all Federal agencies consult with USFWS or NOAA Fisheries, as applicable, before initiating any action that could affect a listed species. Section 7 of the ESA states that any project authorized, funded, or conducted by any Federal agency should not "... jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical."

Under the MMPA of 1972 (16 U.S.C. 1361 et seq.), the Secretary of Commerce is responsible for the protection of all cetaceans (whales, porpoises, and dolphins) and pinnipeds (seals and sea lions) except walruses, and has delegated authority for implementing the MMPA to NOAA Fisheries. The Secretary of the Interior is responsible for walruses, polar bears, sea otters, manatees, and dugongs and has delegated the responsibility of conservation and protection of these marine mammals to USFWS. These responsibilities include providing overview and advice to regulatory agencies on all Federal actions that might affect these species.

The MMPA prohibits the "take" of marine mammals, with certain exceptions, in waters under U.S. jurisdiction and by U.S. citizens on the high seas. Under Section 3 of the MMPA, a "take" of marine mammals is defined as "harass, hunt, capture, or kill or attempt to harass, hunt, capture, or kill any marine mammal" and "harassment" is defined as any act of pursuit, torment, or annoyance that has the potential to injure marine mammal stock in the wild; or has the potential to disturb a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including migration, breathing, nursing, breeding, feeding, or sheltering. In cases where U.S. citizens are engaged in activities, other than fishing, that result in "unavoidable," incidental take of marine mammals, the Secretary of Commerce can issue a "small take authorization." The authorization can be issued after notice and opportunity for public comment, if the Secretary of Commerce finds negligible impacts.

## **Fish**

Under their Living Marine Resource Protection mission, the USCG undertakes activities such as enforcing domestic fisheries laws, and ensuring the development of practical enforcement plans to protect, conserve, and manage these resources. Examples of laws that the USCG enforces pertaining to fish and fisheries management include

- Eastern Pacific Tuna Licensing Act of 1984 (16 U.S.C. 972 et seq.)
- Fur Seal Act of 1966 (16 U.S.C. 1151 et seq.)
- North Pacific Anadromous Stocks Convention Act of 1992 (16 U.S.C. 5001 et seq.)

- North Pacific Halibut Act of 1982 (16 U.S.C. 773 et seq.)
- Northwest Atlantic Fisheries Compliance Act of 1995 (16 U.S.C. 5601 et seq.)
- Pacific Salmon Treaty Act of 1985 (16 U.S.C. 3631 et seq.)
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)
- Sponge Act (16 U.S.C. 781 et seq.)
- Lacey Act Amendments of 1981 (16 U.S.C. 1531 et seq.)
- Magnuson-Stevens Fisheries Conservation Act (16 U.S.C. 1801, et seq.)
- Tuna Conventions Act (16 U.S.C. 973 et seq.)

Additionally, the Ocean Guardian initiative includes the Fisheries Enforcement Strategic Plan to support national goals for fisheries resource management and conservation.

### **Coastal and Other Birds**

In enforcing the ESA, the USCG also protects endangered and threatened bird species. The USCG must also comply with the Migratory Bird Treaty Act and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*.

## **3.4.2 Affected Environment**

### **Protected and Sensitive Habitats**

There are several protected and sensitive habitats that occur within the ROI. California state parks do not provide significant habitat for protected species due to the high level of human impact on the sites. The harbor approach contains the ecologically sensitive Point Fermin Marine Life Refuge and Seal Beach National Wildlife Refuge. In addition, 13 percent of California's endangered least terns (state and federally listed as endangered) live in a Least Tern Management Area that covers the southern half of the Pier 400 Stage 1 landfill. A section in the southeast corner of this area has been designated a Least Tern Nesting Site (MTS 2002). Shallow water habitats in the harbor feed the terns and also provide a nursery for halibut. Additional areas include five state parks and one National Wildlife Refuge as listed below:

- Will Rodgers State Beach Park
- Dodweiler State Park
- Leo Carillo State Beach
- Huntington Beach State Park
- Bolsa Chica State Park
- Seal Beach National Wildlife Refuge

## Wetlands

As a result of the previously cited federal and state regulations, the USCG is responsible for identifying and locating jurisdictional waters of the U.S. (including wetlands) occurring on USCG installations where these resources have the potential to be affected by mission activities. Such impacts could include construction of roads, buildings, navigational aids, and other appurtenant structures or activities as simple as culvert crossings of small intermittent streams, rip-rap placement in stream channels to curb accelerated erosion, and incidental fill and grading of wet depressions.

Tidal wetlands are dominated by a community of plants that are tolerant of wet, saline soils and are generally found in low-lying coastal habitats that are periodically wet and usually saline to hypersaline. In fact, no other feature defines a salt marsh better than the plant communities that live there. The location of plant species within a salt marsh is defined by zone, with cordgrass (*Spartina foliosa*) forming the most seaward edge of the emergent marsh plant community. Of the thousands of plant species in North America, only cordgrass thrives in the lowest zone of a salt marsh. The middle zone of a tidal marsh is characterized by the occurrence of pickleweed (*Salicornia sp.*). Pickleweed is less tolerant of tidal inundation than cordgrass, but is the most dominant plant of California tidal wetlands. Jaumea (*Jaumea carnosa*) also occurs, but to a lesser extent within the middle zone of California's coastal marshes. The upper zone of a tidal marsh may only be inundated infrequently, in some locations as little as once or twice annually. Such inundation usually occurs during the spring tide cycle (highest annual tides) and during severe storm events. The upper zone of the tidal marsh is characterized by the dominance of salt grass (*Distichlis spicata*), which tolerates only occasional tidal inundation. This upper area of marshes contains the largest plant species diversity of the three zones. Species such as fat hen (*Atriplex patula*), sand spurrey (*Spergularia marina*), marsh rosemary (*Limonium californicum*), and brass buttons (*Cotula cornopifolia*) can be found within the upper zone of salt marshes throughout California. In the southern portion of the state, species such as Australian salt bush (*Atriplex semibaccata*), sea-bite (*Suaeda californica* and *Suaeda fruticosa*), shoregrass (*Monanthochloe littoralis*), and salt marsh bird's beak (*Cordylanthus sp.*) can be found within the upper salt marsh zone.

Eelgrass beds are generally regarded as highly productive habitats that support a rich assemblage of species and provide a refuge area for larval and juvenile fishes. Eelgrass habitat is also a very important resource for a variety of birds. It is associated with rich bottom fauna important to waterbirds, especially diving birds and mollusk eaters. In California's bays and estuaries north of Monterey Bay, eelgrass provides spawning habitat for Pacific herring. Large numbers of waterbirds

such as scoters, buffhead, scaup, goldeneyes, and American coots eat eggs deposited onto eelgrass by Pacific herring during the mid-winter spawn. In addition, many birds such as surface-feeding ducks and other waterfowl, including the black brant, feed directly on eelgrass.

### Marine Mammals

This section includes a brief description of marine mammals within the ROI. Several threatened or endangered species of marine mammals are known to occur in the waters off the California coast. Federally endangered marine mammals that have the potential to occur off the coast of Los Angeles county include blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), and Northern right whale (*Eubalaena glacialis*). The threatened Steller sea lion (*Eumetopias jubatus*) also occurs off the California coast. Due to the habitat requirements of these species, these species are not expected to occur directly in the Ports of Los Angeles or Long Beach.

Marine mammals not designated as threatened or endangered by the USFWS or NOAA Fisheries have been observed in California coastal waters. These are protected under the MMPA and include Pacific harbor seals (*Phoca vitulina richardsi*), northern elephant seals (*Mirounga angustirostris*), California sea lions (*Zalophus californianus californianus*), northern fur seals (*Callorhinus ursinus*), gray whales (*Echritus robustus*), Minke whale (*Balaenoptera acutorostrata*), bottlenose dolphins (*Tursiops orvinus*), short beaked common dolphin (*Delphinus delphis*), long-beaked common dolphins (*Delphinus capensis*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus griseus*), Short-finned pilot whale (*Globicephala macrorhynchus*), Killer whale (*Orcinus orca*), Baird's beaked whale (*Berardius bairdii*), and beaked whales (*Mesoplodont spp.*). Of these, the only marine mammals expected within the ROI, which is the waters of Los Angeles and Long Beach Harbors, include harbor seals, elephant seals, California sea lions, fur seals, bottlenose dolphins, and other dolphin species. These species are discussed in more detail below.

Known hearing sensitivities for marine mammals are presented in Table 3-2. Hearing capabilities have not been tested in all marine mammals. For example, the hearing capabilities of baleen whales have not been tested. In these cases, information on hearing is based on the frequencies of sounds produced, behavioral observations, anatomical evidence, and extrapolations from what is known about other marine mammal hearing.

Marine mammal hearing varies among species; however, as a group, marine mammal hearing ranges from 0.01 – 200 kHz. Broad generalizations can be made about groups of marine mammals. Most

toothed whales (odontocetes) hear well in ultrasonic ranges, with functional hearing from 0.2 to 100 kHz. Some toothed whales are able to hear frequencies as high as 200 kHz (NRC 2003). Models indicate that baleen whales (mysticetes) have lower frequency hearing. It is predicted that blue, fin, and bowhead whales are predicted to hear best in the range of 0.01 to 0.015 kHz and that most baleen whales cannot hear frequencies above 20-30 kHz (NRC 2003). Most pinnipeds have peak hearing sensitivities between 1 and 20 kHz. Sea otters vocalize in the range of 3 to 5 kHz. Manatees which vocalize in the 2.5 to 5 kHz range (Nowacek et al. 2003).

Harbor seals inhabit coastal and estuarine waters off Baja California; north along the western coasts of the continental U.S., British Columbia, and Southeast Alaska; west through the Gulf of Alaska and Aleutian Islands, and in the Bering Sea north to Cape Newenham and the Pribilof Islands. Harbor seals are known for lying on rocks, reefs, beaches, and drifting glacial ice. They feed in marine, estuarine, and occasionally fresh waters. Harbor seals generally are nonmigratory, with local movements associated with such factors as tides, weather, season, food availability, and reproduction (NOAA 2002).

Male harbor seals generally grow to approximately 5 to 5.5 feet in length and weigh between 200 and 250 pounds. The smaller females grow to approximately 4.5 to 5 feet and weigh between 150 and 200 pounds. Harbor seals are thought to live to at least 25 years. Males mature at 4 to 6 years, females earlier. Pups, weighing between 12 and 20 pounds and measuring about 2.5 feet, are born in the spring. Unlike many other seal pups, harbor seals are able to swim from birth, although they are dependent on their mother for milk and nurturing for 3 to 6 weeks before they venture out on their own. While tending their young, harbor seal mothers are very protective and will sometimes push the pup beneath the surface or carry it on her shoulders to avoid danger (NOAA 2002).

Harbor seals produce sounds that are probably associated with territorial behavior, mating, dominance, and other socializing behaviors (USN 2002). It has been reported that harbor seals can detect signals with frequencies as high as 180 kHz, although maximum sensitivity was between 8 and 64 kHz (USN 2002). This contradicts other research that reports rapid degradation of hearing discrimination at frequencies higher than 30 to 60 kHz (USN 2002).

Northern elephant seals are “earless” or “true” seals. This seal species is one of the largest, with females reaching lengths of up to 10.5 feet and weighing up to 1,980 pounds. Males can grow to 18 feet and weigh up to 6,000 pounds. Once hunted to near extinction, elephant seals now populate the coast from the Gulf of Alaska south to Baja California. Elephant seals dive to an average depth of

450 feet, however, they have been recorded as deep as 5,000 feet. They can easily remain submerged for 20 minutes, with a maximum of 119 minutes. The usual diet of a northern elephant seal in the wild consists of squid, small sharks, rays, and other deepwater species. Because of their bottom-feeding nature, it is not uncommon to see elephant seals come to the Marine Mammal Care Center at Fort MacArthur with stingray barbs, ratfish spines, or cookie-cutter shark bites. Northern elephant seals are one of the only pinniped species to hear sounds below 1 kHz.

California sea lions are eared seals. They have external ear flaps, small tails, and smooth whiskers. They have the ability to walk on all fours, which makes them highly mobile on land, and when they swim, they do so primarily with their large front flippers, using their rear flippers for steering.

Male adult California sea lions can grow to be over 8 feet in length and can weigh up to 800 pounds. Females can grow up to 6 feet in length and weigh 250 pounds. Their habitat consists of sandy or rocky island beaches, mainland shorelines, coastal islands, or caves protected by steep cliffs ranging from Vancouver to Baja California and the Gulf of California. Their large front flippers and the ability to turn their rear flippers under their bodies allow them to pull themselves up onto buoys or docks. Their diet in the wild includes squid, octopus, herring, and anchovies. Sea lions exhibit many behavior traits (excellent sense of balance, mobility, and coordination) that often cause them to be viewed as cute and “cuddly,” but it should be noted that they are wild animals. They possess sharp teeth and strong jaws, they grow to be extremely large, and they can move quicker than one might expect on land (NOAA 2002).

California sea lions have ears that are adapted for both hearing in air and under water. Under water, sea lions produce clicks and barks associated with territorial behavior. California sea lions can detect underwater sounds between 0.25 and 40 kHz with the dominant range between 0.5 and 10 kHz (USN 2002).

Northern fur seals are eared seals, named for their dense, insulating underfur. They spend most of their time in deep waters off shore, and are not commonly seen along the coast in the Southern California area due to their pelagic lifestyle. Their range extends from the Arctic Ocean to Southern California in winter, with summers spent on the Pribilof Islands in the Bering Sea and San Miguel Island off the California coast. Fur seals are similar to California sea lions in appearance, with external ear flaps and large front flippers, however the fur seals have longer fur, which stops at the top of the flipper, and their noses are slightly shorter. Fur seals also have teeth that “interlock” or mesh together, leaving little or no space between them when their jaws are closed. They reach

lengths from about 4 feet to over 7 feet, and males can weigh over 600 pounds, while females generally reach about 200 pounds. The underwater hearing of fur seals ranges from 0.5 to 40 kHz with best hearing at 5 kHz (USN 2001).

Bottlenose dolphins have been observed in the Southern California surf zone. Bottlenose dolphins forage on jack mackerel, Cortez grunt, striped mullet, black croaker, white sea bass, white croaker, spotted croaker, yellowfin croaker, California corvina, queenfish, Pacific mackerel, Pacific bonito, and sierra (USN 2002). Bottlenose dolphins use echolocation signals to hunt for prey and avoid obstacles. Underwater hearing ranges reported for bottlenose dolphins range from 1 to 150 kHz (USN 2002). Bottlenose dolphins are reported to produce sounds such as snapping, whistling, barking, and clicking (USN 2002). Whistles were reported at 0.8 to 24 kHz with dominant frequencies of 3.5 to 14.5 kHz (NRC 2000). Clicks used for echolocation were reported at 1 to 150 kHz with dominant frequencies between 30 and 130 kHz and a SPL of up to 213 dB (USN 2002, NRC 2000) (Table 3-2).

**Table 3-2. Hearing Sensitivities, Vocalizations, and Transmissions of Marine Mammals**

Common Name	Scientific Name	Frequency Range (kHz)	Dominant Frequencies (kHz)
<b>Baleen whales (Suborder Mysticeti)</b>		<b>0.01 – 30<sup>c</sup></b>	<b>0.02<sup>c</sup></b>
Gray whale	<i>Eschritus robustus</i> adult calve	0.02 - 2 <sup>a</sup> 0.01 – 20 <sup>a</sup>	0.2 – 1.2 <sup>a</sup> 3.4 – 4 <sup>a</sup>
Humpback whale	<i>Megaptera novaeangliae</i>	0.03 – 10 <sup>a</sup>	0.12 – 4 <sup>a</sup> 0.04 – 16 <sup>c</sup>
Fin whales	<i>Balaenoptera physalus</i>	0.014 – .75 <sup>a</sup>	0.02 – 0.04 <sup>a</sup> 0.01 – 0.015 <sup>c</sup>
Minke whale	<i>Balaenoptera acuturostrata</i> clicks moans, clicks, and grunts hearing	3.3 – 20 <sup>a</sup> 0.06 -0.14 <sup>a</sup> 0.06 -0.14 <sup>c</sup>	N/A N/A N/A
Northern right whale	<i>Eubalaena glacialis</i>	< 0.4 <sup>a</sup>	N/A
Sei whale	<i>Balaenoptera borealis</i>	1.5 – 3 <sup>a</sup>	N/A
Blue whales	<i>Balaenoptera musculus</i>		
	<i>Atlantic</i>	NA	0.01 – 0.02 a
	<i>Pacific</i>	0.01 – 0.39 a	0.016 – 0.024 0.01 – 0.015 c a

**Table 3-2. Hearing Sensitivities, Vocalizations, and Transmissions of Marine Mammals (continued)**

Common Name	Scientific Name	Frequency Range (kHz)	Dominant Frequencies (kHz)
<b>Toothed Whales (Suborder Odontoceti)</b>		<b>0.2 – 100; up to 200<sup>b</sup></b>	<b>8-150</b>
Killer whale	<i>Orcinus orca</i>		
	whistles	0.26 – 20 <sup>a</sup>	2 – 5.9 <sup>a</sup>
	clicks	1.2 – 25 <sup>a</sup>	N/A
	hearing	<0.5 – 105 <sup>b</sup>	N/A
Baird's and Arnoux's whales	<i>Berardius spp.</i>	12 – 134 <sup>a</sup>	N/A
Beaked whales	<i>Mesoplodon spp.</i>	0.3 – 80+ <sup>a</sup>	N/A
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	8 – 100 <sup>a</sup>	N/A
Bottlenose dolphin	<i>Tursiops truncatus</i>		
	whistles	0.8 – 24 <sup>a</sup>	3.5 – 14.5 <sup>a</sup>
	clicks	1 – 150 <sup>a</sup>	30 – 130 <sup>a</sup>
	hearing	0.15 – 135 <sup>b</sup>	N/A
Risso's dolphin	<i>Grampus griseus</i>	0.1 – 65 <sup>a</sup> 0.75 – 100 <sup>b</sup>	N/A
Common dolphin (short-beaked)	<i>Delphinus delphis</i>	0.2 – 150 <sup>a</sup> <5 – 150 <sup>b</sup>	N/A
Dolphins	<i>Lagenorhynchus spp.</i>	0.06 – 325 <sup>a</sup> 0.5 – 135 <sup>b</sup>	N/A
Dall's Porpoise	<i>Phocoenoides dalli</i>	0.4 – 160 <sup>a</sup>	N/A
<b>Earless seals (Family Phocidae)</b>		<b>1 – 50<sup>b</sup></b>	<b>NA</b>
Harbor seals	<i>Phoca vitulina richardsi</i>	< 0.1 – >150 <sup>a</sup>	<0.1 – 40 <sup>a</sup>
<b>Eared seals, seal lions, walruses (Family Otarridae)</b>		<b>0.1 – 1, 36-40<sup>b</sup></b>	<b>2 – 17<sup>b</sup></b>
Northern elephant seal	<i>Mirounga angustirostris</i>	> 1	<1 <sup>b</sup>
California sea lion	<i>Zalophus californianus</i>	0.25 – 4 <sup>a</sup>	0.5 – 4 <sup>a</sup>
Fur seal	<i>Callorhinus Ursinus</i>	N/A	N/A

Sources: Nowacek et al. 2003; NPS 2003, NRC 2003

Notes:

<sup>a</sup> Based on frequencies used in communication and echolocation

<sup>b</sup> Tested hearing sensitivity

<sup>c</sup> Predicted hearing sensitivity

N/A=Not Available

### Sea Turtles

All four species of sea turtles that inhabit the California coast are threatened or endangered. These include green sea turtle (*Chelonia mydas*) (threatened and endangered), leatherback sea turtle (*Dermochelys coriacea*) (endangered), loggerhead sea turtle (*Caretta caretta*) (threatened), olive ridley sea turtle (*Lepidochelys olivacea*) (threatened).

Green turtles are listed as threatened, except for breeding populations found in Florida and the Pacific coast of Mexico, which are listed as endangered. The primary green turtle nesting grounds in the eastern Pacific are located in Michoacán, Mexico; and the Galapagos Islands, Ecuador (NMFS and USFWS 1998a). They are a circumglobal and highly migratory species, nesting mainly in tropical and subtropical regions.

Two distinct subspecies of green turtles occur in the eastern Pacific, the black turtle (*C. m. agassizii*), which ranges from Baja California south to Peru and west to the Galapagos Islands; and the dominant green sea turtle (*C. m. mydas*) in the rest of the range (NMFS 2000). Since both subspecies can be found in the ROI, they will be treated as one species and referred to as green turtles for the purposes of this EA. Green turtles are declining virtually throughout the Pacific Ocean, with the possible exception of Hawaii, as a result of historical combination of overexploitation and habitat loss (NMFS 2000).

Green turtles prefer waters that usually remain about 20 degrees Celsius (°C) in the coldest month. During warm spells (e.g., El Niño), green turtles can be found considerably north of their normal distribution.

Drift lines or surface current convergences are preferential zones due to increased densities of food items. In the western Atlantic, drift lines commonly contain the floating algae sargassum, which provides small turtles with shelter and buoyancy (NMFS and USFWS 1998a). Most green turtles appear to have a nearly exclusive herbivorous diet, consisting primarily of sea grass and algae, although those along the East Pacific coast seem to have a more carnivorous diet (NMFS 2000). Stomach content analyses of sea turtles found off the coast of Peru revealed a large percentage of mollusks and polychaetes, while fish and fish eggs, and jellyfish and commensal amphipods comprised a lesser percentage (NMFS 2000).

Leatherbacks have the most extensive range of any living reptile and have been reported circumglobally from 71° N to 42° S latitude in the Pacific and in all other major oceans (NMFS and USFWS 1998b). Studies of their abundance, life history and ecology, and pelagic distribution are difficult because they lead a completely pelagic existence. Leatherbacks are highly migratory, exploiting convergence zones and upwelling areas in the open ocean, along continental margins, and in archipelagic waters. They forage in temperate waters except during the nesting season, when gravid females return to tropical beaches to lay eggs.

Migratory routes of leatherbacks that originate from eastern and western Pacific nesting beaches are not entirely known. Research indicates that Pacific leatherback stock structure (natal origins) varies by region. Because leatherbacks are highly migratory and stocks mix in high-seas foraging areas, leatherbacks that inhabit the west coast of California are likely comprised of individuals that originate from nesting assemblages south of the equator in Indonesia and in the eastern Pacific along the Americas (*e.g.*, Mexico, Costa Rica). The eastern Pacific region has been shown to be a critical migratory route for female leatherbacks that nest on Mexiquillo Beach, Mexico. The high density of leatherback sightings in and around Monterey, peaking in August, and the October to January nesting period on the Pacific coast of Mexico suggests that the turtles might migrate southward along the U.S. coastline to Mexican nesting beaches. However, genetic analyses of leatherbacks that have been stranded and taken by fisheries off Oregon and California have indicated representation from the western Pacific nesting beaches (NMFS 2000).

Loggerhead sea turtles are listed as threatened under the ESA throughout its range, primarily due to exploitation, incidental capture by various fisheries, and the alteration and destruction of their habitat. Loggerheads are a cosmopolitan species, found in temperate and subtropical waters and inhabiting pelagic waters, continental shelves, bays, estuaries and lagoons (NMFS and USFWS 1998c).

In the Pacific Ocean, major nesting grounds are generally located in temperate and subtropical regions, with scattered nesting in the tropics, and are restricted to the western and southern region (Japan and Australia, primarily). To date there have been no reported loggerhead nesting sites in the eastern or central Pacific (NMFS 2000). Upon reaching maturity, adult females migrate long distances from resident foraging grounds to their preferred nesting beaches.

Evidence indicates that the loggerhead transition from hatchling to juvenile might involve trans-Pacific movement. Juvenile Pacific loggerheads might follow a migration similar to loggerheads in the Atlantic, passively transported by currents in flotsam in drift lines, before taking up residence in developmental habitats in coastal waters (NMFS 2000). This theory is supported by: 1) the size and structure of loggerheads in coastal and nearshore waters of the eastern and western Pacific; 2) the fact that the high-seas drift net fishery incidentally caught juvenile loggerheads in the early 1980s and 1990s; and 3) large aggregations (thousands) of juvenile and subadult loggerheads found off the southwestern coast of Baja California, over 10,000 kilometers (km) from the nearest significant nesting beaches in Japan (NMFS 2000). Genetic analyses on four loggerheads taken in the California/Oregon drift gillnet fishery indicate that those sea turtles also originated from Japanese nesting beaches. It has been suggested that loggerhead occurrence in this fishery is probably

associated with the northward extension of Transition Zone waters along the North American coast during El Niño years (NMFS 2000).

For their first years of life, loggerheads forage in open-ocean pelagic habitats. Both juvenile and subadult loggerheads feed on pelagic crustaceans, mollusks, fish, and algae. The large aggregations of juveniles off Baja California have been observed foraging on dense concentrations of the pelagic red crab (*Pleuroncodes planipes*). Preliminary data of stomach samples collected from turtles captured in North Pacific drift nets indicate a diet of gooseneck barnacles (*Lepas sp.*), pelagic purple snails (*Ianthina sp.*), and medusae (*Vellela sp.*). As they age, loggerheads begin to move into shallower waters, where, as adults, they forage over a variety of benthic hard- and soft-bottom habitats. Most subadults and adults are found in nearshore benthic habitats around southern Japan, in the East China Sea, and the South China Sea (e.g., Philippines, Taiwan, and Vietnam) (NMFS 2000).

The olive ridley sea turtle populations on the Pacific coast of Mexico are listed as endangered under the ESA; all other populations are listed as threatened. However, olive ridleys are the most abundant sea turtle in the Pacific basin. Olive ridley sea turtles lead a primarily pelagic existence, migrating throughout the Pacific, from their nesting grounds in Mexico and Central America to the north Pacific (NMFS 2000). Little is known of their oceanic distribution and critical foraging areas. The species appears to forage throughout the eastern tropical Pacific Ocean, often in large groups. Evidence indicates that young turtles move off shore and occupy flotsam in areas of current convergence for food and shelter. When large enough, they recruit to the benthic feeding grounds of adults. Olive ridleys feed on tunicates, salps, crustaceans, other invertebrates, and small fish (NMFS 2000).

Two months prior to nesting season olive ridleys begin to aggregate near nesting beaches. Most mating is generally assumed to occur in the vicinity of the nesting beaches, although copulating pairs have been reported over 100 km from the nearest nesting beach. In the eastern Pacific, nesting occurs all along the Mexico and Central American coast, with large nesting aggregations occurring at a few select beaches located in Mexico and Costa Rica. Where population densities are high enough, nesting takes place in synchronized aggregations known as arribadas. The largest known arribadas in the eastern Pacific are off the coast of Costa Rica (it is estimated that 475,000 to 650,000 females nest there annually) and in southern Mexico (approximately 600,000 or more nests per year) (NMFS 2000).

The post-nesting migration routes of olive ridleys, tracked via satellite from Costa Rica, traversed thousands of kilometers of deep oceanic waters from Mexico to Peru and more than 3,000 km out into

the central Pacific (NMFS 2000). Stranding records from 1990 to 1999 indicate that olive ridleys sea turtles are rarely found off the coast of California, averaging 1.3 strandings annually (NMFS 2000).

Little is known about sea turtle hearing. Past research based on the physiology of the brain indicates that sea turtles are able to hear sounds with frequencies ranging from 0.08 to 2 kHz, with maximum sensitivity levels reported between 0.1 and 0.8 kHz and 0.3 and 0.4 kHz (ONR undated, Lenhardt 1994, NRC 2003). Loggerhead sea turtles are capable of hearing sound from 0.25 to 1 kHz (Moein et al. 1994). Preliminary data from a continuing research project that will determine the sensitivity of green sea turtle hearing indicates that green sea turtles are capable of hearing tones ranging from 0.1 to 0.5 kHz (ONR undated). There is a threshold between 107 and 119 dB at 0.2 kHz and a threshold between 121 and 131 dB at 0.4 kHz (ONR undated). Research will be used to assess the impact of sound on sea turtles and to develop acoustic deterrents for fishing nets, in order to reduce the bycatch of sea turtles.

## **Fish**

Over 130 species of fish are found in Los Angeles and Long Beach Harbors (MEC 1988). As a general rule, the abundance of fish within the federal breakwater is higher than outside the breakwater and the diversity and abundance of fish decline as one proceeds into the Inner Harbor. Over the years, there has been an improvement of the harbor's water quality and areas in the main channels and basins of the Inner Harbor, which historically were less valuable to fishes, have become more like areas of the deep Outer Harbor (MEC 1988). An estimate of total fish abundance shows that the Outer Harbor contains, at any one time, approximately 15 million fish (MEC 1988). Three species, the Pacific sardine (*Sardinops sagax*), the northern anchovy (*Engraulis mordax*), and the white croaker (*Genyonemus lineatus*), make up approximately 90 percent of the fish in the Outer Harbor (MEC 1988).

Commercial and recreational fishery resources off the California coast are managed by the Pacific Fishery Management Council (PFMC), NOAA Fisheries, and Pacific States Marine Fisheries Commission (PSMFC). Pursuant to the EFH requirements of the Magnuson-Stevens Fishery Conservation and Management Act, the PFMC has described EFH for their four fishery management plans (FMPs) – groundfish, coastal pelagic species, salmon, and highly migratory species.

The proposed project is located within an area designated as EFH for two FMPs, the coastal pelagics and Pacific groundfish Management Plans. Of the 86 species that are federally managed under these

plans, 12 are known to occur in Los Angeles and Long Beach Harbors and could be affected by the proposed project (see Table 3-3).

Four of the five species in the Coastal Pelagics FMP are well represented in the ROI. In particular, the northern anchovy is the most abundant species in Los Angeles Harbor, representing over 80 percent of the fish caught (MEC 1988, MEC 1999) and larvae of the species are also a common component of the ichthyoplankton (MEC 1988). It is generally held that this species spawns outside the harbor. There is a commercial bait fishery for northern anchovy in the Outer Los Angeles Harbor. The Pacific sardine is at times one of the most common species in the harbor, ranking second behind northern anchovy at some locations (MEC 1988). In a recent survey, sardines were a less significant component of the fish caught (MEC 1999). This species is not known to spawn in the harbor. Sardines are also a component of the commercial baitfish harvest in the harbor. Both of these species are important forage for piscivorous fish (i.e., fish that eat other fish). The two other coastal pelagic species, the Pacific and jack mackerels are common but not overly abundant as adults in Los Angeles and Long Beach Harbors. The Pacific mackerel's main forage fish in the harbor is very likely the northern anchovy.

**Table 3-3. Species that have EFH within the ROI**

Common Name	Scientific Name	Comment
<b>Coastal Pelagics FMP</b>		
Northern anchovy	<i>Engraulis mordax</i>	Most common species in harbor; adult and larvae present
Pacific sardine	<i>Sardinops sagax</i>	Abundant species in harbor; predominantly adult
Pacific mackerel	<i>Scomber japonicus</i>	One of top 10 species in deeper portions of the harbor; adult
Jack mackerel	<i>Trachurus symmetricus</i>	One of top ten species in deeper portions of the harbor; adult
<b>Pacific Groundfish FMP</b>		
English sole	<i>Parophrys vetulus</i>	Rare; adult; 1 of 30,733 fish caught in trawl
Pacific sanddab	<i>Citharichthys sordidus</i>	Rare; adult; 1 of 30,733 fish caught in trawl
Leopard shark	<i>Triakis semifasciata</i>	Uncommon; adult; 1 of 20,184 fish caught in beach seines
Bocaccio	<i>Sebastes paucispinis</i>	Uncommon; juvenile in kelp around breakwater
California scorpionfish	<i>Scorpaena gutatta</i>	Common; adult found in rock dikes and breakwater, soft bottom at night
Olive rockfish	<i>Sebastes serranoides</i>	Common; juveniles in kelp around breakwater
Cabezon	<i>Scorpaenichthys marmoratus</i>	Rare; adult

Source: MEC 1988, MEC 1999

Of the seven species present from the Pacific Groundfish FMP, only two, the olive rockfish and the scorpionfish could be considered common in the harbor. The olive rockfish has been found largely as juveniles associated with the kelp growing along the inner edge of the Federal breakwater (MEC 1988). The scorpion fish is not a major component of the fish present in the harbor but could be under represented in the catch due to its nocturnal habits (MEC 1988).

The only endangered fish species that might occur in the ROI is the tidewater goby (*Eucyclogobius newberryi*). The tidewater goby was federally listed as an endangered species by USFWS on February 4, 1994 (USFWS 1999). On June 24, 1999, USFWS proposed to delist the northern populations of the tidewater goby and to retain their endangered status in Orange and San Diego Counties. This proposal is based on the conclusion that the Southern California populations are genetically distinct and represent a distinct population segment. On November 20, 2000, USFWS designated 10 coastal stream segments, totaling approximately 9 linear miles of rivers, streams, and estuaries in Orange and San Diego Counties, as critical habitat for the tidewater goby.

Tidewater gobies are a California endemic species and are unique in that they are restricted to coastal brackish water habitats. At the time of listing, it was believed that this species historically occurred in at least 87 of California's coastal lagoons, ranging from Agua Hedionda Lagoon (northern San Diego County) to Tillas Slough (mouth of the Smith River), Del Norte County, California. Only 46 goby populations were believed to exist at the time of listing, representing an approximate 50 percent decline of known populations (USFWS 1999). In 1999, an estimated 85 tidewater goby populations were believed to be in existence and the number of historical populations was estimated to be about 110 (USFWS 1999).

Hearing sensitivity is known for approximately 100 of the 250,000 existing species of fish (NRC 2003). The hearing sensitivity of fish (including sharks and rays) ranges from 0.5 to 200 kHz, however, most fish detect sound within 0.5 to 1 kHz (NRC 2003, Popper 2003). It has been reported that clupeid fish such as American shad respond to frequencies over 180 kHz, while Gulf menhaden only respond to frequencies from 40 to 80 kHz (Mann et al. 2001). This study indicated that other clupeid fish, including anchovies and sardines, can only detect sounds up to 4 kHz (Mann et al. 2001).

### **Coastal and Other Birds**

Varieties of bird species inhabit the ROI and its woodland and shoreline habitats. Birds do not require similarly protective nesting and nursery grounds, and foraging habitats. Bird populations off the California coast have significant commercial, recreational, ecological, and aesthetic values. In

addition, many bird species are predators of fish, shellfish, or benthic organisms and, therefore, are important indicators of the health of the food web and the status of different bay habitats.

Four species of federally threatened or endangered species may occur in the vicinity of the ROI. These include California least tern (*Sterna antillarum [=albifrons] browni*) (endangered), California brown pelican (*Pelecanus occidentalis*) (endangered), bald eagle (*Haliaeetus leucocephalus*) (threatened), and Western snowy plover (*Charadrius alexandrinus nivosus*) (threatened). Table 3-4 provides a summary of the state-listed species.

**Table 3-4. State-Listed Bird Species Known to use the Los Angeles Harbor Area**

Species	State Status
<b>Waterbirds</b>	
Eastern brown pelican, <i>Pelecanus occidentalis</i>	E
Reddish egret, <i>Egretta rufescens</i>	T
White-faced ibis, <i>Plegadis chihi</i>	T
Wood stork, <i>Mycteria americana</i>	T
Whooping crane, <i>Grus americana</i>	E
<b>Raptors</b>	
Swallow-tailed kite, <i>Elanoides forficatus</i>	T
Bald eagle, <i>Haliaeetus leucocephalus</i>	T
Common black-hawk, <i>Buteogallus anthracinus</i>	T
Gray hawk, <i>Asturina nitidus plagiata</i>	T
White-tailed hawk, <i>Buteo albicaudatus</i>	T
Zone-tailed hawk, <i>Buteo albonotatus</i>	T
Northern aplomado falcon, <i>Falco femoralis septentrionalis</i>	E
Peregrine falcon, <i>Falco peregrinus</i>	E
Cactus ferruginous pygmy-owl, <i>Glaucidium brasilianum cactorum</i>	T
Mexican spotted owl, <i>Strix occidentalis lucida</i>	T
<b>Shorebirds</b>	
Piping plover, <i>Charadrius melodus</i>	T
Eskimo curlew, <i>Numenius borealis</i>	E
Interior least tern, <i>Sterna antillarum athalassos</i>	E
Sooty tern, <i>Sterna fuscata</i>	T

In winter, the ROI hosts up to 16,500 birds from 153 species, with those migrating along the Pacific Flyway joining the species that are present all year. In the area, birds generally roost in the Inner Harbor and feed in the Outer Harbor. While most waterfowl forage in shallow water, brown pelicans forage in deeper waters for northern anchovies. The area also supports a large population of least

terns. Bald eagles migrate through and nest in the area. The birds most commonly sited in the ROI include American kestrel, Anna's hummingbird, barn swallow, belted kingfisher, black oystercatcher, brown pelican, Caspian tern, cormorant, diving duck, elegant tern, grebe, gull, killdeer, loon, mallard, mockingbird, peregrine falcon, royal tern, and western gull (MTS 2002).

### **3.5 Public Safety**

#### **3.5.1 Definition of the Resource**

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Public safety is one of the USCG's primary missions, as the USCG is the prominent overseer of maritime safety in all U.S. waters, including the high seas. The U.S. maritime transportation system is diverse, with components that include geography, environmental conditions, and the number and types of vessels.

U.S. ports must provide safe and efficient rapid turnaround capabilities to accommodate expanding trade and the increasing size and speed of oceangoing ships, many of which are foreign. U.S. ports also handle a large volume of coastal and inland traffic. Since the events of September 11, 2001, the safety of the country's ports and its maritime system has received increased scrutiny and concern. Major members of the U.S. maritime transportation system include Federal agencies, commercial groups, state and local groups, and public and community groups (USCG 2002a).

#### **3.5.2 Affected Environment**

Together, the Ports of Los Angeles and Long Beach are ranked as one of the 10 busiest ports in the world with revenue of \$95 billion in 2001. Combined, the ports of Long Beach and Los Angeles represent the third busiest container port complex in the world, after Hong Kong and Singapore.

ISC San Pedro is home to 284 USCG personnel and full-time employees. In addition, ISC San Pedro is home to various USCG units:

- USCG Marine Safety Office
- Group Los Angeles/Long Beach
- USCG Station Los Angeles/Long Beach
- USCG Aids to Navigation Team Los Angeles/Long Beach
- USCG Port Security Unit 311
- USCG Pacific Area Armory Detachment

- USCG District 11 Public Affairs Detachment
- Director of Auxiliary (South)
- USCGIS Long Beach
- USCGC George Cobb
- USCGES (Exchange)
- USCG Housing Tenants (Quarters A & C)

The USCG has recently signed a lease agreement with the Los Angeles County Lifeguards. The Lifeguards would be a co-tenant on USCG property, but have yet to move on base.

## **4. Environmental Consequences**

### **4.1 Introduction**

This section presents the potential environmental impacts of the Proposed Action and the No Action Alternatives. U.S. Coast Guard (USCG) personnel and cutters currently perform security duties in and around the Ports of Los Angeles and Long Beach and occasionally along the California coast from Santa Barbara to San Clemente. The Proposed Action would result in an addition of equipment to the MSST currently operating in the Region of Influence (ROI).

The Proposed Action is the deployment and operation of an IAS system. The IAS would consist of five primary components: a land-based sonar, a portable sonar, a data processor, a vehicle guidance system, and an underwater loud hailer. The portable sonar, vehicle guidance system and underwater loud hailer would be installed on a MSST response vessel. Under normal circumstances, the land-based sonar unit would be located in the water off a pier or a boat tied to a pier and operated from shore. The IAS is transportable and can be used from anywhere within the ROI; however, it is anticipated that operations would be limited to the developed portside waterfront areas.

Under the No Action Alternative, the USCG would continue to conduct safety and security activities at the current level. This section of the Environmental Assessment (EA) assesses potential environmental consequences associated with the Proposed Action. Potential impacts are addressed in the context of the scope of the Proposed Action as described in Section 2.0 and in consideration of the potentially affected environment as characterized in Section 3.0.

### **4.2 Water and Sediment Quality**

Due to the use of zinc anodes, the Proposed Action would have minor adverse impacts on water and sediment quality. However, the release of zinc would be transient and well below EPA standards.

#### **4.2.1 Significance Criteria**

Significant effects on water and sediment quality are those that measurably threaten human health, result in persistent degradation of the environment, or cause an existing Federal, state, or local water quality criterion or a federally recognized international criterion to be exceeded.

#### **4.2.2 Potential Impacts**

The IAS underwater support structure would have sacrificial zinc anodes attached to prevent metal corrosion resulting from immersion in salt water. These sacrificial zincs are identical to those used by most commercial and recreational vessels operating in U.S. coastal waters. Each anode would be preferentially corroded or “sacrificed” by electro-chemical interaction with seawater and metal (USN 2002). As a zinc anode is consumed (oxidized), ionized zinc is released into the surrounding water. Zinc anodes would be approximately 99.3 percent zinc with trace amounts of cadmium and aluminum required for activation.

The zinc discharge is characterized by a mass flux since the release is directly to the water (USN 2002). The USN calculated the zinc discharge for a permanently mounted system similar to the IAS using a mass flux equation of zinc that is released to the water. This equation used a known zinc anode dissolution rate of  $7.4 \times 10^{-6}$  pounds (lb) zinc per lb anode per hour and the volume of water associated with the system. The zinc anodes installed on the USN’s system totaled approximately 27 lbs. The USN determined that the anodes used by this system could potentially result in a combined maximum receiving water zinc concentration of 28 micrograms per liter ( $\mu\text{g/L}$ ). It is expected that the concentration combined maximum discharge concentration from the zinc anodes used by the IAS would be less than, and certainly would not exceed, 28  $\mu\text{g/L}$ . This value is well below EPA’s Criterion Continuous Concentration (CCC) for zinc in saltwater, which is 81  $\mu\text{g/L}$  (USEPA 2002).

The fate and behavior of zinc in water is associated with salinity. In river water, zinc is predominantly present in the dissolved form (UK Marine SAC undated). In estuaries, where concentrations of suspended particles are greater, a greater proportion of the zinc is adsorbed to suspended particles (UK Marine SAC undated). In low salinity areas of estuaries, zinc can be mobilized from particles by microbial degradation of organic matter and displacement by calcium and magnesium (UK Marine SAC undated). In the turbidity maximum, zinc associated with suspended sediment will be deposited with flocculated particles where it can accumulate particularly in anaerobic sediments (UK Marine SAC undated). In seawater, much of the zinc is found in dissolved form as inorganic and organic complexes (UK Marine SAC undated). The IAS would not be deployed or installed in any one place permanently; therefore, any localized accumulation of zinc in sediments related to the IAS zinc anodes would be minimal, and would not result in persistent degradation of the environment.

As a land-based, water dependent system, the IAS may be deployed in developed areas mapped as floodplain. The mobile nature and small size of the IAS would have no impact on flood conditions.

Due to the use of zinc anodes, the Proposed Action would have minor adverse impacts on water and sediment quality. However, the release of zinc would be transient and well below EPA standards.

### **4.2.3 No Action Alternative**

Under the No Action Alternative, existing conditions would remain as is, and the IAS would not be established. The USCG would maintain the current level of protection, which has been determined to be insufficient. Under this alternative, the USCG would be unable to detect underwater threats to the U.S. coast. This would not meet the USCG's requirement to provide maritime security and would possibly make it easier for an attack to occur. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a terrorist attack. Terrorists could strike at military or commercial facilities in these ports creating the potential for impacts to the environment. The impacts could be immediate or long lasting. Recovery time would be dependent on the severity and extent of the impact.

## **4.3 Noise**

Based on the scope of this EA, implementation of the Proposed Action would not result in an increase in existing ambient airborne noise levels in the ROI. Airborne noise impacts, if any, are expected to be minor and short in duration. Based on the rapid attenuation of the SPL of the land-based and portable sonars and the short term, transient use of the portable sonar and underwater loud hailer, the IAS is expected to have only minor adverse impacts on the existing ambient waterborne noise levels at locations where it is deployed. As noted earlier the loud hailer would be used only in the event of a suspected threat and allow security team members to contact unidentified swimmers/divers before further action is considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat.

### **4.3.1 Significance Criteria**

#### **Airborne Noise**

The significance criteria of impacts related to airborne noise are normally based on a combination of land use compatibility guidelines and factors related to duration and magnitude of the noise level, including the time of day and the conduct of operations. The EPA has determined a DNL of 75 dB at 50 feet as an acceptable noise level to protect public health and welfare (PWIA 2002).

**Waterborne Noise**

The significance of waterborne (underwater) noise impact criteria is normally based on the duration and magnitude of the noise level. The significance criteria of impacts of waterborne noise on marine organisms and other biological resources are discussed in Section 4.4.

**4.3.2 Potential Impacts**

**Airborne Noise**

The IAS would be transported by MSST boats and trucks that are currently operating; therefore, the components of the IAS are not expected to create an increase in existing ambient airborne noise levels within the ROI. Based on the scope of this EA, any adverse effects resulting from implementation of the Proposed Action are expected to be minor and short in duration.

**Waterborne Noise**

The IAS has three components that would cause waterborne noise in the ROI, the land-based sonar, the portable sonar and the underwater loud hailer. The vehicle guidance system is not a source of underwater sound; it uses radio frequencies and a GPS to direct the MSST vessel to the underwater threat. The MSST vessels are a source of waterborne noise and vehicle traffic; however, these effects were analyzed in the MSST. No new vessels will be added to the MSST fleet as a result of the Proposed Action. Therefore, an analysis of the vessels is beyond the scope of this EA. Table 4-1 presents the frequency and source levels for each of these sources.

**Table 4-1. Frequency and Source Level for each Source of Waterborne Noise in the IAS**

Source	Frequency (kHz)	Source Level (dB/μPA/m)
Land-based sonar	90	206
Portable sonar	1,000-1,800	202
Underwater Loud Hailer	0.2-20	180 at 1kHz

Source: KSM undated, APL undated Hanot, 2003 OTS 2002, Lubell undated  
 dB decibels  
 kHz kilohertz

Generally, sound waves with low frequencies propagate further than those with high frequencies (MAN undated). The land-based and portable sonars emit high frequency signals that would attenuate very rapidly in the water column (USN 2002). The underwater loud hailer is a low frequency sound source that would not attenuate rapidly. However, as noted earlier the underwater loud hailer would be used in the IAS to contact unidentified swimmers/divers before further action is

considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat.

The USN estimated attenuation of the land-based sonar in the Environmental Assessment for Installation and Operation of an Underwater Swimmer Detection System at Naval Base Coronado California (USN 2002). This estimate indicates that the SPL of the land-based sonar would drop below 180 dB between 3 and 100 meters, possibly less, and, therefore, this area would be considered the area of potential influence (USN 2002). Because the frequency of the portable sonar is higher, it is likely that the SPL associated with it would attenuate to 180 dB in a shorter distance (i.e., it would have a smaller area of potential effect). The portable sonar would not be running continuously; it would only be deployed under suspicion of a potential threat.

Because the underwater loud hailer emits signals that are shorter in frequency, the area of potential effect would be greater. However, as noted earlier the underwater loud hailer would be used in the IAS to contact unidentified swimmers/divers before further action is considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat.

Based on the rapid attenuation of the SPL of the land-based and portable sonars, and the the short term, transient use of the portable sonar and the underwater loud hailer, the IAS is not expected to have more than minimal adverse impacts on the existing ambient waterborne noise levels at locations where it is deployed.

### **4.3.3 No Action Alternative**

Under the No Action Alternative, existing conditions would remain as is, and the IAS would not be established. The USCG would maintain the current level of protection, which has been determined to be insufficient. Under this alternative, the USCG would be unable to detect underwater threats to the U.S. coast. This would not meet the USCG's requirement to provide maritime security and would possibly make it easier for an attack to occur. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a terrorist attack. Terrorists could strike at military or commercial facilities in these ports creating the potential for impacts to the environment. The impacts could be immediate or long lasting. Recovery time would be dependent on the severity and extent of the impact.

## **4.4 Biological Resources**

### **4.4.1 Significance Criteria**

This section evaluates the potential impacts on the biological resources under the Proposed Action and the No Action Alternative. The significance of impact onto biological resources is based on the following four factors:

- Importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource
- Proportion of the resource that would be affected relative to its occurrence in the region
- Sensitivity of the resource to proposed activities
- Duration of ecological ramifications

Impacts on biological resources are significant if species or habitats of high concern are adversely affected over relatively large areas such that the function and value of the resource is impaired. Impacts are also considered significant if disturbances cause reductions in the population size or distribution of a species of importance to the extent that the effect could endanger the continued existence of that species. Federal and state listed threatened or endangered species, if present, will be discussed under each biological resource area.

There is no scientific consensus regarding absolute thresholds for significance regarding noise (MMS 2000a). Assessment of potential risk to a particular species must often begin with an estimate of frequency ranges to which the animal's hearing is most sensitive, and the associated thresholds. The range of sounds produced by a species is generally associated with ranges of good hearing sensitivity, but many species exhibit good hearing sensitivity well outside the frequency range of sounds they produce (USN 2002). Scientific research indicates that best hearing thresholds for marine vertebrates range from about 60 dB re 1  $\mu$ Pa at 0.1 kHz to about 40 dB re 1  $\mu$ Pa at 10 kHz.

### **Protected and Sensitive Habitats**

Impacts on protected and sensitive habitats would be significant if MSST activities resulted in any of the following outcomes:

- Temporary or permanent loss of any sensitive, protected, or reporting area habitat.
- Direct loss or damage of any sensitive resource within a protected or sensitive habitat.
- Excessive noise or presence from normal USCG activities that lessens the habitat value.

### **Wetlands and Seagrass**

The significance of impacts on wetland resources is proportional to the functions and values of the wetland complex. Wetlands function as habitat for plant and wildlife populations, including threatened and endangered species that depend on wetlands for their survival. Wetlands are valuable to the public for flood mitigation, storm water runoff abatement, aquifer recharge, water quality improvement, and aesthetics. Quantification of wetland functions and values, therefore, is based on the ecological quality of the site as compared with similar sites, and the comparison of the economic value of the habitat with the economic value of the proposed activity that would modify it. A significant adverse impact on wetlands would occur should either the major function or value of the wetland be significantly altered. Significance criteria for impacts on seagrass are based on the temporary or permanent loss of seagrass and the impact on species that seagrass in the ROI supports.

### **Marine Mammals and Sea Turtles**

Impacts on marine mammals and sea turtles would be significant if IAS deployment resulted in any of the following outcomes:

- Permanent loss of habitat.
- Temporary loss of habitat that adversely affects a substantial number of a specific species.
- Direct loss (take) of a substantial number of a specific species. Take may include MMPA Level A harassment, defined as pursuit, torment, or annoyance that has the potential to injure.
- Permanent loss of breeding areas.
- Temporary loss of breeding areas that adversely affects a substantial number of a specific species.
- Substantial interference with movement of any resident species that results in the inability of the species to survive.

Known hearing sensitivities for marine mammals are presented in Table 4-2. Hearing capabilities have not been tested in many marine mammals (i.e., baleen whales). In these cases, information on hearing is based on the frequencies of sounds produced, behavioral observations, anatomical evidence, and extrapolations from what is known about other marine mammal hearing.

Marine mammal hearing varies among species; however, as a group, marine mammal hearing ranges from 0.01 – 200 kHz. Broad generalizations can be made about groups of marine mammals. For example, most toothed whales (odontocetes) hear well in ultrasonic ranges, with functional hearing from 0.2 to 100 kHz, but some toothed whales are able to hear frequencies as high as 200 kHz.

**Table 4-2. Hearing Sensitivities, Vocalizations, and Transmissions of Marine Mammals**

Common Name	Scientific Name	Frequency Range (kHz)	Dominant Frequencies (kHz)
<b>Baleen whales</b> (Suborder Mysticeti)		0.01 – 30 <sup>c</sup>	0.02 <sup>c</sup>
Gray whale	<i>Eschritus robustus</i>		
	adult	0.02 – 2 <sup>a</sup>	0.2 – 1.2 <sup>a</sup>
	calve	0.01 – 20 <sup>a</sup>	3.4 – 4 <sup>a</sup>
Humpback whale	<i>Megaptera novaeangliae</i>	0.03 – 10 <sup>a</sup>	0.12 – 4 <sup>a</sup> 0.04 – 16 <sup>c</sup>
Fin whales	<i>Balaenoptera physalus</i>	0.014 – .75 <sup>a</sup>	0.02 – 0.04 <sup>a</sup> 0.01 – 0.015 <sup>c</sup>
Minke whale	<i>Balaenoptera acuturostrata</i>	clicks	0.04 – 20 <sup>a</sup>
		moans, clicks, and grunts	3.3 – 20 <sup>a</sup> 0.06 -0.14 <sup>a</sup>
			0.06 -0.14 <sup>a</sup>
Northern right whale	<i>Eubalaena glacialis</i>	< 0.4 <sup>a</sup>	NA
Sei whale	<i>Balaenoptera borealis</i>	1.5 – 3 <sup>a</sup>	NA 0.01 – 0.015 <sup>c</sup>
Blue whale	<i>Balaenoptera musculus</i>	Atlantic	NA
		Pacific	0.01 – 0.39 <sup>a</sup>
			0.01 – 0.02 <sup>a</sup> 0.016 – 0.024 <sup>a</sup> 0.01 – 0.015 <sup>c</sup>
<b>Toothed Whales</b> (Suborder Odontoceti)		0.2 – 100; up to 200 <sup>b</sup>	8-150
Killer whale	<i>Orcinus orca</i>	whistles	0.26 – 20 <sup>a</sup>
		clicks	1.2 – 25 <sup>a</sup>
			2 – 5.9 <sup>a</sup>
Bottlenose dolphin	<i>Tursiops truncatus</i>	whistles	0.8 – 24 <sup>a</sup>
		clicks	1 – 150 <sup>a</sup>
			3.5 – 14.5 <sup>a</sup> 30 – 130 <sup>a</sup>
<b>Manatees</b> (Family Trichechidae)		NA	NA
West Indian Manatee	<i>Trichechus manatus</i>	2.5 – 5 <sup>a</sup>	NA
<b>Earrless seals</b> (Family Phocidae)		<b>1 – 50<sup>b</sup></b>	<b>NA</b>
Harbor seals	<i>Phoca vitulina richardsi</i>	< 0.1 – >150 <sup>a</sup>	<0.1 – 40 <sup>a</sup>
<b>Eared seals, seal lions, walruses</b> (Otarridae)		<b>0.1 – 1 ; 36-40<sup>b</sup></b>	<b>2 – 17<sup>b</sup></b>
Northern elephant seal	<i>Mirounga angustirostris</i>		<1 <sup>b</sup>
California sea lion	<i>Zalophus californianus</i>	0.25 – 4 <sup>a</sup>	0.5 – 4 <sup>a</sup>
Fur seal	<i>Callorhinus Ursinus</i>	NA	NA
Gray seal	<i>Halichoerus grypus</i>	0.1 – 40 <sup>a</sup>	0.1 – 10 <sup>a</sup>
Northern elephant seal	<i>Mirounga angustirostris</i>	NA	<1 <sup>b</sup>
<b>Weasels, otters, and skunks</b> (Family Mustelidae)		NA	NA
Southern sea otter	<i>Enhydra lutris nereis</i>	NA	3 – 5 <sup>a</sup>

Source: Nowacek et al. 2003; NPS 2003; NRC 2003

a Based on frequencies used in communication and echolocation.

b Tested hearing sensitivity.

c Predicted hearing sensitivity.

NA=Not Available

Models indicate that baleen whales (mysticetes) have lower frequency hearing and cannot hear frequencies above 20-30 kHz (NRC 2003). It is predicted that blue, fin, and bowhead whales are predicted to hear best in the range of 0.01 to 0.015 kHz and Bryde's whales vocalize using frequencies ranging from 0.07-0.245 kHz. Most pinnipeds have peak hearing sensitivities between 1 and 20 kHz. Sea otters vocalize in the range of 3 to 5 kHz and manatees vocalize in the range of 2.5 to 5 kHz.

Bottlenose dolphins use echolocation signals to hunt for prey and avoid obstacles. Underwater hearing ranges reported for bottlenose dolphins range from 1 to 150 kHz (USN 2002). Bottlenose dolphins are reported to produce sounds such as snapping, whistling, barking, and clicking (USN 2002). Whistles were reported at 0.8 to 24 kHz with dominant frequencies of 3.5 to 14.5 kHz (NRC 2000). Clicks used for echolocation were reported at 1 to 150 kHz with dominant frequencies between 30 and 130 kHz and an SPL of up to 213 dB (USN 2002, NRC 2000). Similarly, minke whales use sounds such as grunts, pings, zips, ratchets, and clicks to communicate and echolocate (USN 2002). The frequency range of these sounds is reported to be 0.04 to 2 kHz with dominant frequencies at 0.06 to 0.14 kHz (NRC 2000).

General consensus is that 180 dB re 1  $\mu$ Pa is the threshold above which some potentially serious problems in marine mammals' hearing capability could occur (USN 2002). The USN concluded that a sound in the 0.1 to 0.5 kHz frequency band could cause serious problems in marine mammal's hearing capability from the following exposures:

- 1 second at 204 dB
- 1 minute at 186 dB
- 20 minutes at 172 dB
- 8 continuous hours at 160 dB

Little is known about sea turtle hearing. Past research based on brain physiology indicates that sea turtles are able to hear sounds with frequencies ranging from 0.08 to 2 kHz, with maximum sensitivity levels reported between 0.1 and 0.8 kHz and 0.3 and 0.4 kHz (Lenhardt 1994, NRC 2003). Loggerhead sea turtles are capable of hearing sound from 0.25 to 1 kHz (Moein et al. 1994). Preliminary data from continuing research on green sea turtles indicates that they are capable of hearing tones ranging from 0.1 kHz to 0.5 kHz, with a threshold between 107 dB and 119 dB at 0.2 kHz and a threshold between 121 dB and 131 dB at 0.4 kHz (ONR undated).

## **Fish**

Potential fisheries impacts would primarily affect fish populations by altering or impacting fish habitat. Impacts on fisheries would be significant if deployment of the IAS resulted in any of the following outcomes:

- Overfishing resulting in the species' inability to survive.
- Permanent loss of breeding areas, EFH, or habitat areas of particular concern (HAPC).
- Substantial interference with movement of any resident species or migration of anadromous species (i.e., species that migrate from saltwater to freshwater).

Hearing sensitivity is known for approximately 100 of the 250,000 extant species of fish (NRC 2003). The hearing sensitivity of fish (including sharks and rays) ranges from 0.5 to 200 kHz; however, most fish detect sound within 0.5 to 1 kHz (NRC 2003, Popper 2003). It has been reported that clupeid fish, such as that Gulf menhaden (*Clupea harengus*) and American shad (*Alosa sapidissima*), respond to frequencies as high as 180 kHz, with thresholds for American shad around 155 dB SPL and for Gulf menhaden around 180 dB SPL (Mann *et al.* 2001). These species can also hear within lower frequencies ranges (below 10 kHz), with thresholds being around 120 to 130 dB SPL. Other clupeid fish that occur in the ROI, such as anchovies (*Anchoa spp.*) and sardines (*Sardinella spp.* and *Harengula spp.*), can detect sounds up to 4 kHz (Mann *et al.* 2001). Known hearing sensitivities for fish are presented in Table 4-3.

## **Coastal and Other Birds**

Impacts on coastal and other birds, particularly diving birds, would be significant if IAS deployment resulted in any of the following outcomes:

- Harassment of nesting and foraging areas resulting in the species' inability to survive
- Permanent loss of breeding areas and habitat
- Substantial interference with migration

Studies with other (non-coastal) species indicate that birds are sensitive to low frequency sounds in air. However, there is little data on seabird hearing or underwater hearing, and there is no evidence that seabirds are affected by changes in underwater sound (USN 2001).

**Table 4-3. Hearing Sensitivities, Vocalizations, and Transmissions of Marine Fish**

<b>Order</b>	<b>Description of Order</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Hearing Range (kHz)</b>
Perciformes (note, this is such a diverse group of fishes that they are broken down by taxonomic family)	Tunas (Scombridae)	Yellowfin	<i>Thunnus albacares</i>	0.05 – 1.1 (best hearing from 0.3 – 0.5)
		Kawakawa	<i>Euthynnus affini</i>	0.05 – 1.1 not as sensitive as <i>Thunnus albacares</i>
	Damsel-fishes (Pomacentridae)	Various species	<i>Eupomacentrus spp.</i>	0.1 – 1.2 (best hearing from 0.3 – 0.6)
		Goby	<i>Gobius niger</i>	0.1 – 0.16
		Perch	<i>Perca fluviatilis</i>	0.1 – 0.16
		Pike perch	<i>Lucioperca Sandra</i>	0.1 – 0.16
	Serranidae (Sea basses)	Red hind	<i>Epinephalus guttatus</i>	0.1 – 1 (best hearing from 0.2 – 0.4)
	Snappers	Schoolmaster	<i>Lutjanus apodus</i>	0.1 – 1 (best hearing from 0.2 – 0.6)
	Drums and croakers (Sciaenidae)	Chubbyu	<i>Equetus acuminatus</i>	0.1 – 2 (best hearing from 0.2 – 1)
	Grunts (Haemulidae)	Blue-striped grunt	<i>Haemulon sciurus</i>	0.75 – 1.0 (best hearing from 0.75 – 0.8)
	Wrasses (Labridae)	Blue-head wrasse	<i>Thalossoma birasciatum</i>	0.1 – 1.2 (best hearing from 0.2 – 0.4)
Tautog		<i>Tautoga onitis</i>	0.1 – 0.16	
Batrachoidformes	Toadfish	Oyster toadfish	<i>Opsanuss tau</i>	0.1 – 0.16
Scorpaeniformes	Searobbins	Slender searobin	<i>Prionotus scitulus</i>	0.1 – 0.6 (best hearing from 0.3 – 0.4)
Pleuronectiformes	Flounders, sole, halibut	Plaice	<i>Pleuronectes platessa</i>	0.03 – 0.2
		Dab	<i>Limanda limanda</i>	0.1 – 0.2
Anguilliformes	Eels	American eel	<i>Anguilla anguilla</i>	up to 0.3
Abuleiformes	Bonefishes	Bonefish	<i>Abula vulpes</i>	0.05 – 0.7
Salmoniformes	Salmon, trout, char	Atlantic salmon	<i>Salmo salar</i>	0.03 – 0.4

**Table 4-3. Hearing Sensitivities, Vocalizations, and Transmissions of Marine Fish (continued)**

Order	Description of Order	Common Name	Scientific Name	Hearing Range (kHz)
Gadiformes	Cods, hakes, haddock, pollock	Atlantic cod	<i>Gadus morhua</i>	0.01 – 0.5
		Haddock	<i>Melanogrammus aeglefinus</i>	0.03 – 0.47
		Pollack	<i>Pollachius pollachius</i>	0.03 – 0.47
		Ling	<i>Molva molva</i>	0.04 – 0.55
Sharks	Elasmobranchs			0.05-1
Lamniformes	Pelagic sharks	Bull shark	<i>Carcharhinus leucas</i>	0.1 – 1.4
		Lemon shark	<i>Negaprion brevirostris</i>	0.1 – 0.64
		Hammerhead shark	<i>Sphyrna lewini</i>	0.25 – 0.75
Heterodontiformes	Bullhead sharks	Horn shark	<i>Heterodontus francisci</i>	0.02 – 0.16
		Freshwater catfish	<i>Ictalurus nebulosus</i>	0.05 – 3 +
		Goldfish	<i>Carassius auratus</i>	
		Chub	<i>Semotilus atromaculatus</i>	
		Japanese carp	<i>Cyprinus carpio</i>	
Beryciformes	Squirrelfish		<i>Myripristis kuntze</i>	0.1 – 3 (best hearing from 0.3 – 2)
			<i>Holocentrus ascensionis</i>	0.3 – 2
			<i>Holocentris vexillaris</i>	0.1 – 1.2
			<i>Adioryx xantherythrus</i>	≤1
Clupeiformes	Herrings, shads, sardines, and anchovies	American shad	<i>Alosa sapidissima</i>	10 – 180 +
		Blueback herring	<i>Alosa aestivalis</i>	200 +
		Herring	<i>Clupea harengus</i>	0.03 – 4 (best hearing from 0.3 – 1)
		Gulf menhaden	<i>Brevoortia patronus</i>	10 – 180 +
		Sardines and anchovies	( <i>Harengula</i> sp., <i>Anchoa</i> sp., <i>Sardinella</i> sp.)	< 4

Sources: Mann et al. 2003; NRC 2003; Plachta and Popper 2003; Popper 2003; Tavolga et al. 1981

#### 4.4.2 Potential Impacts

The Proposed Action could result in minor adverse impacts to protected and sensitive habitat and/or marine organisms. These impacts would be due primarily to the release of zinc into the water column or the creation of waterborne noise. The impacts of zinc will be discussed in this section; the potential impacts of noise on various marine organisms will be discussed in subsequent sections.

Like most commercial and recreational vessels operating in U.S. coastal waters, the IAS's underwater support structure uses sacrificial zinc anodes to prevent its metal parts from being corroded by the surrounding seawater. As these anodes are consumed (oxidized) by saltwater (zinc is non-reactive in freshwater), ionized zinc is released into the surrounding water column. Due to this release of zinc, the IAS could cause minor adverse impacts to marine habitat or organisms.

Elevated levels of zinc in saltwater can cause adverse effects on algae, invertebrates, and fish (UK Marine SAC undated), but chronic toxicity data regarding zinc are highly variable and difficult to interpret. Zinc can bioaccumulate in benthic organisms and this bioaccumulation could affect fish, birds, marine mammals, and other marine organisms that feed on sediments and benthic organisms (UK Marine SAC undated, Irwin 1997, NRC 2003). However, the release of zinc that would result from the proposed action is estimated to be less than 28 parts per billion (ppb), which is below the EPA's CCC for zinc of ppb in saltwater (USEPA 2002). Additionally, the IAS would not be deployed or installed in any one place permanently; therefore, localized accumulation of zinc in sediments and seagrass would be minimal.

### **Protected and Sensitive Habitats**

IAS operation could impact protected and sensitive habitats by creating increased levels of waterborne noise. However, based on the scope of this EA and the purpose of and operating specifications for the IAS (i.e., port security), it is unlikely that the IAS would be operated in protected and sensitive habitats. Therefore, more than minimal adverse impacts on sensitive habitats or protected habitats are not expected as a result of the Proposed Action.

### **Wetlands**

Based on the scope of this EA and the purpose of and operating specifications of the IAS, there would be no loss of wetlands. Therefore, there are no anticipated adverse impacts on wetlands or protected areas because of the Proposed Action.

### **Marine Mammals**

Although three species of non-endangered or non-threatened marine mammals inhabit the ROI, IAS operation is not expected to result in more than incidental, minor, adverse impacts on marine mammal hearing. In the process of evaluating potential impacts to marine mammals associated with the IAS, USCG sent a letter to the National Oceanographic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) requesting an informal consultation for the proposed IAS project to be stationed in San Pedro under Section 7 of the Endangered Species Act. On January 27, 2004

NOAA Fisheries responded with a letter suggesting that the project might need authorization under the MMPA. Over the next seven months USCG diligently attempted to get NOAA Fisheries to provide their issues related to our compliance with the MMPA. To date USCG has received no formal response from NOAA Fisheries on this issue. In August 2004, NOAA Fisheries provided USCG unofficial suggestions for protocols that could be used to avoid and/or minimize potential impacts to marine mammals. To the extent practical, USCG has integrated these suggestions into this assessment and the operating procedures for the IAS. The consultation letters and USCG's official response to NOAA Fisheries summarizing the efforts to engage NOAA Fisheries with regard to the MMPA are presented in Appendices B and E.

Animals only respond to noise if they can hear it. Responses may be short or long-term and will vary depending on factors such as hearing sensitivity; past exposure to the noise; individual noise tolerance; time, sex, and presence of offspring; the loudness of the noise; whether the sound is stationary or moving; sound transmission; and location (e.g., confinement) (NRC 2003). Short-term responses of marine mammals to audible sound include swimming away from the source; changes in surfacing, breathing, and diving patterns; changes in group composition; and changes in vocalization (NRC 2003). Long-term responses include habitat abandonment or increased tolerance of a noise. Noise impacts may be direct or indirect. Noise can cause direct acoustic trauma, as evidenced by the fact that mid-frequency (1-10 kHz) sonar have been implicated as the cause of mass strandings of beaked whales (NRC 2003). More general increases in ambient noise can reduce an animal's ability to hear important sounds, such as communication or the sound of prey (NRC 2003). Additionally, ocean noise can indirectly affect marine mammals by changing prey distribution.

IAS operation is not expected to result in more than minor adverse noise-related impacts on marine mammals. The only species that are expected to be capable of detecting the 90 kHz signal transmitted by the land-based sonar are the toothed whales (odontocetes), including bottlenose dolphins, and harbor seals (true seals). Similarly, it is unlikely that any marine mammals are capable of hearing the 1,000 and 1,800 kHz signal produced by the portable sonar. The signals transmitted by both sonars are higher than the known hearing sensitivities for other marine mammals, which are generally reported to be between 0.04 kHz and 150 kHz. Given the rapid attenuation of high frequency sonar signals, and the fact that the signals are imperceptible to most marine mammals within the ROI, potential adverse impacts to marine mammals associated with the land-based and portable sonars would be temporary and minor. The underwater loud hailer operates from 0.2 to 20 kHz, which is within the perceptible range of many marine mammals. The underwater loud hailer operates at a source level of 180 dB re 1  $\mu$ PA per meter at 1 kHz with a depth range of 6 to 25 ft.

Although exposure to noise levels above 180 dB re 1  $\mu$ PA could potentially impact marine mammal hearing capability (USN 2002), the underwater loud hailer would only be used intermittently for a maximum of a few minutes in the a temporary and transient source of noise.

The underwater loud hailer is similar to commercially available diver recall systems that use submerged speakers to transmit human voices underwater. The loud hailer would only be used in the event of a suspected threat. The loud hailer would allow security team members to contact unidentified swimmers/divers before further action is considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat. Under normal circumstances continuous use of the loud hailer would not exceed the exposure duration thresholds outlined in Section 4.4.1.

Additionally, the use of the sonar system could alert officials to any marine mammals that might be in the area, allowing for mitigating circumstances. As discussed in the project description (Section 2.3), if the tactical situation permits, standard IAS operating procedures would include the following protocols to avoid and/or minimize adverse effects to protected marine species. These procedures were developed from unofficial suggestions provided by NOAA Fisheries in August 2004 (Appendix E).

- USCG personnel will monitor the IAS at all times of deployment.
- If IAS is deployed and marine mammal activity is noted which may approach or enter the 160 dB isopleth (200 meter safety zone), the operational commander will take prudent measures to avoid impacting the wildlife which, situation permitting, may include shutting down the system.
- When conducting training activities, if marine mammals are detected which may approach or enter the 160 dB isopleth (200 meter safety zone), the system shall be shutdown until the marine mammals have left the IAS 200 meter safety zone.
- As there is no warm-up period for the land-based sonar, the safety zone will be visually monitored for 20 minutes prior to turning on the device to be sure it is clear of marine mammals. If the land-based sonar is switched on after dark, night vision devices will be used to monitor the safety zone.
- Barring exceptional circumstances that require such deployment, the IAS will not be placed in a location such that it interferes with obvious marine mammal throughways, or prevents entry or exit of marine mammals into and out of an area, e.g., the mouth of a bay or narrow choke-points, where sonar may deter them from traveling through or by.
- Continued implementation of existing USCG programs to guard against adverse impacts to marine mammals, e.g., the Ocean Steward Plan.

The USCG would also continue to implement existing policies, regulations and programs to guard against adverse impacts to marine mammals (e.g., Ocean Steward).

The results of this environmental analysis on the deployment of IAS in the subject areas indicates that IAS would not have a significant impact on marine mammals. Relevant criteria that lead to this conclusion are: (1) The IAS will be monitored at all times during operation; (2) The shore-side location of the IAS sound head limits potential encounters by marine mammals; (3) The limited geographic zone of potential impact (within 200 meters) from the sound head where the high frequency sonar noise may fall within the hearing range of some marine mammals and fish; (4) The limited and tightly controlled use of the underwater loud hailer and the response boat sonar (use only where a specific threat is identified); (5) The intended use of the IAS is for protecting existing developed shore-side infrastructure, i.e., no intended operation in open ocean environments; and (6) The temporary nature of the IAS mission at any specific location.

### **Sea Turtles**

All four species of sea turtles that occur in California waters have the potential to occur in the ROI. NOAA Fisheries May 14, 2004 review of the Draft IAS EA concurred that operation of the IAS was not likely to affect sea turtles. IAS operation is not expected to result in more than minor, incidental, adverse, impacts on sea turtles. While little information is available on sea turtle hearing, it is known that sea turtle hearing generally ranges from 0.08 to 2 kHz. Therefore, it is expected that the land-based and portable sonars, which operate a frequencies of 90 Hz and higher, would be imperceptible to sea turtles. Given the rapid attenuation of these high frequency sonar signals, the actual area of potential effect would be very small (i.e., less than 100 meters).

The lower frequency noise generated by the underwater loud hailer might be within the perceptible range of sea turtles; however, the proposed operating strategy for the loud hailer would present no significant impacts to sea turtles. The underwater loud hailer is similar to commercially available diver recall systems that use submerged speakers to transmit human voices underwater. The loud hailer would only be used in the event of a suspected threat. The loud hailer would allow security team members to contact unidentified swimmers/divers before further action is considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat.

IAS operation could result in minor incidental behavioral disruptions in individual sea turtles, but it is not expected to have more than temporary and minor adverse effects.

Additionally, the use of the sonar could alert officials to any sea turtles that might be in the area, allowing for mitigating circumstances. The USCG has protocols in place for protecting the marine mammals and sea turtles. The USCG's current COMDTINSTs, regulations, and procedures to avoid marine mammals would continue under the Proposed Action. While the purpose of the IAS would not be to provide marine resource protection and law enforcement, the IAS would continue to comply with USCG living marine resources protection programs, initiatives, and guidance.

Pursuant to Section 7 of the ESA, USCG initiated informal consultation with USFWS and NOAA in December 2003 (Appendix A). NOAA Fisheries review of the Draft IAS EA dated May 14, 2004 concurred that operation of the IAS was not likely to affect sea turtles. All correspondence relating to the Section 7 ESA consultation is presented in Appendix A and Appendix E.

## **Fish**

IAS operation could result in minor, incidental, adverse, impacts on fisheries or EFH, particularly minor behavioral disruptions resulting from the underwater loud hailer and land-based sonar. NOAA Fisheries formal consultation response (Appendix A) did not identify any concerns related to fish species or EFH. The portable sonar operates at frequencies higher than most fish species are capable of perceiving. However, the land-based sonar would operate within the perceptible range of some clupeid fishes occurring in the ROI, including the American shad, Pacific sardine, and the northern anchovy. American shad that occur in the ROI are nonnative species.

Similarly, the underwater loud hailer operates within perceptible frequencies of some tested fish species. The proposed operating strategy for the loud hailer would present no significant impacts to sea turtles. The underwater loud hailer is similar to commercially available diver recall systems that use submerged speakers to transmit human voices underwater. The loud hailer would only be used in the event of a suspected threat. The loud hailer would allow security team members to contact unidentified swimmers/divers before further action is considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat.

No federally threatened or endangered fish are known to inhabit the ROI. Pursuant to Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act, the USCG initiated an EFH

consultation with NOAA Fisheries in a letter dated December 12, 2003 (Appendix A). All correspondence relating to the EFH consultation is presented in Appendices B. As noted above NOAA Fisheries formal consultation response did not identify any concerns related to fish species or EFH.

### **Coastal and Other Birds**

Several species of federally endangered or threatened birds (i.e., California least tern, California brown pelican, bald eagle, and Western snowy plover) are known to breed and forage in the Los Angeles and Long Beach Harbors area. Under normal circumstances the IAS operations are limited to developed shoreline infrastructure and would not be operated in or near any of the bird habitat of concern identified by USFWS (Appendix A).

No significant impact on coastal or other birds would result from the implementation of the Proposed Action. Minor adverse effects on coastal and other birds might result from localized, short-term increase in waterborne noise and localized, short-term release of zinc.

IAS operation is not expected to result in more than minor adverse impacts to coastal and other birds. Localized, short-term increases in waterborne noise could potentially affect coastal birds, particularly diving birds, but diving birds spend relatively minimal time underwater and would only be exposed to short durations of underwater sound. Moreover, the sound produced by the IAS has a high frequency and may not be perceptible to coastal and other birds. Therefore, IAS-related noise impacts on coastal birds are expected to be minimal. Concerns expressed by USFWS were limited to the disturbance of breeding birds by the added human activity.

Waterborne noise may result in an indirect, minor effect on coastal and pelagic diving birds. This conclusion is based on the fact that some species of prey for coast and pelagic diving birds may have the ability to hear the land-based sonar.

Pursuant to Section 7 of the ESA, USCG initiated informal consultation with USFWS in a letter dated December 17, 2003. USFWS responded in a letter dated March 3, 2004. All correspondence relating to the Section 7 ESA consultation is presented in Appendix A.

### **4.4.3 No Action Alternative**

Under the No Action Alternative, existing conditions would remain as is, and the IAS would not be established. The USCG would maintain the current level of protection, which has been determined to

be insufficient. Under this alternative, the USCG would be unable to detect underwater threats to the U.S. coast. This would not meet the USCG's requirement to provide maritime security and would possibly make it easier for an attack to occur. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a terrorist attack. Terrorists could strike at military or commercial facilities in these ports creating the potential for impacts to the environment. The impacts could be immediate or long lasting. Recovery time would be dependent on the severity and extent of the impact.

## **4.5 Public Safety**

The installation and operation of the IAS would close an identified significant security gap in our nation's strategic ports. Beneficial impacts can reasonably be expected from the Proposed Action.

### **4.5.1 Significance Criteria**

Implementation of the Proposed Action would represent a significant impact to public safety if it were to substantially increase risks associated with San Pedro's port security; compromise the safety of MSST personnel, contractors, or the local community; or substantially hinder the USCG's ability to respond to an emergency. Additionally, implementation of the Proposed Action would significantly impact public safety if it were incompatible with safety criteria regarding land use.

Public safety is one of the USCG's primary missions, as the USCG is the prominent overseer of maritime safety in all U.S. waters, including the high seas. The MTS System is diverse. Geography, environmental conditions, and the amount and types of vessel traffic are all aspects of the MTS. Since the events of September 11, 2001, the safety of the country's ports and its MTS has received increased scrutiny and concern. Threats facing the national security and well being of the U.S. are neither bi-polar nor symmetrical, meaning the threats aren't always obvious or conventional. Intelligence reports establish a credible underwater threat to U.S. ports and waterways that includes combat swimmers/divers. Operational Commanders responsible for maritime security must have at their disposal underwater capabilities to detect, track, intercept, and interdict, if necessary, a combat swimmer/diver. It is due to these concerns that this Proposed Action is being considered.

The IAS would be able to detect and track a combat swimmer/diver who may or may not be using a propulsion device, whether moving or still, and who may be using either closed or open circuit breathing equipment, at such a range as to maintain general awareness and allow security forces sufficient time to react and counter the threat. The IAS would operate in typical harbor, anchorage,

and wharf environments including fresh, salt, and brackish waters, and in air and water temperatures as would typically be expected in an a port/harbor environment.

#### **4.5.2 Potential Impacts**

The Proposed Action would increase the USCG's ability to protect critical domestic ports and the MTS from warfare and terrorist attacks. The Proposed Action would afford the USCG the ability to detect and track underwater threats to the U.S. coast. The installation and operation of the IAS would close an identified significant security gap in our nation's strategic ports. Beneficial impacts can reasonably be expected from the Proposed Action.

#### **4.5.3 No Action Alternative**

Under the No Action Alternative, the USCG would continue to provide port security at the current level, existing conditions would remain as is, and the IAS would not be established. The USCG would maintain the current level of protection, which has been determined to be insufficient. Under this alternative, the USCG would be unable to detect underwater threats to the U.S. coast. This would not meet the USCG's requirement to provide maritime security and would possibly make it easier for an attack to occur. Significant adverse impacts would be expected should this alternative be selected due to the increased risk of a terrorist attack. Terrorists could strike at military or commercial facilities in these ports creating health and safety hazards for the surrounding populace, impacting appropriate emergency responses, and the potential for impacts to the environment. The impacts could be immediate or long lasting. Recovery time would be dependent on the severity and extent of the impact.

## 5. Cumulative Impacts

### 5.1 Cumulative Impacts Methods

Cumulative impacts are defined as “the impacts that result from the incremental impact of the action, when added to other past, present, and foreseeable future action” (40 CFR 1508.7). Cumulative impacts can result from individually minor but significant collective impacts occurring over a period of time.

### 5.2 Potential Programs and Projects Identified for Evaluation

Other planned activities within the ROI are identified and briefly discussed in Table 5-1. Projects that are currently in the planning stages, or will not be finalized until further studies have been completed and have no target dates, have been dismissed from further consideration. These projects, if completed, will be concluded at some future unknown date. Based on professional judgment, potential impacts are identified as minor, moderate, or high; and as beneficial or adverse whenever possible.

This cumulative impact analysis considers reasonably foreseeable programs, projects, or policies that may impact or add to IAS operations, or create a significant impact in San Pedro and the surrounding areas. For the purposes of this EA, only those resources identified in Section 3 that may be impacted by the Proposed Action will be carried over into the Cumulative Impacts discussions.

Information about on-going and future projects and programs has been identified from internet searches, other NEPA documents, local newspaper articles, and discussions with knowledgeable USCG personnel. Based on professional judgment, potential impacts are identified as minor, moderate, or high; and beneficial or adverse whenever possible.

All projects are identified and briefly discussed below. Projects that are currently in the planning stages, or have been delayed until further studies have been completed and have no target dates, have been dismissed from further consideration. For the purposes of this EA, all identified projects have been deleted from further consideration. These projects, if completed, will be concluded at some future unknown date, long after the IAS has become operational.

**Table 5-1. Programs and Projects Evaluated for Potential Cumulative Impacts**

<b>Proposed (or Existing) Action</b>	<b>Potential Cumulative Impacts</b>
Standup of MSST	Minor adverse impacts on some biological resources, minor adverse impact on existing ambient noise levels, beneficial impacts on public safety. IAS deployment enhances beneficial impact.
Route 47 (Terminal Island Freeway), construction of an interchange at Ocean Blvd Overpass	Construction will occur long after Proposed Action would begin. No impact from IAS deployment.
Alameda (Railway) Corridor	Construction will occur long after Proposed Action would begin. No impact from IAS deployment.
Pier 100 (Phase I of West Basin Marine Terminal Projects)	Project currently under construction. No Impact from IAS deployment.
West Basin Marine Terminal Projects (Phases II and III, also known as “China Shipping”)	Construction will occur long after Proposed Action would begin. No impacts from IAS deployment.
Least Terns Habitat Maintenance	Yearly occurrence;—IAS impact minor.
Deepwater Project	Project will occur long after Proposed Action. No impacts from IAS deployment.

### 5.3 Projects Deleted from Further Consideration

**Route 47 Constructions.** Money was appropriated for construction of an interchange at Ocean Blvd Overpass on Route 47 (Terminal Island Freeway) January 2002. The project is currently in the design phase. Construction is scheduled for completion in March 2004 (State 2002). The Proposed Action will be completed and operating before deployment of the IAS system.

**Alameda Corridor.** This is a 32-kilometer railway that will carry freight from the Ports of Los Angeles and Long Beach to Southern California railheads. Four overpasses and three underpasses will be built to improve vehicular mobility, and nearly 200 at-grade intersections of roads and railways will be replaced by grade-separated crossings (Port 2002b). Local officials estimate that the Alameda Corridor will support 700,000 new jobs in Southern California by 2020 (TFHRC 2002). The EA for the Alameda Corridor project is currently under California Environmental Quality Act (CEQA) internal review (AQMD 2002a). This project is consistent with the State Implementation Plan (SIP) as it results in fewer emissions than the applicable emissions budgets for all milestone, attainment, and planning horizon years (SCAG 2002). The Proposed Action will be completed and

operating before this project starts construction. In comparison, potential impacts from the installation and operations of the MSST will be minor.

**Least Terns.** At the Port of Los Angeles, mitigation efforts for the California least tern, listed on both the Federal and state threatened and endangered species lists, have been a success. The port has maintained an annual nesting site for the historic bird since the early 1980s. Every year, the port prepares the nesting site by grading, removing vegetation, placing decoys, and providing chick shelters. Since 1997, the port's Pier 400 has been designated as home to a protected nesting site. Numbers of nesting pairs and fledglings increase yearly (Port 2002c). These birds have shown a high degree of adaptation to this large, well-trafficked port. Under normal operations, the MSSTs will be patrolling at a slow speed (10–12 knots); this will not result in long-term adverse impacts on the nesting habitat.

**Pier 100 (Phase I of the West Basin Marine Terminal Improvement Projects).** On April 19, 2002, the U.S. Army Corps of Engineers, Los Angeles District approved the permit to allow the construction of a 1,200-foot-long concrete wharf. This would include driving 644 24-inch wharf piles, dredging and disposing of 46,000 cubic yards of sediment, and the construction of a new wharf with 124,000 cubic yards of backfilling and rock mixed with 22,000 cubic yards of clean fill material. There is a requirement to compensate for the 1.29 acres of impacted wetlands. The EA for the project drew several conclusions (USACE 2002):

- Air quality impacts during construction were not found to be significant.
- Emission reduction measures implemented as part of the project would offset proposed construction emissions to remain below the South Coast Air Quality Management District thresholds.
- Long-term minor adverse impacts on the substrate in the project area.
- Long-term minor impacts on currents and circulation.
- Long-term minor impacts on turbidity levels.
- Long-term minor impacts on water quality parameters (temperature, salinity patterns, and other parameters).
- Short-term, adverse impacts on benthic organisms during dredging.
- Short-term, minor impacts on planktonic organisms because of turbidity during dredging/driving piles.
- Short-term adverse minor impacts from noise on aquatic habitat.
- Short-term minor adverse impacts on EFH.

- Long-term adverse impacts as a result of loss of marine habitat to be offset by use of mitigation credits from the Inner Harbor mitigation bank.
- Long-term minor impacts on avifauna and marine mammals; mitigation credits would compensate for any long-term unavoidable impacts.
- No adverse impacts on federally or state listed endangered or threatened species.

**West Basin Marine Terminal Improvement Projects.** An Environmental Impact Statement (EIS)/Supplemental EIS for a Permit Application for the Proposed West Basin Marine Terminal Improvement Projects (also known as China Shipping) in the Port of Los Angeles, Los Angeles County, California has been developed by the USACE, Los Angeles District. The Notice of Intent was published in the Federal Register on July 5, 2002. On July 16, 2002, USACE held a public meeting; comments closed on August 5, 2002 (USACE 2002). An earlier phase of this project was covered under the Port of Los Angeles Channel Deepening Project. The Port approved the project in January 1998 and it was scheduled for completion December 2002. These proposed actions (Phases II and III) consist of construction of wharfs at Berth 100-102, bridge construction, potential realignment of adjacent roads and railways, and creation of a new landfill. Other improvements will include improvements to Berths 118-131 and 136-151 such as construction of new wharfs; construction of new facilities and buildings; potential widening of the navigation channel; construction and operation of additional intermodal rail and infrastructure; and consolidation of existing facilities, buildings, and operations at both locations.

Peak daily construction emissions are expected to be significant for all criteria. Stationary and indirect sources are not expected to be significant (AQMD 2002b).

**Deepwater Program.** The award for this program was made in July 2002. It is not known if additional or new assets will be added to ISC San Pedro. It is anticipated that additional NEPA documentation will be required.

## **5.4 Analysis of Cumulative Effects from Pertinent Projects**

At this time, no current projects or projects that would be simultaneous with the installation and operation of the IAS were identified. The Proposed Action would not add to the severity of any existing projects or projects that would commence during the installation and operation of the IAS.

The Proposed Action constitutes three components that would be additional sources of noises in the San Pedro area. The land-based and portable sonars would produce high frequency signals, while the underwater loud hailer would produce low frequency signals. As described in Section 3.2, there are

many sources of anthropogenic noise in the San Pedro area, most of which emit low frequency signals. The high frequency signals would attenuate very quickly in the water column and would not significantly increase ambient noise levels in the Bay.

Potential impacts could occur due to the underwater loud hailer, but it is expected to be a temporary source of noise and would not contribute significantly to ambient noise levels in Bay. The underwater loud hailer is similar to commercially available diver recall systems that use submerged speakers to transmit human voices underwater. The loud hailer would only be used in the event of a suspected threat. The loud hailer would allow security team members to contact unidentified swimmers/divers before further action is considered. For example, it would be used to convey warning messages to swimmers/divers that have entered a restricted area. Its use would normally be of very short duration (a maximum of a few minutes) and in close proximity to the suspected threat. Under normal circumstances continuous use of the loud hailer would not exceed the exposure duration thresholds outlined in Section 4.4.1.

As discussed in Section 4.2.2, potential impacts of the Proposed Action on water quality may result from the use sacrificial zinc anodes to protect the metal components of the land-based sonar from corroding due to immersion in saltwater. These anodes would be identical or similar in use, composition and degradation rate to the sacrificial anodes used by most of the recreational and commercial boats operating in the coastal waters of the U.S. Because the IAS will be used primarily in heavily developed port areas, and because the vast majority of boats and underwater infrastructure in these areas already use zinc anodes for corrosion protection, the IAS will not contribute significantly to the adverse cumulative impacts associated with zinc anode corrosion protection systems within the ROI

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## 7. References

- APL undated Applied Physics Laboratory (APL). Undated. Dual-Frequency Identification Sonar (DIDSON) Specifications. Available online: <<http://www.apl.washington.edu/programs/DIDSON/DIDSON.html>>. Accessed April 1, 2004.
- AQMD 2002a South Coast Air Quality Management District (AQMD). 2002. On-going Projects for which AQMD has or will conduct a CEQA Review. Available online: <<http://www.aqmd.gov/hb/attachments>>. Accessed September 11, 2002.
- AQMD 2002b South Coast Air Quality Management District (AQMD). 2002. Tosco Los Angeles Refinery Wilmington Plant CARB Phase 3 Proposed Project: Addendum to the Final Environmental Impact Report. Available online: <<http://www.aqmd.gov/ceqa/documents/2001/nonaqmd/toscoII/add.doc>>. Accessed September 11, 2002.
- Birch undated Birch, Gavin. Undated. A Scheme of Assessing Human Impacts on Coastal Aquatic Environments Using Sediments. Available online: <[http://www.oezestuaries.org/indicators/DEF\\_sediment\\_scheme.html](http://www.oezestuaries.org/indicators/DEF_sediment_scheme.html)>. Accessed December 16, 2003.
- Cowan 1994 Cowan, James P. 1994. *Handbook of Environmental Acoustics*. 1994.
- Entrix 2002 Entrix. 2002. *Port Pelican Environmental Report – Version 1*. Prepared for Port Pelican, L.L.C. Houston, TX. 25 Nov 2002.
- Hanot undated Hanot, B. 2003. Conversation between Ms. Valerie Whalon of engineering-environmental Management, Inc. and Mr. Bill Hanot of Applied Physics Laboratory on December 2003, regarding the source level of the DIDSON.
- KSM undated Kongsberg Simrad Mesotech LTD (KSM). Undated. SM 2000 Multibeam Imaging Sonar Specifications. Available online: <<http://www.kongsberg-simrad.com>>. Accessed October 20, 2003.
- Lenhardt 1994 Lenhardt, Martin T. 1994. Seismic and very low frequency sound induced behaviors in captive loggerhead marine turtles (*Caretta caretta*). In: Proceedings of the Fourteenth Annual Symposium on sea turtle biology and conservation. NOAA Technical Memorandum NMFS-SEFSC-351.
- Lubell undated Lubell Labs Inc. (Lubell). Undated. Lubell Labs Underwater Speaker Specifications. Available online: <<http://www.lubell.com/LL98b.html>>. Accessed March 2, 2004.
- Mann et al. 2001 Mann, David, A., D.M. Higgs, W. N. Tavolga, M.J. Souza, and A.N. Popper. 2001. Ultrasound detection by clupeiform fishes. *Journal of Acoustical Society of America* 109(6): 3048-3054.
- MESC 2003 Marine Exchange of Southern California (MESC). 2003. Harbor Safety Plan for the Ports of Los Angeles and Long Beach. Available online: <<http://www.marineexchange.org/hspchapxvb.htm>>. Accessed December 15, 2003.
- MEC 1988 MEC Analytical Systems (MEC) 1988. *Biological Baseline and an Ecological Evaluation of Existing Habitats in Los Angeles Harbor and Adjacent Waters*. Volumes I to III. Prepared for the Port of Los Angeles.
- MEC 1999 MEC Analytical Systems (MEC) 1999. *Port of Los Angeles special study*. August. Prepared for the Port of Los Angeles.

- MMS 2000a Minerals Management Service (MMS). 2002. *Gulf of Mexico OCS Oil and Gas Lease Sales: 2003-2007, Central and Western, Final Environmental Impact Statement: Volume I*. OCS EIS/EA MMS 2002-052. New Orleans, LA: USDO, MMS, Gulf of Mexico OCS Region.
- Moein et al. 1994 Moein, Soraya E., J.A. Musick, M.L. Lenhardt. 1994. Auditory behaviour of the loggerhead sea turtle (*Caretta caretta*). In: Proceedings of the Fourteenth Annual Symposium on sea turtle biology and conservation. NOAA Technical Memorandum NMFS-SEFSC-351.
- MTS 2002 Marine Transportation Systems: Los Angeles/Long Beach Harbor Inc (MTS) 2002. *Harbor Safety Plan: For the Ports of Los Angeles and Long Beach*. Available online: <<http://www.marexlab.org/hspmain.htm>>. Accessed: August 8, 2002.
- NMFS and USFWS 1998a National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1998a. Recovery Plan for U.S. Pacific Populations of the Green Turtle. Prepared by the Pacific Sea Turtle Recovery Team.
- NMFS and USFWS 1998b National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1998b. Recovery Plan for U.S. Pacific Populations of the Leatherback Turtle. Prepared by the Pacific Sea Turtle Recovery Team.
- NMFS and USFWS 1998c National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1998c. Recovery Plan for U.S. Pacific Populations of the Loggerhead Turtle. Prepared by the Pacific Sea Turtle Recovery Team.
- NMFS 2000 National Marine Fisheries Service (NMFS). 2000. Section 7 Consultation to Take Listed Marine Mammals Incidental to Commercial Fishing Operations under Section 101(a)(5)(E) of the Marine Mammal Protection Act for the California/Oregon Drift Gillnet Fishery.
- NOAA 2002 National Oceanographic and Atmospheric Administration (NOAA) 2002. *Draft U. S. Pacific Marine Mammal Stock Assessments: 2002*. NOAA-TM-NMFS-SWFSC Technical Memorandum.
- Nowacek et al. 2003 Nowacek, D.P., B.M. Casper, R.S. Wells, S.M. Nowacek, D.A. Mann (Nowacek et al.). 2003. Intraspecific and geographic variation of the West Indian Manatee (*Trichechus manatus* spp.) vocalizations (L). *Journal of Acoustical Society of America* 114(1):66-69.
- NPS 2003 National Park Service (NPS). 2003. *Glacier Bay National Park Preserve, Alaska. Vessel Quotas and Operating Requirements, Final Environmental Impact Statement*. Appendix C.
- NRC 2000 National Research Council (NRC). 2000. *Marine Mammals and Low-Frequency Sound: Progress Since 1994*. National Academy Press, Washington, D.C.
- NRC 2003 National Research Council (NRC). 2003. *Ocean Noise and Marine Mammals*. National Academy Press, Washington, D.C.
- ONR 2000 Office of Naval Research (ONR). 2000. Draft Environmental Impact Statement for the North Pacific Acoustic Laboratory. Arlington, Virginia. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Protected Resources, Silver Spring, Maryland. State of Hawaii, Department of Land and Natural Resources, Honolulu, Hawaii. May 2000.

ONR undated Office of Naval Research. Undated. Ocean Life: Green Sea Turtle – Current Research.

OTS 2002 Ocean Technology Systems (OTS). Undated. DRS-100B Diver Recall/Hydrophone. Available online: <[http://www.oceantechnologysystems.com/drs\\_100b.html](http://www.oceantechnologysystems.com/drs_100b.html)>. Accessed October 20, 2003.

Peck 2004 Peck, J. 2004. Conversation between Mr. Brian Hoppy of engineering-environmental Management, Inc. and Mr. Jerry Peck of OTS, on February 20, 2004, regarding the source level of the OTS underwater loud hailer.

Port 2002a Port of Los Angeles (Port). 2002. The Port of Los Angeles Environmental Programs. Cabrillo Shallow Water Habitat. Available online: <<http://www.portoflosangeles.org/Environmental/habitat.htm>>. Accessed August 5, 2002.

Port 2002b Port of Los Angeles (Port). 2002. The Port of Los Angeles Environmental Programs. Improved Infrastructure. Available online: <<http://www.portoflosangeles.org/Environmental/infrastructure.htm>>. Accessed August 5, 2002.

Port 2002c Port of Los Angeles (Port). 2002. The Port of Los Angeles Environmental Programs. Least Terns. Available online: <<http://www.portoflosangeles.org/Environmental/least.htm>>. Accessed August 5, 2002.

Popper 2003 Popper, Arthur N. 2003. Effects of anthropogenic sounds on fishes. *Fisheries* 28(10): 24-31.

PWIA 2002 Personal Watercraft Industry Association (PWIA). 2002. The Facts About Personal Watercraft. Available online: <<http://www.pwia.org/factsabout.html>>. Accessed July 23, 2002.

Richardson et al. 1995 Richardson, W.J., C.R. Greene, C.I. Malme, and D.H. Thomson (Richardson et al.). 1995. Marine Mammals and Noise. Academic Press.

SCAG 2002 Southern California Association of Governors (SCAG). 2002. Executive Summary: Final 2002 Regional Transportation Improvement Program, August 2002. Available online: <[http://www.scag.ca.gov/rtip/final02/final\\_vol1.pdf](http://www.scag.ca.gov/rtip/final02/final_vol1.pdf)>. Accessed September 11, 2002.

State 2002 State of California (State). 2002. Press Release: New Year Brings More Congestion Relief for California. Available online: <[http://www.ca.gov/state/govsite/gov\\_htmldisplay.jsp?sFilePath=/govsite/press\\_release/2001\\_01/20010119\\_pr01027\\_TransportationProjectsApproved.html&sCatTitle=Press%20Release&iOID=12982&sTitle=Press%20Release%20%20%20%202001/01/19&BV\\_SessionID=@@@@1918065184.1032185641@@@@&BV\\_EngineID=dadcfdkmjidlbbemgcfkmchchi.0](http://www.ca.gov/state/govsite/gov_htmldisplay.jsp?sFilePath=/govsite/press_release/2001_01/20010119_pr01027_TransportationProjectsApproved.html&sCatTitle=Press%20Release&iOID=12982&sTitle=Press%20Release%20%20%20%202001/01/19&BV_SessionID=@@@@1918065184.1032185641@@@@&BV_EngineID=dadcfdkmjidlbbemgcfkmchchi.0)>. Accessed August 6, 2002.

TFHRC 2002 Turner-Fairbank Highway Research Center (TFHRC). 2002. Public Roads: “Highways and the New Wave of Economic Growth”. Available online: <<http://www.tfhrc.gov/pubrds/julang99/hwaygro.htm>>. Accessed August 5, 2002.

UK Marine SAC undated UK Marine SAC. Undated. Toxic Substance Profile: Zinc. Available online: <[http://www.ukmarinesac.org.uk/activities/water-quality/wq8\\_6.htm](http://www.ukmarinesac.org.uk/activities/water-quality/wq8_6.htm)>. Accessed December 15, 2003.

USACE 2002 U.S. Army Corps of Engineers (USACE). 2002. West Basin Terminal Improvements Projects: Berth 100 and West Basin EIS. Available online: <<http://www.spl.usace.army.mil>>. Accessed August 5, 2002.

USCG 1996 U.S. Coast Guard (USCG). 1996. NEPA Final Environmental Impact Statement (Volume I) for the U. S. Coast Guard Living Marine Resources (APLMR) Initiative. Also by Battelle Ocean Sciences. October 31, 1996.

USCG 2002a U.S. Coast Guard (USCG). 2002. U.S. Coast Guard/G-I Web page “Homeland Security and the New Normalcy.” Available online: <<http://www.uscg.mil/overview/homeland%20security.htm>>. Accessed May 18, 2002.

USCG 2002b U.S. Coast Guard (USCG). 2002. *U.S. Coast Guard Final Programmatic Environmental Impact Statement for the Integrated Deepwater System Project*. March 22, 2002.

USCG11 2002 U.S. Coast Guard (USCG) 11th District. 2002. USCG 11th District Internet Site. Available online: <<http://www.uscg.mil/D11/ops/index/htm>>. Accessed August 1, 2002.

USCG 2003 U.S. Coast Guard (USCG). 2003. *Environmental Assessment of the Stand-Up and Operations of the Maritime Safety and Security Team, San Pedro, CA*.

USCG and MARAD 2003 U.S. Coast Guard and Maritime Administration (USCG and MARAD). 2003. Final Environmental Assessment for the Port Pelican LLC Deepwater Port License Application. Docket Number: USCG-2002-14134.

USDOT 1980 U.S. Department of Transportation (USDOT). 1980. Guidelines for Considering Noise in Land Use Planning and Control, Federal Interagency Committee on Urban Noise. June 1980.

USEPA 2002 USEPA. 2002. *National Recommended Water Quality Criteria: 2002*. EPA-822-R-02-047. Office of Water, Office of Science and Technology (4304T). November 2002.

USFWS 1999 U.S. Fish and Wildlife Service (USFWS). 1999. Endangered and threatened wildlife and plants; proposed rule to remove the northern populations of the tidewater goby from the list of endangered and threatened wildlife. U.S. Fish and Wildlife Service. Federal Register 64(121): 33816-33825.

USN 2001 U.S. Navy. (USN) 2001. Final Overseas Environmental Impact Statement and Environmental Impact Statement for Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) Sonar.

USN 2002 Environmental Assessment for Installation and Operation of an Underwater Swimmer Detection System at Naval Base Coronado, California. Commander, Navy Region Southwest, San Diego, CA.

USN undated U.S. Navy (USN). Undated. SURTASS LFA, Terminology. Available online: <<http://www.surtass-lfa-eis.com/Terms/>>. Accessed November 18, 2003.

## **APPENDIX A**

### **AGENCY CORRESPONDENCE**

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501 West Ocean Blvd.  
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**Subject: Environmental Assessment of the Establishment and Operation of an Integrated Anti-Swimmer System in San Pedro, CA**

Dear Ms. Chambers:

The U.S. Coast Guard (USCG) is preparing an Environmental Assessment (EA) for the establishment and operation of an Integrated Anti-Swimmer System (IAS) to be a component of and co-located with the Maritime Safety and Security Team (MSST) operating out of San Pedro, CA. Preparation of the EA is being conducted in accordance with the National Environmental Policy Act (NEPA) of 1969 (Section 102[2][c]) and its implementing regulations, 40 Code of Federal Regulations, Part 1500. The purpose of the Proposed Action is to increase the USCG's ability to detect, track and interdict, if necessary, potential underwater threats and as a result, protect personnel, ships, and property from sabotage and or other subversive acts. This EA does not analyze the impacts from the stand-up and operation of the MSST. Those were already assessed in the Environmental Assessment of the Stand-Up and Operation of the Maritime Safety and Security Team (MSST) in San Pedro, CA (October 2003) and were found to have no environmental impact.

This EA will address the overall environmental impacts of establishing and operating the IAS including three components that may cause waterborne noise, the Kongsberg SM 2000 sonar (SM 2000), the Dual High Frequency Identification Sonar (DIDSON), and the underwater loud hailer. Table 1 presents the frequency and source levels for these sources. The region of influence (ROI) for the Proposed Action and the No Action Alternative is defined as the area in which the IAS would operate under normal conditions. The ROI, presented in Attachment 1, is geographically defined as Los Angeles Harbor (Ports of Los Angeles and Long Beach). The ROI includes coastal Los Angeles County. This region is expected to be limited to existing harbor infrastructure and adjacent waters within the MSST's primary operating area. The IAS is transportable and would be deployed to provide additional protection for specific targets throughout the region. The IAS is not generally expected to deploy offshore.

**Table 1. Frequency and Source Level for each Source of Waterborne Noise in the IAS**

Source	Frequency (kHz)	Source Level (dB)
Kongsberg SM 2000	90	206
DIDSON	1,000-1,800	202
Underwater Loud Hailer	0.5-4	Unknown

We do not believe that the Proposed Action, the establishment and operations of the IAS in San Pedro, CA, would have an adverse impact on essential fish habitat (EFH). As such, and in accordance with

Section 305(b) of the Magnuson-Stevens Act, as amended, we do not believe an EFH consultation is required at this time. As stated above, we are currently preparing an EA, and we intend to fully assess the potential impacts associated with the Proposed Action on EFH within the ROI. We are requesting a list of concerns and comments National Ocean and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) may have regarding the implementation of the IAS and its possible impacts on EFH.

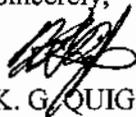
We will also consult with the U.S. Fish and Wildlife Service and NOAA Fisheries Protected Resources Division regarding the presence of threatened and endangered species under their respective jurisdictions.

We look forward to working with your office on this project. Please send any comments/correspondence to the USCG through one of the following methods:

- (1) By mail to:  
Commandant (G-OPD)  
United States Coast Guard  
2100 Second Street, SW  
Washington, DC 20593
- (2) Or, by fax to CWO Jan Walker at (202) 267-4278
- (3) Or by E-mail to [jwalker@comdt.uscg.mil](mailto:jwalker@comdt.uscg.mil)

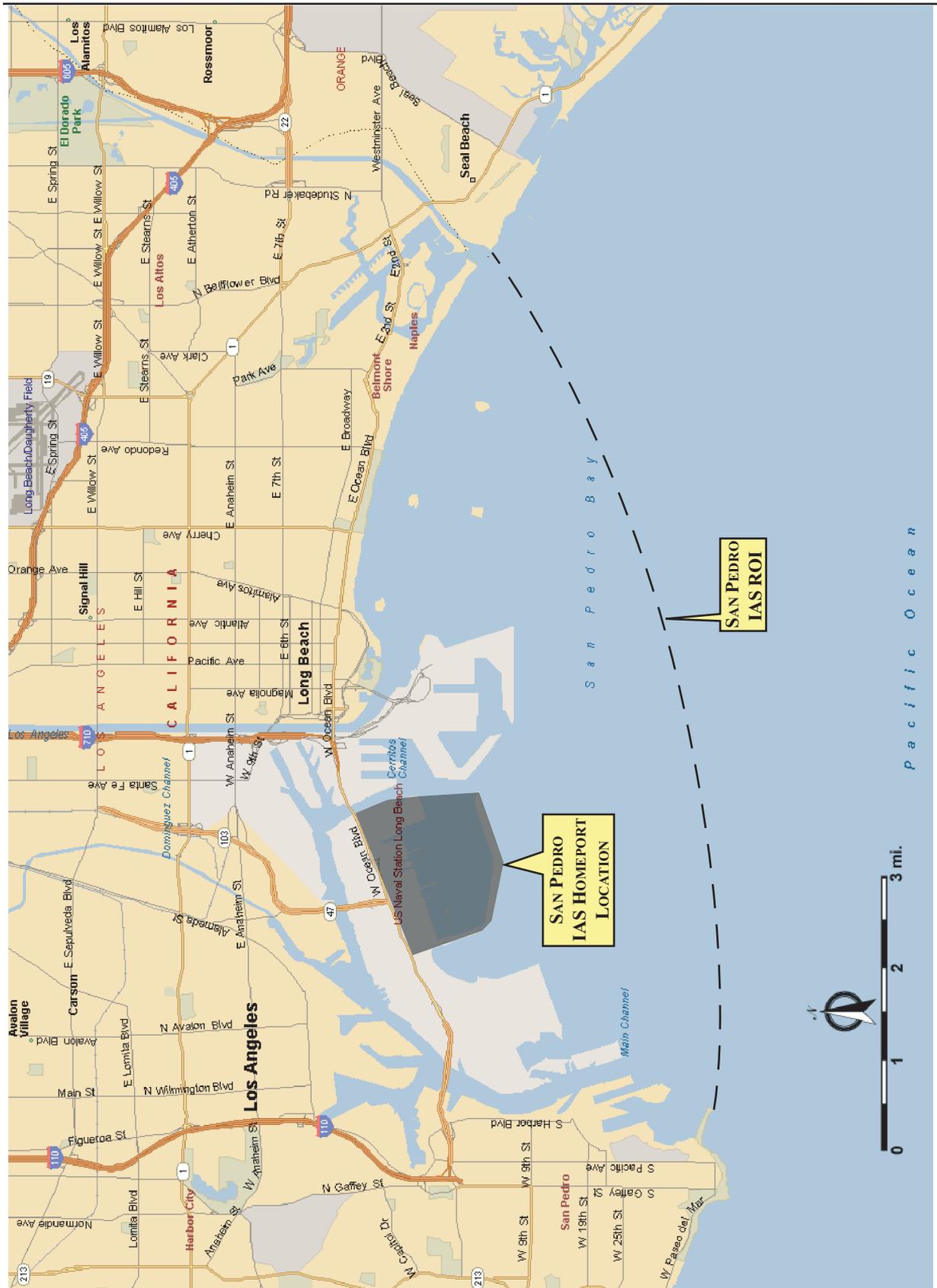
Thank you for your assistance. If you have questions about the proposed establishment of the IAS contact CWO Jan Walker at (202) 267-2039 or about the EA contact Ms. Kebby Kelley at (202) 267-6034.

Sincerely,



K. G. QUIGLEY  
Captain, U.S. Coast Guard  
Chief, Office of Defense Operations

Enclosure



Attachment 1. Region of Influence (ROI) for San Pedro Integrated Anti-Swimmer System (IAS)

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Mr. Tim Smith  
Acting Assistant Regional Administrator for Protected Resources  
U.S. Department of Commerce  
National Oceanic and Atmospheric Administration, National Marine Fisheries Service  
501 West Ocean Blvd.  
Long Beach, CA 90802-4213

**Subject: Environmental Assessment of the Establishment and Operation of an Integrated Anti-Swimmer System in San Pedro, CA**

Dear Mr. Smith:

The U.S. Coast Guard (USCG) is preparing an Environmental Assessment (EA) for the establishment and operation of an Integrated Anti-Swimmer System (IAS) to be a component of co-located with the Maritime Safety and Security Team (MSST) operating out of San Pedro, CA. Preparation of the EA is being conducted in accordance with the National Environmental Policy Act (NEPA) of 1969 (Section 102[2][c]) and its implementing regulations, 40 Code of Federal Regulations, Part 1500. The purpose of the Proposed Action is to increase the USCG's ability to detect, track and interdict, if necessary, potential underwater threats and as a result, protect personnel, ships, and property from sabotage and or other subversive acts. This EA does not analyze the impacts from the stand-up and operation of the MSST. Those were already assessed in the Environmental Assessment for the Stand-Up and Operation of the Maritime Safety and Security Team (MSST) for San Pedro, CA (October 2003) and were found to have no environmental impact.

This EA will address the overall environmental impacts of establishing and operating the IAS including three components that may cause waterborne noise, the Kongsberg SM 2000 sonar (SM 2000), the Dual High Frequency Identification Sonar (DIDSON), and the underwater loud hailer. Table 1 presents the frequency and source levels for each of these sources. The region of influence (ROI), presented in Attachment 1, is geographically defined as Los Angeles Harbor (Ports of Los Angeles and Long Beach). The ROI includes coastal Los Angeles County. This region is expected to be limited to existing harbor infrastructure and adjacent waters within the MSSTs primary operating area. The IAS is transportable and would be deployed to provide additional protection for specific targets throughout the region. The IAS is not generally expected to deploy offshore.

**Table 1. Frequency and Source Level for each Source of Waterborne Noise in the IAS**

Source	Frequency (kHz)	Source Level (dB)
Kongsberg SM 2000	90	206
DIDSON	1,000-1,800	202
Underwater Loud Hailer	0.5-4	Unknown

In accordance with Section 7 of the Endangered Species Act, as amended, we seek to informally consult with National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) regarding the proposed establishment and operation of the IAS in San Pedro, CA. We intend to have the EA stand as our Biological Assessment (BA) for this proposal. In order to fully assess the

potential impacts associated with the Proposed Action on protected resources we are requesting a list of species of concern that occur within the ROI and a list of any additional concerns that NOAA Fisheries may have regarding the potential impacts of the Proposed Action on federally listed species or other marine mammals.

We will also consult with the U.S. Fish and Wildlife Service regarding the presence of threatened and endangered species under their jurisdiction and NOAA Fisheries' Habitat Conservation Division regarding essential fish habitat within the ROI.

We look forward to working with your office on this project. Please send any comments/correspondence to the USCG through one of the following methods:

- (1) By mail to:  
Commandant (G-OPD)  
United States Coast Guard  
2100 Second Street, SW  
Washington, DC 20593
- (2) Or, by fax to CWO Jan Walker at (202) 267-4278
- (3) Or by E-mail to [jwalker@comdt.uscg.mil](mailto:jwalker@comdt.uscg.mil)

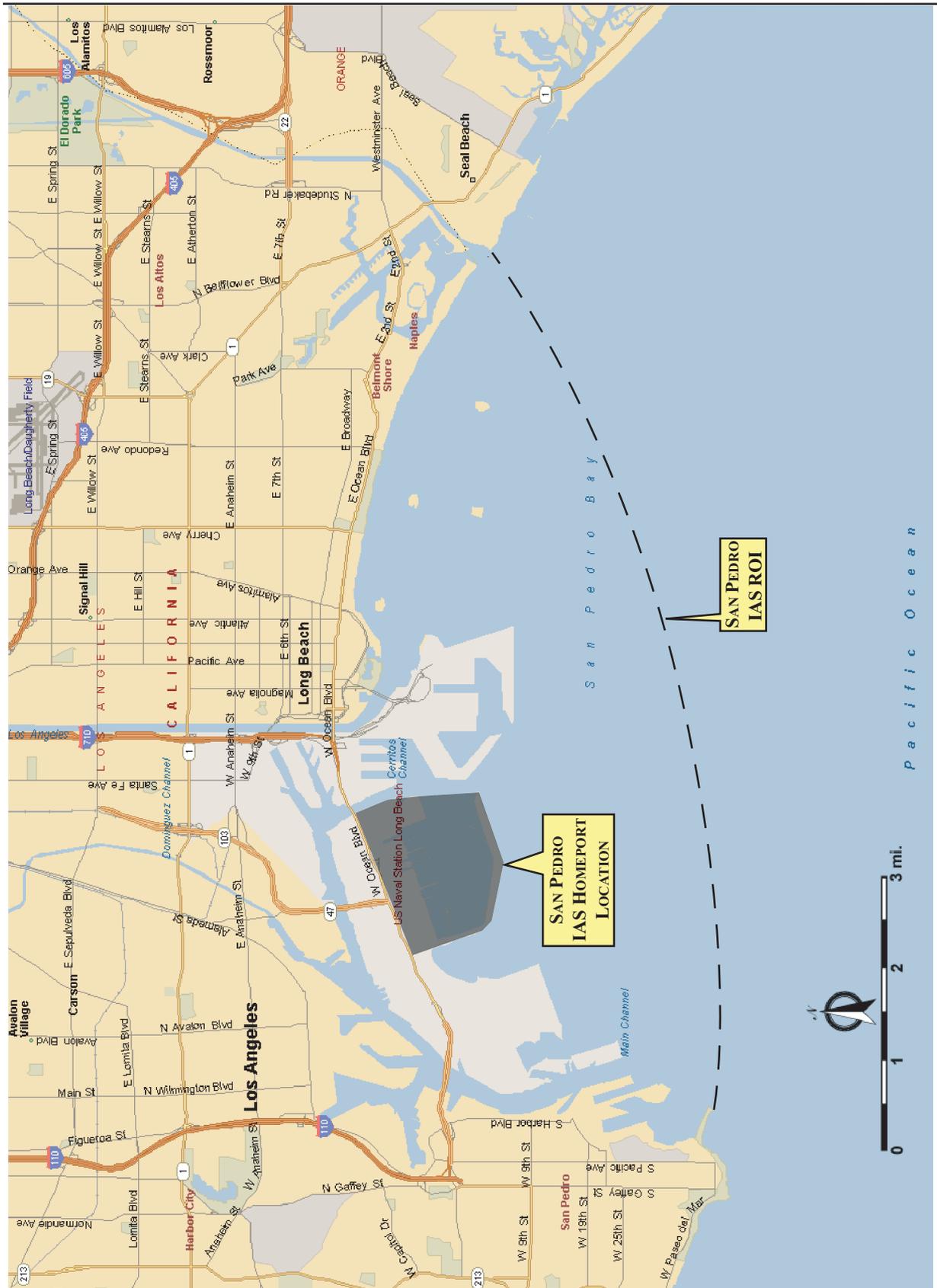
Thank you for your assistance. If you have questions about the proposed establishment of the IAS contact CWO Walker at (202) 267-2039 or about the EA contact Ms. Kebby Kelley at (202) 267-6034.

Sincerely,



K. ST. QUIGLEY  
Captain, U.S. Coast Guard  
Chief, Office of Defense Operations

Enclosure



Attachment 1. Region of Influence (ROI) for San Pedro Integrated Anti-Swimmer System (IAS)

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**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802-4213

JAN 27 2004

In Reply, Refer to: 151401SWR04PR13781:MLD

Commandant (G-OPD) Jan Walker  
United States Coast Guard  
2100 Second Street, SW  
Washington, DC 20593

Dear Commandant:

The National Marine Fisheries Service (NOAA Fisheries) has reviewed the information provided in your letter dated December 12, 2003, and received in our office December 18, 2003, notifying NOAA Fisheries of the preparation of an Environmental Assessment for the establishment and operation of an Integrated Anti-Swimmer System (IAS) to be a component of co-located with the Maritime Safety and Security Team (MSST) operating out of San Pedro, CA. The region of influence is geographically defined as the Ports of Los Angeles Harbor and Long Beach including coastal Los Angeles County. This region is expected to be limited to existing harbor infrastructure and adjacent waters within the MSST's primary operating area, however, the IAS is transportable and would be deployed to provide additional protection for specific targets throughout the region. Therefore, to assist you in evaluating whether or not the proposed project may affect marine mammals, we are providing the enclosed list of species that may occur in the general project area throughout the entire region of influence.

If it is determined that the proposed project may adversely affect a listed or proposed species, the U.S. Coast Guard should request initiation of formal consultation with NOAA Fisheries pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Whales, dolphins, and seals are also protected under the Marine Mammal Protection Act (MMPA). Under the MMPA, it is illegal to "take" a marine mammal without prior authorization from NOAA Fisheries. "Take" is defined as harassing, hunting, capturing, or killing, or attempting to harass, hunt, capture, or kill any marine mammal. "Harassment" is defined as any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal in the wild, or has the potential to disturb a marine mammal in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering. Based on the information provided in your letter, it may be necessary to receive authorization from NOAA Fisheries under the MMPA for this proposed project.

Concern has arisen that sounds introduced into the sea by man-made devices could have a deleterious effect on marine mammals by causing stress, interfering with communication and predator/prey detection, and changing behavior. More significantly, acoustic overexposure to loud sounds can lead to a temporary or permanent loss of hearing (termed a temporary (TTS) or permanent (PTS) threshold shift). NOAA Fisheries is currently in the process of determining



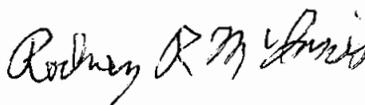
safety criteria for marine species exposed to underwater sound. Based on past projects involving sonar, consultations with experts, and on published studies, we have preliminarily determined that pinnipeds can be safely exposed to impulse sound pressure levels not greater than 190 dB re 1  $\mu\text{Pa}_{\text{RMS}}$ . However, marine mammals have also shown behavioral changes when exposed to impulse sound pressure levels of 160 dB re 1  $\mu\text{Pa}_{\text{RMS}}$ .

Given this information, we recommend a safety zone around the source, which would include all areas where the underwater sound pressure levels are anticipated to equal or exceed 160 dB re 1  $\mu\text{Pa}_{\text{RMS}}$ . Prior to, and until 160 dB re 1  $\mu\text{Pa}_{\text{RMS}}$  can be determined through measuring sound pressure levels from the sound source, at least a 500-foot safety zone should be established. Once sound pressure levels have been recorded to determine where this radius should be established, the appropriate safety zone for 160 dB re 1  $\mu\text{Pa}_{\text{RMS}}$  can be utilized. Before operations begin, we also recommend that a NOAA Fisheries-approved biologist survey the safety zone to ensure that no marine mammals are seen within the designated zone. If marine mammals are seen within the safety zone, operations should be delayed until they move out of the area.

Please note that in addition to the comments provided in this letter regarding marine mammals, sea turtles may also be present in the region of influence and are also susceptible to underwater sounds. To assist you in evaluating whether or not the proposed project may affect sea turtles, we are providing the enclosed list of species that may occur in the general project area. For further information regarding sea turtles, please contact Ms. Christina Fahy at 562-980-4023 or at [Christina.Fahy@noaa.gov](mailto:Christina.Fahy@noaa.gov).

Thank you for coordinating with NOAA Fisheries regarding this project. Please contact Monica DeAngelis at 562-980-3232 or [Monica.DeAngelis@noaa.gov](mailto:Monica.DeAngelis@noaa.gov) if you have any questions concerning this letter or if you require additional information regarding marine mammals.

Sincerely,



Rodney R. McInnis  
Acting Regional Administrator

Enclosures (2)

cc: Captain K.G. Quigley, U.S. Coast Guard  
CWO Jan Walker, U.S. Coast Guard  
Kebby Kelley

**List of Marine Mammals that may occur in the vicinity of  
the Establishment and Operation of an Integrated Anti-Swimmer System  
in coastal Los Angeles County**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Status<sup>1</sup></b>
California sea lion	<i>Zalophus californianus californianus</i>	M
Pacific harbor seal	<i>Phoca vitulina richardsi</i>	M
Northern elephant seal	<i>Mirounga angustirostris</i>	M
Gray whale	<i>Eschrichtius robustus</i>	M
Blue whale	<i>Balaenoptera musculus</i>	M/E
Fin whale	<i>Balaenoptera physalus</i>	M/E
Minke whale	<i>Balaenoptera acutorostrata</i>	M
Humpback whale	<i>Megaptera novaeangliae</i>	M/E
Northern right whale	<i>Eubalaena glacialis</i>	M/E
Short-beaked common dolphin	<i>Delphinus delphis</i>	M
Long-beaked common dolphin	<i>Delphinus capensis</i>	M
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	M
Risso's dolphin	<i>Grampus griseus</i>	M
Dall's porpoise	<i>Phocoenoides dalli</i>	M
Bottlenose dolphin	<i>Tursiops truncatus</i>	M
Short-finned pilot whale	<i>Globicephala macrohynchus</i>	M
Killer whale	<i>Orcinus orca</i>	M
Baird's beaked whale	<i>Berardius bairdii</i>	M
Mesoplodont spp.		M

<sup>1</sup>M= MMPA Protected, E= Endangered under the ESA

**List of Sea Turtles that may occur in the vicinity of  
the Establishment and Operation of an Integrated Anti-Swimmer System  
in coastal Los Angeles County**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Status<sup>1</sup></b>
Leatherback	<i>Demochelys coriacea</i>	E
Green	<i>Chelonia mydas</i>	T
Olive Ridley	<i>Lepidochelys olivacea</i>	T
Loggerhead	<i>Caretta caretta</i>	T

E= Endangered under the ESA; T= Threatened under the ESA



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802- 4213

In Reply, Refer to: 151401SWR04PR13781:MLD

MAY 14 2004

Commandant (G-OPD)  
United States Coast Guard  
2100 Second Street, SW  
Washington, DC 20593

Dear Commandant:

This letter responds to your request, received in our office on April 6, 2004, to review and provide comments on the Environmental Assessment (EA) for the establishment and operation of an Integrated Anti-Swimmer System (IAS) to be a component of co-located with the Maritime Safety and Security Team (MSST) operating out of San Pedro, CA. The Region of Influence is geographically limited to the waters approximately 300 meters of specific, existing shore side, port infrastructure or docked ships from Santa Barbara to San Clemente, including: the Ports of Los Angeles and Long Beach and Los Angeles and Long Beach harbors. Operations are expected to be limited to existing harbor infrastructure and adjacent waters within the MSST's primary operating area, however, the IAS is transportable and would be deployed to provide additional protection for specific targets throughout the region. The IAS is not designed or intended for operation offshore and would normally conduct operations in the harbor or port to which it is assigned. Therefore, the National Marine Fisheries Service (NOAA Fisheries) offers the following comments for the establishment and operation of the IAS system in the waters of Los Angeles and Long Beach harbors, the locations where the IAS system will most likely operate.

According to the EA, the IAS has four primary components: the Kongsberg AM 2000 (SM 2000), WQX-2 ACAP processor, the Security Vehicle Guidance (SVAG) system, the Dual High Frequency Identification Sonar (DIDSON), and the underwater loud hailer. All components of the IAS would be transported to mission locations by already existing MSST vehicles. The SM 2000 and components of the SVAG would be based onshore. The DIDSON, underwater loud hailer, and remaining components of the SVAG are designed to be used on an MSST response boat.

The IAS is designed to detect, track, classify, and alert security forces of potential underwater threats and would be set up at a particular location for some defined period. During that time the IAS would operate continuously. According to the EA, it is anticipated that the IAS would be transported approximately 1.5 times per month and would operate approximately 180 days per year.

The seven species of marine mammals that may occur in the waters of Los Angeles and Long Beach Harbors include, the Pacific harbor seal (*Phoca vitulina richardsi*), northern elephant seal



(*Mirounga angustirostris*), California sea lion (*Zalophus californianus*), the northern fur seal (*Callorhinus ursinus*), bottlenose dolphin (*Tursiops truncatus*), and the long-beaked common dolphin (*Delphinus capensis*). The gray whale (*Eschrichtius robustus*) migrates through the Southern California Bight from December to May and is also known to sometimes enter bays and harbors.

Whales, dolphins, and seals are also protected under the Marine Mammal Protection Act (MMPA). Under the MMPA, it is illegal to "take" a marine mammal without prior authorization from NOAA Fisheries. The definition of harassment for military readiness (as defined in section 315(f) of Public Law 107B314; 16 U.S.C. 703 note), is defined as, any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild; or any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered.

Concern has arisen that sounds introduced into the sea by man-made devices could have a deleterious effect on marine mammals by causing stress, interfering with communication and predator/prey detection, and changing behavior. More significantly, acoustic overexposure to loud sounds can lead to a temporary or permanent loss of hearing (termed a temporary (TTS) or permanent (PTS) threshold shift). NOAA Fisheries is currently in the process of determining safety criteria for marine species exposed to underwater sound. The SM 2000 sonar has a source level of 206 dB re 1  $\mu$  Pa/meter at 90 kHz. The DIDSON has a frequency of 1-1.8 mHz and a source level of 202 dB re 1  $\mu$ Pa/meter. The loud hailer has a source level of 180 dB re 1 $\mu$ Pa/meter at 1kHz with a frequency of 0.2-20kHz. Although bottlenose dolphins are not frequently found in the IAS homeport area, the frequency of 90kHz for the SM 2000 sonar is within the dolphin's hearing range. Thus, the SM 2000 may potentially cause harassment, TTS or PTS to bottlenose dolphins within the IAS region of influence. It is also not clear from the EA whether the IAS system is capable of distinguishing between a marine mammal, particularly a harbor seal or a sea lion, from a human swimmer in the water. NOAA Fisheries is concerned that if the IAS system is unable to make the distinction between a marine mammal or a human swimming in the area, then the marine mammal may be inadvertently exposed to the loud hailer and potentially suffer hearing loss. Based on the information provided in the EA, it may be necessary to receive authorization from NOAA Fisheries under the MMPA for this proposed project.

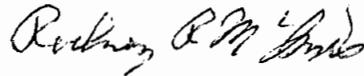
On page 4-9, the EA incorrectly identified the federally endangered manatee and monk seal as marine mammals that have the potential to occur off the California coast, however, manatees and monk seals do not occur off the coast of California. Although unlikely to be in the project area, the Steller sea lion (*Eumetopias jubatus*) is a threatened marine mammal found off the California coast, however it was not included in the list in the EA of federally endangered or threatened marine mammal species that have the potential to occur off the California coast.

According to the EA, the U.S. Coast Guard has protocols in place for protecting marine mammals and sea turtles. NOAA Fisheries Southwest Regional Office, kindly requests a copy of the protocols referenced in the EA that will be used to avoid marine mammals and sea turtles (i.e. the U.S. Coast Guard's COMDTINSTs, regulations, and procedures).

In addition to marine mammals, the EA also lists four species of sea turtles that inhabit the California coast, including the green sea turtle (*Chelonia mydas*), the leatherback sea turtle (*Dermochelys coriacea*), the loggerhead sea turtle (*Caretta caretta*), and the olive ridley sea turtle (*Lepidochelys olivacea*). Although little is known about sea turtle hearing, NOAA Fisheries concurs with the determination that this project is not likely to affect sea turtles.

Thank you for coordinating with NOAA Fisheries regarding this project. Please contact Monica DeAngelis at 562-980-3232 or [Monica.DeAngelis@noaa.gov](mailto:Monica.DeAngelis@noaa.gov) if you have any questions concerning this letter or if you require additional information.

Sincerely,



Rodney R. McInnis  
Acting Regional Administrator

cc: Captain K.G. Quigley, U.S. Coast Guard  
Kebby Kelley, U.S. Coast Guard

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Mr. Jack Fancher  
Coastal Program Chief  
USFWS  
6010 Hidden Valley Road  
Carlsbad, CA 92009

**Subject: Environmental Assessment of the Establishment and Operation of an Integrated Anti-Swimmer System in San Pedro, CA**

Dear Mr. Buford:

The U.S. Coast Guard (USCG) is preparing an Environmental Assessment (EA) for the establishment and operation of an Integrated Anti-Swimmer System (IAS) to be a component of and co-located with the Maritime Safety and Security Team (MSST) operating out of San Pedro, CA. Preparation of the EA is being conducted in accordance with the National Environmental Policy Act (NEPA) of 1969 (Section 102[2][c]) and its implementing regulations, 40 Code of Federal Regulations, Part 1500. The purpose of the Proposed Action is to increase the USCG's ability to detect, track and interdict, if necessary, potential underwater threats and as a result, protect personnel, ships, and property from sabotage and or other subversive acts. This EA does not analyze the impacts from the stand-up and operation of the MSST. Those were already assessed in the Environmental Assessment for the Stand-Up and Operation of the Maritime Safety and Security Team (MSST) in San Pedro, CA (October 2003) and were found to have no environmental impact.

This EA will address the overall environmental impacts of establishing and operating the IAS including three components that may cause waterborne noise, the Kongsberg SM 2000 sonar (SM 2000), the Dual High Frequency Identification Sonar (DIDSON), and the underwater loud hailer. Table 1 presents the frequency and source levels for these sources. The region of influence (ROI) for the Proposed Action and the No Action Alternative is defined as the area in which the IAS would operate under normal operations. The ROI, presented in Attachment 1, is geographically defined as Los Angeles Harbor (Ports of Los Angeles and Long Beach). The ROI includes coastal Los Angeles County. This region is expected to be limited to existing harbor infrastructure and adjacent waters within the MSST's primary operating area. The IAS is transportable and would be deployed to provide additional protection for specific targets throughout the region. The IAS is not generally expected to deploy offshore.

Table 1. Frequency and Source Level for each Source of Waterborne Noise in the IAS

Source	Frequency (kHz)	Source Level (dB)
Kongsberg SM 2000	90	206
DIDSON	1,000-1,800	202
Underwater Loud Hailer	0.5-4	Unknown

In accordance with Section 7 of the Endangered Species Act, as amended, we seek to informally consult with the Service regarding proposed establishment and operation of the IAS in San Pedro, CA. We intend to have the EA stand as our Biological Assessment (BA) for this proposal. In order to fully assess the potential impacts associated with the Proposed Action on protected resources we are requesting a list

of species of concern that occur within the ROI and a list of any additional concerns that USFWS may have regarding the potential impacts of the Proposed Action on federally listed species.

We will also consult with National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) regarding the presence of threatened and endangered species under their jurisdiction and essential fish habitat within the ROI.

We look forward to working with your office on this project. Please send any comments/correspondence to the USCG through one of the following methods:

- (1) By mail to:  
Commandant (G-OPD)  
United States Coast Guard  
2100 Second Street, SW  
Washington, DC 20593
- (2) Or, by fax to CWO Jan Walker at (202) 267-4278
- (3) Or by E-mail to [jwalker@comdt.uscg.mil](mailto:jwalker@comdt.uscg.mil)

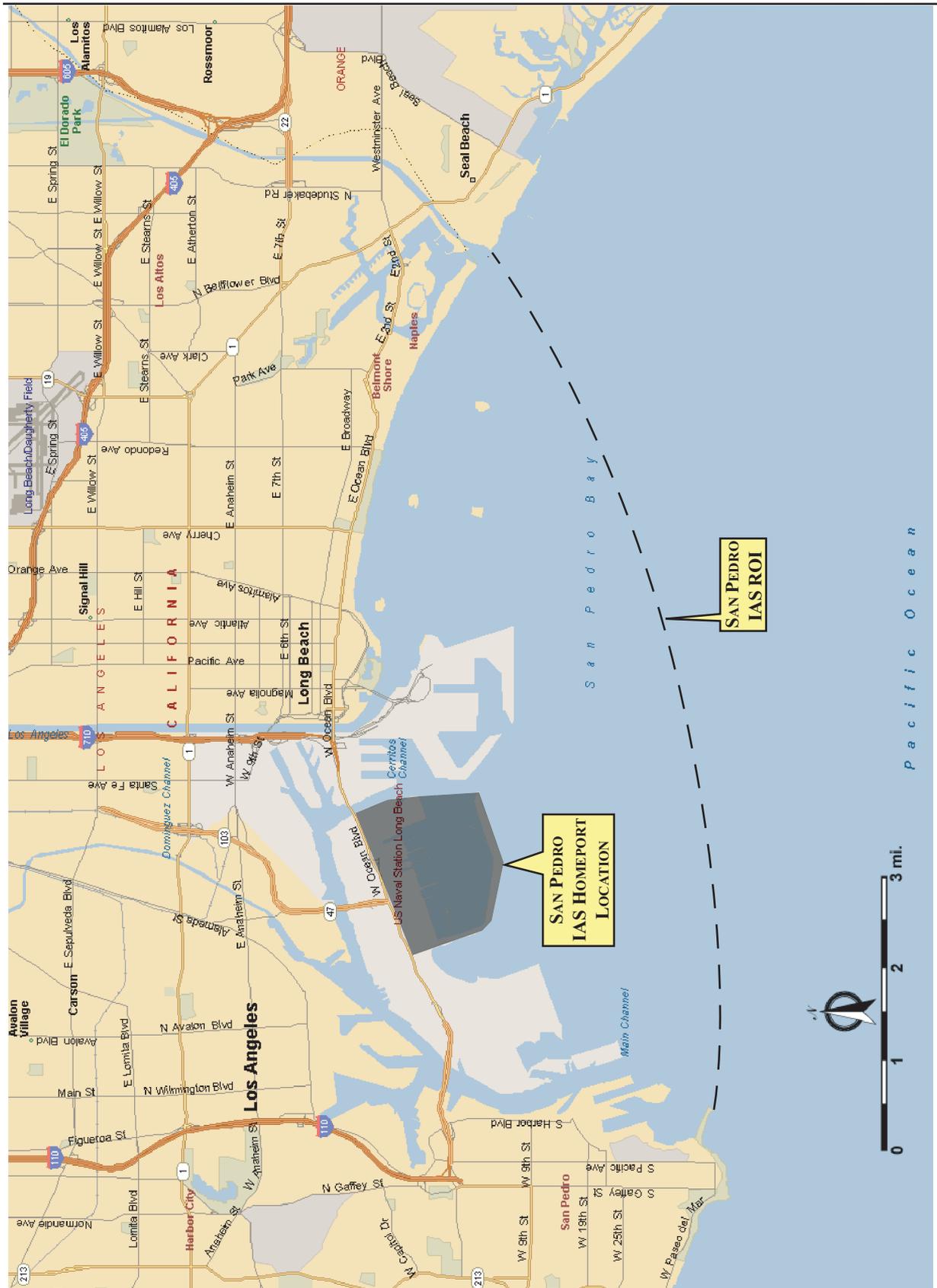
Thank you for your assistance. If you have questions about the proposed establishment of the IAS contact CWO Jan Walker at (202) 267-2039 or about the EA contact Ms. Kebby Kelley at (202) 267-6034.

Sincerely,



K. G. QUIGLEY  
Captain, U.S. Coast Guard  
Chief, Office of Defense Operations

Enclosure



Attachment 1. Region of Influence (ROI) for San Pedro Integrated Anti-Swimmer System (IAS)

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# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92009



In Reply Refer To:  
FWS-LA-3871.1

MAR 3 2004

Captain K.G. Quigley  
United States Coast Guard  
2100 Second Street, SW  
Washington, DC 20593

Attn: Ms. Kebby Kelly

Re: Request for Information on Proposed, Threatened, and Endangered Species for San Pedro Bay, Los Angeles County, California

Dear Captain Quigley:

We are responding to your letter dated December 12, 2003, and received by our office on December 18, 2003, requesting information on the presence of federally endangered, threatened, and proposed species that may occur in the vicinity of San Pedro Bay, Los Angeles County, California. We understand that your agency intends to prepare an Environmental Assessment for the proposed establishment and operation of an Integrated Anti-Swimmer System. To assist you in evaluating whether the proposed action may affect a listed species, we are providing the attached list of species known or likely to occur in the project area.

We have concerns regarding potential adverse effects to open water aquatic communities, and specifically food resources for federally listed birds, within the region of influence for the proposed action. Breeding colonies of the federally endangered California least tern (*Sterna antillarum* (=albifrons) browni) have been documented on Terminal Island, since 1981. Attached is a map of the designated nesting area, referenced in a report prepared for the Los Angeles Harbor Department, Environmental Management Division by Keane Biological Consulting entitled *Breeding Biology of the California Least Tern in Los Angeles Harbor 2000 Season*.

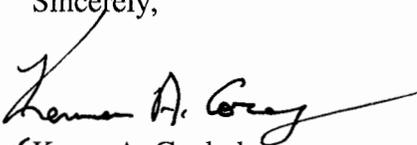
We recommend that you seek assistance from a biologist familiar with the habitat conditions and associated species in and around the project site to assess the actual potential for direct, indirect and cumulative impacts likely to result from the proposed activity. You should also contact the California Department of Fish and Game (CDFG) for State-listed and other sensitive species that may occur in the area of the project. State-listed species are protected under the provisions of the California Endangered Species Act and require full consideration under the California Environmental Quality Act.



If it is determined that the proposed activity may adversely affect a listed, proposed species, or designated critical habitat, the U.S. Coast Guard should request initiation of formal consultation (or conference for proposed species) with the Service pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended. Informal consultation may be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation.

Should you have any questions regarding the species list provided, or your responsibilities under the Act, please contact Christine Medak of my staff at (760) 431-9440.

Sincerely,

  
Karen A. Goebel  
Assistant Field Supervisor

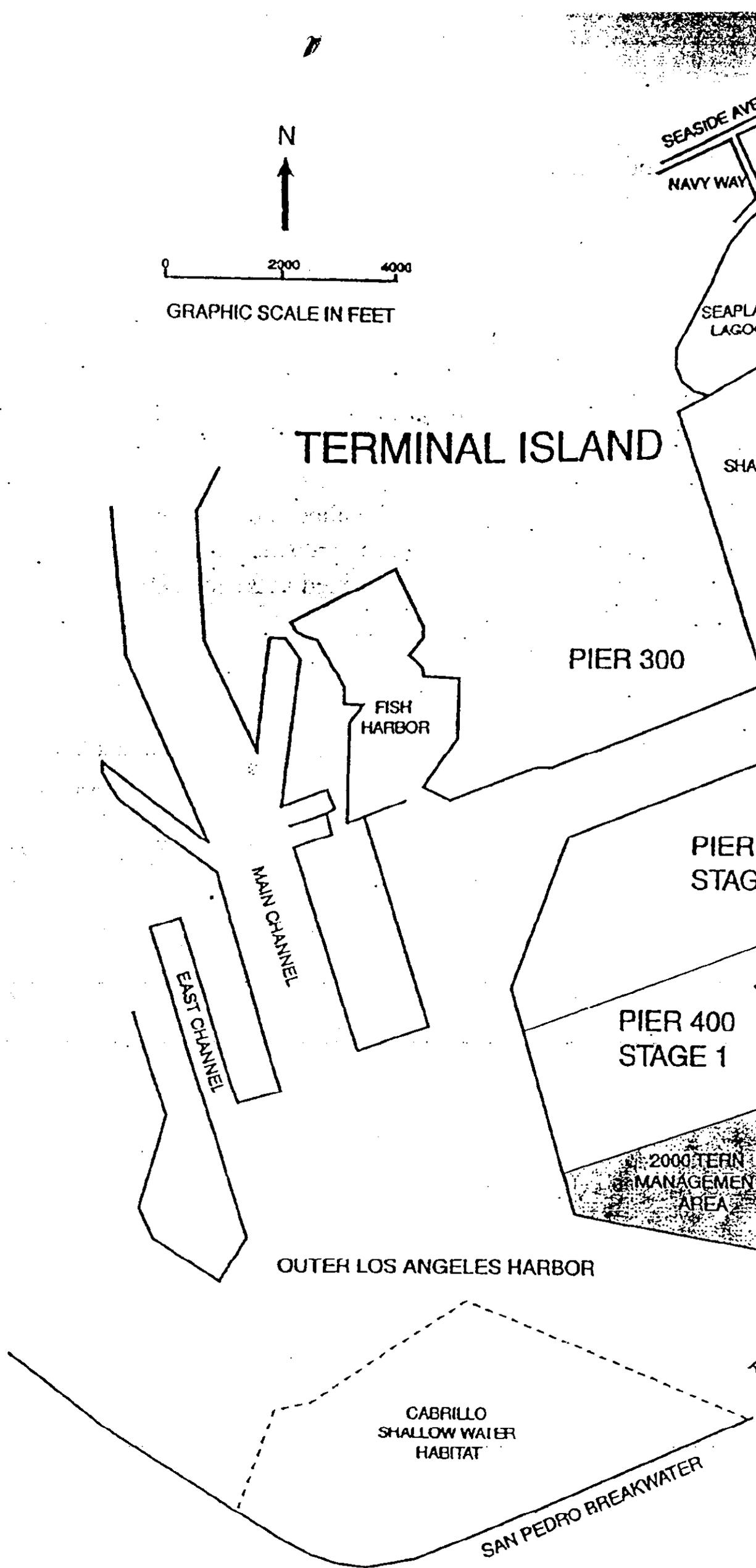
Enclosure (2)

**Federally Endangered, Threatened, Proposed, and Candidate Species  
that May Occur in the Vicinity of  
San Pedro Bay,  
Los Angeles County, California**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Status</b>
<u>BIRDS</u>		
California least tern	<i>Sterna antillarum (=albifrons) browni</i> ,	E
California brown pelican	<i>Pelecanus occidentalis</i>	E
Bald eagle	<i>Haliaeetus leucocephalus</i>	T
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	T

E: Endangered

T: Threatened



**Figure 1. Los Angeles Harbor Least Tern**

## **APPENDIX B**

### **NEWSPAPER ANNOUNCEMENT**

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The following Notice of Availability for the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) was published in the *Long Beach Press-Telegram* on December 15, 2003.

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**PUBLIC NOTICE**

**Availability of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Installation and Operation of an Integrated Anti-Swimmer System, San Pedro, CA  
US Coast Guard**

The United States Coast Guard (USCG) is announcing the availability of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the installation and operation of an Integrated Anti-Swimmer System (IAS) in San Pedro, CA. Preparation of the EA is being conducted in accordance with the National Environmental Policy Act (NEPA) of 1969 (Section 102[2][c]) and its implementing regulations at 40 Code of Federal Regulations, Part 1500. The IAS is being fielded to increase the USCG's ability to detect, track, and interdict, if necessary, potential underwater threats and as a result, protect personnel, ships, and property from sabotage or other subversive acts. This system will be a component of and co-located with the San Pedro Maritime Safety and Security Team (MSST). This EA does not analyze the impacts from the stand-up and operation of the MSST. Those were already assessed in the *Environmental Assessment of the Stand-Up and Operation of the Maritime Safety and Security Team San Pedro, California* (October 2003) and were found to have no environmental impact.

In addition to the San Pedro IAS, the USCG is preparing to install and operate additional IASs in other critical ports around the country. Additional NEPA analysis will be prepared for future ports as necessary.

The EA addresses the overall environmental impacts of the installation and operation of the IAS. The system is expected to operate to a depth of 100 feet and will be used at a range necessary to maintain general threat awareness and allow security forces sufficient time to react and counter the threat. Use of the system will be temporary in nature, used for specific and finite periods of time to protect specific assets. No additional personnel or vehicles will be required to support the IAS. No changes to existing infrastructure will be required. No additional patrols over the numbers assessed in the MSST EA are anticipated expect in the event of an elevated threat.

Public input is important in the review of this EA and Draft FONSI. Your concerns and comments regarding the implementation of this IAS and the possible environmental impacts are important to the USCG. You are invited to submit comments by December 31, 2003 using only one of the following means:

- (1) By mail to: Headquarters, U.S. Coast Guard  
Captain K.G. Quigley  
Chief, Office of Defense Operations (G-OPD)  
Room 3121  
2100 Second Street, SW  
Washington, DC 20593
- (2) Or, by fax to CWO Jan Walker (202) 267-4278
- (3) Or by E-mail to [jwalker@comdt.uscg.mil](mailto:jwalker@comdt.uscg.mil)

In choosing among the above means for submitting your comments, please give due regard to the recent difficulties and delays associated with delivery of mail through the U.S. Postal Service to Federal facilities.

Written comments should include your name, address, and the specific port(s) to which the comment relates. The USCG will consider all comments received by December 31, 2003 in the development and completion of this EA.

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## **APPENDIX C**

### **ENVIRONMENTAL REGULATIONS, LAWS, AND EXECUTIVE ORDERS**

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**Table C-1. Applicable Laws, Regulations, and Executive Orders <sup>1</sup>**

Title, Citation	Summary
Archaeological and Historical Preservation Act, 16 U.S.C. 469	Protects and preserves historical and archaeological data. Requires Federal agencies to identify and recover data from archaeological sites threatened by a proposed action(s).
Clean Air Act, 42 U.S.C. 7401-7671q, as amended	Establishes Federal standards for air pollutants. Prevents significant deterioration in areas of the country where air quality fails to meet Federal standards.
Clean Water Act, 33 U.S.C. 1251-1387 (also known as the Federal Water Pollution Control Act)	Comprehensively restores and maintains the chemical, physical, and biological integrity of the Nation’s waters. Implemented and enforced by the U.S. Environmental Protection Agency (USEPA).
Coastal Barrier Resources Act, 16 U.S.C. 3501-3510	Discourages coastal barrier island degradation by prohibiting direct or indirect Federal financial funds (including flood insurance) for development, except for emergency life-saving activities.
Coastal Zone Management Act of 1972, 16 U.S.C. 1451-1464	Establishes a policy to preserve, protect, develop, and where possible, restore and enhance the resources of the Nation’s coastal zone. Encourages and assists states in developing and implementing coastal zone management programs.
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601-9675 (also known as “Superfund”)	Provides for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and cleanup of inactive hazardous substances disposal sites. Establishes a fund financed by hazardous waste generators to support cleanup and response actions.
Deepwater Port Act of 1974, 33 U.S.C. 1501-1524	Assigns responsibility to the Secretary of Transportation to license the construction and operation of all oil and natural gas deepwater ports located beyond the U.S. territorial sea and off the U.S. coast.
Endangered Species Act of 1973, 16 U.S.C. 1531-1543, as amended	Protects threatened, endangered, and candidate species of fish, wildlife, and plants and their designated critical habitats. Prohibits Federal action that jeopardizes the continued existence of endangered or threatened species. Requires consultation with U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration (NOAA) Fisheries and a biological assessment when such species are present in an area affected by government activities.

**Table C-1. Applicable Laws, Regulations, and Executive Orders <sup>1</sup>(continued)**

Title, Citation	Summary
Fish and Wildlife Coordination Act, 16 U.S.C. 661-667e, as amended	Authorizes the Secretaries of Interior and Commerce to provide assistance to and cooperate with Federal and State agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. The 1946 amendments require consultation with the USFWS and the state fish and wildlife agencies involving any waterbodies that are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled or modified by any agency under a Federal permit or license.
Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. 1801-1883, as amended	Establishes regional fisheries councils that set fishing quotas and restrictions in U.S. waters. Requires Federal agencies to consult with NOAA Fisheries on all actions (authorized, funded, or undertaken) that might adversely affect essential fish habitat.
Marine Mammal Protection Act of 1972, 16 U.S.C. 1361-1389, 1401-1407, 1538, 4107	Establishes a moratorium on the taking and importation of marine mammals. Prohibits harassing, hunting, capturing, collecting, or killing of marine mammals or attempting such actions. Requires permits for taking marine mammals. Requires consultations with USFWS and NOAA Fisheries if impacts on marine mammals are possible.
Marine Protection, Research, and Sanctuaries Act of 1972, 33 U.S.C. 1401-1445	Regulates dumping of materials into ocean waters. Provides a permitting process to control ocean dumping of dredged materials. Establishes the marine sanctuaries program.
Maritime Transportation Security Act of 2002, Pub. L. 107-295	Extends the Deepwater Port Act application to include facilities and operations related to natural gas.
Migratory Bird Treaty Act, 16 U.S.C. 703-712	Implements various treaties for protecting migratory birds; the taking, killing, or possession of migratory birds is unlawful.
National Environmental Policy Act of 1969, 42 U.S.C. 4321-4370e, as amended	Requires Federal agencies to use a systematic approach when assessing environmental impacts of government activities. Proposes an interdisciplinary approach in a decision-making process designed to identify unacceptable or unnecessary impacts to the environment.
National Historic Preservation Act, 16 U.S.C. 470-470x-6	Requires Federal agencies to consider the effect of any federally assisted undertaking or licensing on any district, site, building, structure, or object eligible for inclusion, or listed in the National Register of Historic Places (NRHP). Provides for the nomination, identification (through NRHP listing), and protection of significant historical and cultural properties.

**Table C-1. Applicable Laws, Regulations, and Executive Orders <sup>1</sup>(continued)**

Title, Citation	Summary
National Marine Sanctuaries Act, 16 U.S.C. 1431 <i>et seq.</i>	Authorizes the Secretary of Commerce to designate national marine sanctuaries based on statutory criteria and stipulated factors to be considered by the Secretary as a basis for designation. Stipulates consultation requirements with various Federal agencies, Congressional committees, state agencies and regional fishery councils.
Natural Gas Act of 1938, 15 U.S.C. 717	Designates the Federal Energy Regulatory Commission—an independent agency within the Department of Energy—to regulate the transmission and sale of natural gas for resale in interstate commerce.
Natural Gas Pipelines and Safety Act of 1968 and Hazardous Liquid Pipeline Safety Act of 1979, as amended, 49 U.S.C. 601	The Natural Gas Pipelines and Safety Act of 1968 authorizes the Department of Transportation to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas (LNG). The Hazardous Liquid Pipeline Safety Act of 1979 authorizes the Department of Transportation to regulate pipeline transportation of hazardous liquids (crude oil, petroleum products, anhydrous ammonia, and carbon dioxide). Both of these Acts have been recodified as 49 U.S.C. Chapter 601.
Noise Control Act of 1972, 42 U.S.C. 4901-4918	Establishes a national policy to promote an environment free from noise that jeopardizes health and welfare. Authorizes the establishment of Federal noise emissions standards and provides relevant information to the public.
Nonindigenous Aquatic Nuisance Prevention Control Act of 1990, 16 U.S.C. 4701-4751	Establishes aquatic nuisance species.
Northwest Atlantic Fisheries Convention Act of 1995, 16 U.S.C. 5601-5610	Implements provisions of international conventions and establishes regulatory framework.
Occupational Safety and Health Act of 1970, 29 U.S.C. 651-678	Establishes standards to protect workers, including standards on industrial safety, noise, and health standards.
Outer Continental Shelf Lands Act of 1953, 43 U.S.C. 1331-1356, as amended	Defines the Outer Continental Shelf as all submerged lands lying seaward of State coastal waters that are three miles offshore. Delegates leasing authority to the Secretary of the Interior to promulgate regulations in an effort to reduce waste and conserve natural resources.

**Table C-1. Applicable Laws, Regulations, and Executive Orders <sup>1</sup>(continued)**

Title, Citation	Summary
Port and Waterways Safety Act, 33 U.S.C. 1221-1232	Sets boat operating and towing safety requirements and established enforcement provisions. Authorizes the U.S. Coast Guard (USCG) to establish vessel traffic service/separation schemes for ports, harbors, and other waters subject to congested vessel traffic.
Resource Conservation and Recovery Act, 42 U.S.C. 6901-6992k	Establishes requirements for safely managing and disposing of solid and hazardous waste and underground storage tanks.
Executive Order (EO) 12372, <i>Intergovernmental Review of Federal Programs</i> , July 14, 1982, 47 FR 30959 (6/16/82), as supplemented	Requires Federal agencies to consult with state and local governments when proposed Federal financial assistance or direct Federal development impacts interstate metropolitan urban centers or other interstate areas.
EO 12898, <i>Environmental Justice</i> , February 11, 1994, 59 FR 7629 (2/16/94), as amended	Requires certain Federal agencies, to the greatest extent practicable permitted by law, to make environmental justice part of their missions by identifying and addressing disproportionately high and adverse health or environmental effects on minority and low-income populations.
EO 13089, <i>Coral Reef Protection</i> , June 11 1998, 64 FR 232 (12/3/99)	Mandates that all Federal agencies whose actions may affect U.S. coral reef ecosystems (1) identify their actions that may affect U.S. coral reef ecosystems; (2) use their programs and authorities to protect and enhance the conditions of such ecosystems; and (3) to the extent permitted by law, ensure that any actions they authorize, fund, or carry out will not degrade the conditions of such ecosystems. Federal agencies shall, subject to the availability of appropriations, provide for the implementation of measures needed to research, monitor, manage, and restore affected ecosystems, including measures reducing impacts from pollution, sedimentation, and fishing.
EO 13148, <i>Greening the Government Through Leadership in Environmental Management</i> , April 21, 2000, 65 FR 24595 (4/26/00)	Designates the head of each Federal agency to ensure that all necessary actions are taken to integrate environmental accountability into agency day-to-day decision making and long-term planning processes, across all agency missions, activities, and functions. Establishes goals for environmental management, environmental compliance, right-to-know (informing the public and their workers of possible sources of pollution resulting from facility operations) and pollution prevention, and similar matters.
EO 13175, <i>Consultation and Coordination with Indian Tribal Governments</i> , November 6, 2000, 65 FR 67249 (11/09/00)	Requires Federal agencies to establish an accountable process that ensures meaningful and timely input from tribal officials in developing policies that have tribal implications.

**Table C-1. Applicable Laws, Regulations, and Executive Orders <sup>1</sup>(continued)**

Title, Citation	Summary
EO 13186, <i>Responsibilities of Federal Agencies to Protect Migratory Birds</i> , January 10, 2001, 66 FR 3853 (1/17/01)	Requires each agency to ensure that environmental analyses of Federal actions (required by the National Environmental Policy Act or other established environmental review processes) evaluate the effects of actions and agency plans on migratory birds, emphasizing species of concern. Agencies must support the conservation intent of migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities, and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.
EO 11593, <i>Protection and Enhancement of the Cultural Environment</i> , May 13, 1971, 36 FR 8921 (5/15/71)	Requires all Federal agencies to locate, identify, and record all cultural resources, including significant archaeological, historical, or architectural sites.

<sup>1</sup> This table only reflects those laws and EOs that may reasonably be expected to apply to the Proposed Action and alternatives.

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## **APPENDIX D**

**USCG OCEAN STEWARD; PROTECTED LIVING MARINE RESOURCES  
PROGRAM; AND PARTICIPATION IN THE MARINE SANCTUARIES PROGRAM**

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U.S. Department  
of Transportation

United States  
Coast Guard



Commandant  
United States Coast Guard

2100 Second Street, S.W.  
Washington, DC 20593-0001  
Staff Symbol: G-OPL-4  
Phone: (202) 267-2041  
FAX: (202) 267-4082

16214

SEP 28 2000

## LETTER OF PROMULGATION

From: Commandant  
To: Distribution

1. Protecting our nation's natural resources is one of the Coast Guard's five strategic goals. Along with Maritime Safety, Maritime Security, Maritime Mobility, and National Defense, Protection of Natural Resources is one of the basic reasons the taxpayers fund the Coast Guard each year. Hence, it is one of the outcomes to which our entire organizational effort – programs, policies, and assets – should be dedicated. In our Strategic Plan 1999, I defined the Protection of Natural Resources Strategic Goals as "the elimination of environmental damage and natural resource degradation associated with all maritime activities." A vital aspect of achieving this goal is helping the nation recover and maintain healthy populations of marine protected species. OCEAN STEWARD is our strategic plan for making that happen.

2. OCEAN STEWARD provides the emphasis operational commanders, training commands, and administrative staffs need to prioritize and execute this increasingly important mission. The core idea behind OCEAN STEWARD is the premise that all of us, as members of the Coast Guard, have a responsibility to be good stewards of the ocean. If we adhere to this premise as individuals, then the Coast Guard, as an organization, will make great progress toward achieving OCEAN STEWARD's objectives.

3. As we enter the 21<sup>st</sup> century, our nation is becoming increasingly concerned about the ocean and the state of its living marine resources. Coast Guard leadership in protecting marine species, however, is nothing new; it dates back as far as the Fur Seal Act of 1897. The Coast Guard remains committed to continuing that tradition of leadership, and OCEAN STEWARD is your guide in this important endeavor.

A handwritten signature in black ink, appearing to read "James H. Loy".

**JAMES H. LOY**

Encl: (1) OCEAN STEWARD, Protected Living Marine Resources Strategic Plan

Dist: CG LANTAREA (A, Am, Ao), CG PACAREA (P, Pm, Po), CG DISTRICTS (d, m, o), CG ACADEMY, CG INSTITUTE, CG TRACEN Yorktown, CG TRACEN Cape May, CG TRACEN Petaluma, CG PACAREA TRATEAM, CG RFTC Cape Cod MA, CG RFTC Charleston SC, CG RFTC New Orleans LA, CG RFTC Kodiak AK, CG R&DC



## COMMANDANT'S PREAMBLE

The Coast Guard's Strategic Plan 1999 states the nation's waterways and their ecosystems are vital to our economy and health. This is why we made the protection of natural resources, specifically the elimination of environmental damage and natural resource degradation associated with maritime activities, one of our five strategic goals, and made enforcing the federal regulations that result in all living marine resources achieving healthy, sustainable populations one of our performance goals. We already have formal plans in place to help us achieve some of these goals, particularly in the areas of pollution response and fisheries law enforcement. However, if we are to fully achieve our protection of natural resources strategic goal, we must become more involved in the efforts to recover and maintain our nation's marine protected species and the habitats on which they depend.

In recent years, there has been a dramatic increase in public and governmental concern about the state of our oceans and their living resources. Evidence of this includes:

- Increasing fishery management measures designed to reduce bycatch of non-targeted species, such as turtle excluder devices (TEDs), fixed-net pingers, and bycatch reduction devices (BRDs).
- Rising conflicts between advocates for species protection and resource users, such as those existing between Steller sea lion protection advocates and Bering Sea/Gulf of Alaska pollock fishers, and between northern right whale protection advocates and New England fixed gear fishers.
- The recent formation of federal and state government task forces to protect coral reefs, northern right whales, Pacific salmon, and other endangered species.
- National Marine Fisheries Service Report to Congress (1999) concluding, of the 230 stocks for which the status can be determined, 98 are overfished and five are approaching overfished - an increase from 86 overfished stocks in 1997 and 90 in 1998.
- Fisheries closures and restrictions in the Gulf of Maine and the West Coast that have had a devastating economic impact on groundfish fleets.
- Increasing litigation against government agencies (including the Coast Guard) by organizations trying to influence marine resource management policy.
- Funding for the Lands Legacy Initiative, which included \$27 million to protect ocean and coastal resources in FY 2000 and a request for \$266 million for FY 2001.
- The recent signing, by President Clinton, of Executive Order 13158, strengthening and expanding the nation's system of marine protected areas (MPAs).

The Coast Guard already has effective, coordinated strategies for enforcing our nation's fisheries management regulations, protecting the marine environment from oil pollution, and responding to maritime disasters. However, our approach to marine protected species (MPS), specifically those species and geographic areas that are protected under the Endangered Species Act, the Marine Mammal Protection Act, the National Marine Sanctuaries Act, or similar regulations or executive orders, is less clearly defined. Problems resulting from this include:

- Initial delay in establishing a coordinated plan for accomplishing assigned Atlantic Protected Living Marine Resources Initiative (APLMRI) tasks.

- Difficulty in addressing potential conflicts between high-speed craft and marine protected species in New England.
- Low funding priority for funding assessments to address the impact Coast Guard operations have on marine protected species throughout the Pacific Area.
- Inconsistency in handling cross-directorate MPS issues such as working with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) on marine mammal protection initiatives and responding to the Coral Reef Initiative (Executive Order 13089).
- Working level frustration with lack of guidance for dealing with endangered species lawsuits, creation of Memorandums of Understanding (MOU) with NMFS, potential regulation of high-speed craft and whale watch industry vessels, and other MPS issues.

A robust ocean environment is essential to our nation's prosperity, and healthy populations of marine protected species are essential to maintaining a robust ocean environment. Just as protecting our water and air became top national priorities during the last decades of the 20<sup>th</sup> century, protecting our oceans is becoming a top priority of the 21<sup>st</sup> century. In the coming years, the nation will look for leaders to exercise responsible stewardship of our ocean resources. The Coast Guard is stepping forward and embracing this role, it is one of the most important roles we will ever undertake.

## OCEAN STEWARD PURPOSE

The purpose of Ocean Steward is to help the Coast Guard achieve its strategic goal Protection of Natural Resources and its performance goal of enforcing federal regulations that result in all living marine resources achieving healthy, sustainable populations. Ocean Steward provides a clearly defined strategy for our role in helping the nation recover and maintain healthy populations of marine protected species; it captures the things we are already doing and provides a comprehensive list of objectives we can achieve if we are provided the necessary resources. Ocean Steward complements our fisheries enforcement strategic plan, Ocean Guardian. Together, Ocean Steward and Ocean Guardian provide a roadmap for the Coast Guard's efforts in ensuring our nation's waterways and their ecosystems remain productive by protecting all our nation's living marine resources from degradation.

### COAST GUARD STRATEGIC GOAL: PROTECTION OF NATURAL RESOURCES

*Eliminate environmental damage and natural resource degradation associated with all maritime activities*

The nation's waterways and their ecosystems are vital to our economy and health. If the United States is to enjoy a rich, diverse and sustainable ocean environment, then we must halt the degradation of our ocean's natural resources associated with maritime activities. This includes ensuring our country's marine protected species are provided the protection necessary to help their populations recover to healthy, sustainable levels. Providing adequate protection will require the United States to enact and enforce a wide range of regulations to govern marine resource management and use. Ocean Steward will enable the Coast Guard, as the nation's primary at sea law enforcement agency, to develop and enforce those regulations necessary to help recover and maintain our country's marine protected species. Moreover, Ocean Steward will ensure the Coast Guard is viewed as a leader in regional, national and international efforts to protect the nation's marine ecosystems.

### OCEAN STEWARD VISION STATEMENT

*The Coast Guard will be a leader in the effort to recover and maintain our nation's marine protected species*

## OCEAN STEWARD MISSION STATEMENT

***We will enforce and comply with marine protected species regulations, work with other agencies and organizations to develop appropriate regulations for marine protected species recovery, and publicize our efforts to gain the support and resources necessary to fully implement Ocean Steward***

The Coast Guard will implement a formal MPS strategy, Ocean Steward, with a clear, focused vision. We will educate and train our members to make certain every individual understands that stewardship of the ocean environment is a fundamental part of their duty. We will use existing enforcement authorities, and seek new authorities as necessary, to help reduce the risks of extinction and recover marine protected species populations. We will conduct our own operations so as to minimize our impact on marine protected species. We will assess the impact on marine protected species when developing both internal and external regulations and policies. We will work closely with other federal, state and local governments, as well as environmental and research organizations, to carry out the nation's MPS policies. We will inform the public of both the importance of the mission and the ways in which they can help lessen the impact of human activities on marine protected species. We will widely publicize our strategy and results to inform policymakers and the public of the value of our MPS efforts.

## GUIDING PRINCIPLE

***We are Stewards of the Ocean***

The guiding principle behind Ocean Steward is instilling in every member of the Coast Guard the belief that each individual is a steward of the ocean. This concept must be promoted throughout the entire organization. Our training commands – Training Center Cape May, the Coast Guard Academy, Training Center Yorktown, Training Center Petaluma, and the Regional Fisheries Training Centers – should produce graduates who understand and believe preservation of marine protected species is a fundamental Coast Guard responsibility. Our boarding officers and marine inspectors should know, and want to know, what marine protected species exist in their AORs, the regulations that exist to protect them, and how his or her actions can promote species recovery. Our operations and marine safety units should know, and want to know, the concerns of federal, state and local officials, and should work cooperatively with them. Our stations, cutters and marine safety offices should distribute appropriate educational literature. At every opportunity Coast Guard personnel should let the public know we are on watch protecting their oceans and waterways, and inform them of what they can do to help eliminate the degradation of natural resources associated with maritime activities. Our deck watch officers, aircrews and coxswains should be able to recognize the marine protected species they are likely to

encounter and report sightings to interested organizations. Our staff officers and port operations personnel should ensure, and want to ensure, recovery of marine protected species is taken into account when making policy decisions, and they should prioritize the workloads of their personnel to reflect this emphasis. In short, every member of the Coast Guard must think of himself or herself as a steward of the ocean. Committing to that, both organizationally and individually, we will enable us to reach our overarching Protection of Natural Resources strategic goal.

## OCEAN STEWARD STRATEGIES

**Raise the Profile of the MPS Mission:** We will raise the profile of the MPS mission to the status of missions such as maritime drug interdiction, marine pollution prevention and fisheries enforcement.

**Obtain Necessary Resources and Authorities:** We will prioritize existing resources, use existing authorities, and seek additional resources and authorities as necessary to implement Ocean Steward.

**Partner with Other Agencies:** We will work closely with other agencies and organizations involved in the preservation and recovery of marine protected species to eliminate redundancy, and provide a clear link between enforcement and management.

**Publicize Our Efforts:** We will stress the importance of the Coast Guard's role as part of a comprehensive management scheme and highlight our successful efforts to the public.

Each of these strategies contains sets of near, mid, and long-term objectives. Near-term objectives are those that can be achieved without a major reallocation of resources. Mid-term objectives require addition resources or a significant reallocation of resources. Long-term objectives are those objectives that will require institutional changes such as seeking additional authorities or creation of program offices.

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### STRATEGY: RAISE THE PROFILE OF THE MPS MISSION

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#### 1. DISCUSSION

If the Coast Guard is to be truly committed to protecting the ocean and its resources, then, in the eyes of our own people, recovery of marine protected species must be just as important as traditional missions such as maritime drug interdiction, marine pollution prevention, and fisheries enforcement. We must go beyond development of single initiatives in response to pressure or crisis. We should approach MPS issues with the same proactive, integrated, long-term strategy we use for addressing counterdrug operations, fisheries law enforcement, and commercial vessel safety. Every member of the Coast Guard must know it is part of our job to help recover and maintain our marine

protected species, just as they know it is our job to rescue those in distress. If we understand this concept individually, we will certainly convey that image organizationally.

## 2. KEY OBJECTIVES

### a. Near Term

1) Incorporate MPS issues into CG performance planning.	G-CCS
2) Develop Area and District MPS operating and enforcement guidance.	G-O/Areas/ Districts
3) Emphasize area specific MPS issues in the curriculum of all 5 Regional Fisheries Training Centers (RFTC).	G-O/G-W/ Areas/RFTCs
4) Identify ways to increase CG Auxiliary participation in MPS mission.	G-O
5) Identify ways to increase focus on MPS issues in Sea Partners program.	G-M
6) Measure the effectiveness of current MPS initiatives such as compliance with the Mandatory Ship Reporting System (MSR) and manatee speed zone regulations.	G-O
7) Designate MPS points of contact (POC) at HQ/Areas/Districts, and create a CG network for information flow on MPS issues.	G-O/Areas/ Districts

### b. Mid Term

1) Increase Endangered Species Act/Marine Mammal Protection Act enforcement pulse ops during critical seasons.	G-O/Areas/ Districts
2) Ensure current and potential MPS missions (patrol of remote coral reefs, removal of derelict fishing gear, assisting in disentanglement of whales, etc.) are included in Deepwater decision making process.	G-O
3) Increase CG participation in environmental cleanup events such as the Center for Marine Conservation's annual International Coastal Clean Up.	G-M/G-O
4) Incorporate MPS mission into curriculum of all entry-level and accession training programs (e.g., Officer Candidate School, the Academy, Cape May, and Civilian Indoctrination).	G-W
5) Incorporate MPS issues into International Maritime Officers Course and Mobile Training Teams.	G-CI
6) Designate MPS POC at appropriate CG units.	Districts
7) Include MPS guidance in Maritime Law Enforcement Manual updates.	G-O
8) Include MPS guidance in Marine Safety Manual updates.	G-M

c. Long Term

1) Create HQ cross-directorate MPS office.	G-M/G-O
2) Incorporate MPS questions into Servicewide Examinations.	G-W
3) Add MPS material to appropriate A School curricula (e.g., BM, QM, and MST).	G-W
4) Add MPS material to appropriate C School curricula (e.g., Boarding Officer Course, Boarding Team Member Course, and Marine Safety Petty Officer Course).	G-W

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**STRATEGY: OBTAIN NECESSARY RESOURCES AND AUTHORITIES**

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1. DISCUSSION

As national sentiment builds for increasing the protection of our oceans, the Coast Guard should be at the top of the list of agencies that the public demands to be adequately funded. We should reinforce this by documenting our need for, and requesting, the additional resources required to meet the increasing enforcement and regulatory demands in the oceans environment. The public must view the Coast Guard as a leader in preserving our oceans and their protected species. When it is the right thing to do, we should seek to expand our enforcement and regulatory roles, and not shy away for fear of acquiring additional mandates or becoming the target of legal action. If we can be leaders in maritime search and rescue, drug interdiction and pollution prevention, then we can also become leaders in the recovery of marine protected species.

2. KEY OBJECTIVES

a. Near Term

1) Request funding for implementation of Ocean Steward through annual budgeting and resource allocation processes.	G-I/G-M/ G-O/G-
2) Include resource hour requests for implementation of Ocean Steward in input to the annual Operational Guidance letter.	G-O/Areas
3) Assess the need for more enforcement authority to protect resources of various marine protected areas and sanctuaries.	G-I/G-M/ G-O
4) Monitor and evaluate effectiveness of the Mandatory Ship Reporting System (MSR).	G-M/G-O
5) Monitor R&D efforts to develop new technologies for marine mammal detection and avoidance in order to plan for possible acquisition of feasible technologies.	G-O/G-S

b. Mid Term

1) Develop better measures of effectiveness for MPS enforcement efforts.	G-O
2) Support Resource Proposals that address requirements for MPS activities.	G-CCS
3) Allocate resources required to implement Ocean Steward in the annual Operational Guidance letter.	G-O
4) Propose statutory changes and new regulations to improve CG ability to support the nation's MPS objectives.	G-L/G-M/ G-O

c. Long term

1) Consider seeking expanded authority for regulation of vessels in order to protect marine protected species.	G-L/G-M/ G-O
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**STRATEGY: PARTNER WITH OTHER AGENCIES AND ORGANIZATIONS**

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1. DISCUSSION

Our leadership should seek opportunities to help recover and maintain the nation's marine protected species (MPS) by working more closely with the National Oceanic and Atmospheric Administration (NOAA), the National Marine Fisheries Service, the National Marine Sanctuaries (NMS), the U.S. Fish and Wildlife Service, the Department of State, the Department of Defense, state and local governments, non-governmental organizations, industry, research institutions, and international organizations. We should partner with concerned agencies and organizations to ensure MPS issues are considered whenever agencies propose new regulations. We should work closely with NOAA, NMFS, the NMS, state and local governments, and international organizations to ensure we are doing all we can to provide enforcement for various marine protected areas, and to assist them with their education and outreach initiatives. We should reach out to other management agencies and research institutions to assist in providing the data needed to answer important questions about marine protected species.

## 2. KEY OBJECTIVES

### a. Near Term

1) Maximize assistance to NMFS in investigation and prosecution of protected MPS incidents.	G-O
2) Work closely with NMFS on MPS issues such as fishing gear conflicts, vessel traffic management, and bycatch reduction.	G-M/G-O
3) Work closely with the Navy to monitor research and development efforts to use acoustics for tracking and avoiding endangered whales.	G-O/G-C
4) Use MOUs, as appropriate, to define relations with the National Marine Sanctuaries and other marine protected areas.	G-L/G-M/ G-O
5) Engage other agencies in a discussion of remote marine protected areas.	G-M/G-O
6) Increase our role in federal and international recovery teams and task forces (e.g., the Coral Reef Task Force, the Manatee Recovery Team, and Right Whale Recovery Plan Implementation Teams).	G-M/G-O
7) Emphasize ship-riding opportunities for NMFS and NMS personnel on CG fisheries/MPS patrols.	G-O

### b. Mid Term

1) Establish a senior officer liaison billet to NOAA to increase CG input and interaction in developing MPS issues and regulations.	G-M/G-O
2) Establish a senior officer liaison billet to Council on Environmental Quality (CEQ).	G-M/G-O
3) Create opportunities for undergraduate/graduate level marine affairs students to experience CG fisheries and MPS operations.	G-O

### c. Long term

1) Consider engaging other agencies in joint rulemaking for MPS regulations.	G-L/G-M
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## STRATEGY: PUBLICIZE OUR EFFORTS

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### 1. DISCUSSION

The Coast Guard already has many marine protected species success stories to tell. We are partnering with the USFWS to educate the boating public and reduce manatee deaths by enforcing speed zone regulations in Florida. We are working closely with NMFS and environmental agencies to help protect the highly endangered northern right whale. In Hawaii, we remove tons of derelict fishing nets from coral reefs that are critical habitat of the endangered Hawaiian monk seal. Conducting this work, however, is only half of the job.

If the public is to perceive us as stewards of the ocean, then we must highlight our efforts and successes to the press and the public at every opportunity. Local units need to let communities know what we are doing to protect their waters. Districts should emphasize the importance of our MPS mission in maintaining healthy, sustainable ecosystems. Area and Headquarters staffs must cultivate relationships with the press, civic leaders, stakeholders and legislators to ensure they are aware of the valuable work the Coast Guard is doing. The public must recognize we are the nation's most valuable maritime asset in the effort to protect and sustain our oceans and their resources. The more we are seen taking positive, decisive action and producing good results, the more the public will demand we be properly resourced to perform this vital mission.

## 2. KEY OBJECTIVES

### a. Near Term

1) Maximize publicity of cooperative MPS efforts with federal and state agencies and non-governmental organizations.	G-I/G-L/ G-M/G-O
2) Maximize publicity of Sea Partners MPS initiatives.	G-I/G-M
3) Use inspections and examinations as opportunities to provide MPS information packages to vessels.	G-M/G-O

### b. Mid Term

1) Use publicity to generate interest in, and develop ideas for, future marine environment cleanups and other initiatives.	G-I
2) Optimize publicity of CG role in MPS task forces.	G-I
3) Maximize publicity of CG Auxiliary public education efforts in MPS identification, sensitivity, and avoidance measures.	G-I/G-O

### c. Long term

1) Develop an interactive forum for public comment and ideas regarding MPS protection.	G-I
2) Raise the profile of the MPS mission to attract recruits with interest in environmental issues.	G-W

## **APPENDIX E**

### **NOAA CONSULTATION SUMMARY**

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**17 FEB 2005**

Ms. Laurie Allen  
Director, Office of Protected Resources, National Marine Fisheries Service  
National Oceanic and Atmospheric Administration  
1315 East-West Highway  
Silver Spring, Maryland 20910

Subject: Environmental Assessments of the Operation of an Integrated Anti-swimmer System  
Galveston, Texas and San Pedro, California

Dear Ms. Allen:

The United States Coast Guard (USCG) has prepared draft Environmental Assessments (EAs) for the operation of an Integrated Anti-swimmer System (IAS) in San Pedro, California and Galveston, Texas and is preparing a Programmatic Environmental Assessment (PEA) for operation of the IAS at various other ports around the country. Preparation of the EAs and PEA is being conducted in accordance with the National Environmental Policy Act (NEPA) of 1969 (Section 102[2][c]) and its implementing regulations (Title 40 Code of Federal Regulations, Part 1500), and USCG policy (Commandant's Instruction M16475.1D, Procedures for Considering Environmental Impacts).

The purpose of the Proposed Action is to increase the Coast Guard's ability to detect, track and interdict, if necessary, potential underwater threats and as a result, protect personnel, ships, and property from sabotage and/or other subversive acts. The IAS will be co-located with, and used by, the Coast Guard's newly established Maritime Safety and Security Teams (MSSTs). These EAs and the PEA do not analyze the impacts from the stand-up and operation of the MSSTs. Those impacts are the subject of already completed or ongoing EAs. To date, no significant environmental impact has been identified as a result of MSST stand-up and operations. The IAS is not duplicative of existing protective measures, but provides complimentary, non-redundant capabilities that close significant readiness gaps in the nation's ports.

The IAS is comprised of three separate components that may cause underwater noise: the Kongsberg SM 2000 sonar (SM 2000), the Dual High Frequency Identification Sonar (DIDSON), and the underwater loud hailer. Information regarding the frequency and source level for each of these sources is found in the EAs and the PEA. Each EA provides detailed information regarding the region of influence for their discrete locations. The PEA addresses environmental impacts of IAS deployment on a more global scale.

In order to fully understand the potential impacts of IAS deployment, the Coast Guard submitted draft copies of the San Pedro and Galveston IAS EAs to NOAA regional offices and Headquarters for comment. Our primary concern was to determine whether the operation of the IAS was likely to adversely affect species listed under authority of the Endangered Species Act or whether takes of non-listed marine mammals were likely under the Marine Mammal Protection Act.

As required by the ESA section 7(a)(2), consultation is required where a federal activity may affect listed or threatened species or adversely modify critical habitat. In a letter dated 15 April 2004 from the NMFS Southeast Regional Office to the Coast Guard, your agency concurred with the Coast Guard's determination that operation of the IAS in the Galveston area will not likely adversely affect endangered and threatened species under the purview of NOAA Fisheries. No critical habitat is present; therefore, none will be affected. In a letter dated 8 January 2004, the NMFS Southeast Regional Office also concurred with the Coast Guard's determination that operation of the IAS would not have adverse impacts on Essential Fish Habitat. Based on the results of the Galveston EA, the Coast Guard has made an agency determination that IAS operation is unlikely to take marine mammals. Page three (3) below describes the relevant criteria that lead to that determination.

The Coast Guard and NMFS have engaged in a lengthy informal consultation process, which is documented in enclosure (1). As a result of those consultations, the Coast Guard incorporated recommendations from NMFS into the EAs and PEA that help to insure the IAS will not result in takes of marine mammals, adversely affect listed species or essential fish habitat. The Coast Guard's standard operating procedures include the following protocols as recommended by NMFS:

- USCG personnel will monitor the IAS at all times of deployment.
- If IAS is deployed and marine mammal activity is noted which may approach or enter the 160 dB isopleth (200 meter precautionary zone), the operational commander will take prudent measures to avoid impacting the wildlife which, situation permitting, may include shutting down the system.
- When conducting training activities, if marine mammals are detected which may approach or enter the 160 dB isopleth (200 meter precautionary zone), the loud hailer shall not be energized until the marine mammals have left the IAS 200 meter precautionary zone.
- As there is no warm-up period for the SM 2000, the precautionary zone will be visually monitored for 20 minutes prior to turning on the device to be sure it is clear of marine mammals. If the SM 2000 is started during nighttime, night vision devices will be used to monitor the safety zone.
- Barring exceptional circumstances that require such deployment, the IAS will not be placed in a location such that it interferes with obvious marine mammal throughways, or prevents entry or exit of marine mammals into and out of an area, e.g., the mouth of a bay or narrow choke-points, where sonar may deter them from traveling through or by.
- Continued implementation of existing USCG programs to guard against adverse impacts to marine mammals, e.g., the Ocean Steward Plan.

I wish to convey that the IAS is a linchpin in the Coast Guard's strategy to provide the United States with credible assets that allow us to deter, detect and interdict threats to our critical port infrastructure. However, as an environmental law enforcement agency, we also take our duties of environmental stewardship very seriously. The Coast Guard values NOAA's expertise in the study of effects of anthropogenic underwater noise on marine mammals, listed species and other marine species. Our agencies have a long history of supporting each other in the conservation of marine species as is highlighted by recent collaboration in North Atlantic right whale disentanglement operations.

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To summarize, the result of the Coast Guard's environmental analysis on the deployment of IAS in the subject areas indicates that such deployment would not have a significant impact on marine mammals, listed species or essential fish habitat. The relevant criterion that leads to this conclusion includes:

- The Coast Guard's intent to use the IAS only to protect human life on moored ships or existing, critical infrastructure/facilities; i.e., IAS is not intended for operations in open ocean environments.
- The significant benefit to the public health and welfare that prevention of a terrorist attack will convey.
- The significant benefit to the environment that prevention of a terrorist attack will convey.
- The temporary duration of the IAS mission at any specific location.
- The IAS will be monitored at all times during operation.
- The SM 2000 and the DIDSON components of the IAS operate at a frequency generally beyond the hearing of most marine mammals, listed species and fish species.
- The location of the IAS sound head in the water (directly connected to a pier or other shoreside fixture) limits potential encounters by marine mammals.
- The limited geographic zone of potential impact from the sound head (approximately 200 meters) where the high frequency sonar noise may fall within the hearing range of some marine mammals and fish.
- The operation of the loud hailer will only occur where a specific threat has been identified and will be a temporary and transient source of sound.
- The limited and tightly controlled use of the underwater loud hailer and the response boat sonar (use only where a specific threat is identified).

The Coast Guard, in submitting the two EAs, requests your agency's concurrence with the following: (1) Deployment of the IAS in the areas described by the respective EAs will not have a significant impact on the marine environment; (2) Deployment of the IAS in the region of influence as described in the San Pedro EA is not likely to adversely affect threatened or endangered species nor will it destroy or adversely modify designated critical habitat; and (3) Deployment of the IAS as described in the EAs is unlikely to take marine mammals.

The Coast Guard values your Agency's expertise regarding the environmental impacts of sound in the water on marine mammals. If NOAA HQ has additional recommendations it is essential that we receive them not later than 30 days from receipt of this correspondence. The United States' maritime security interest requires the Coast Guard to move forward with urgency on this matter.

17 FEB 2000

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If you have questions regarding this letter contact Mr. Ken McDaniel at (202) 267-2039 or Ms. Kebby Kelley at (202) 267-6034 for questions about the EAs and the PEA.

Sincerely,



K.G. QUIGLEY  
Captain, U.S. Coast Guard  
Chief, Office of Defense Operations

Enclosure: (1) *Communication History between USCG and NOAA Fisheries*  
(2) DRAFT – Preliminary Final - *Environmental Assessment of the Installation and Operation of an Integrated Anti-Swimmer System, Galveston, Texas*  
(3) DRAFT – Preliminary Final - *Environmental Assessment of the Installation and Operation of an Integrated Anti-Swimmer System, San Pedro, California*

Communication History between USCG and NOAA Fisheries for the Environmental Assessments of the Operation of an Integrated Anti-Swimmer System Galveston, Texas and San Pedro, California					
Date	To	From	Type	Re:	Notes
January 27, 2004	USCG	NOAA SW Region	Letter	San Pedro EA	Indicated the IAS may require a permit under MMPA.
February 14, 2004	USCG	NOAA SE Region	Letter	Galveston EA	Responded to a review of the Draft EA and Suggested an MMPA permit might be required. The letter suggested contacting Ken Hollingshead at NOAA HQ.
April 28, 2004	NOAA HQ	e <sup>2</sup> M	Documents	San Pedro and Galveston EAs	USCG's consultant (e <sup>2</sup> M) sent (via Federal Express) copies of the Draft San Pedro and Galveston IAS EAs to Ken Hollingshead at NOAA HQ for MMPA review.
April 29, 2004	NOAA HQ	e <sup>2</sup> M	Email	NOAA HQ MMPA Review	Request to confirm receipt of the documents sent overnight mail on April 28, 2004. (No Response)
May 5, 2004	NOAA HQ	e <sup>2</sup> M	Email	NOAA HQ MMPA Review	Second email requesting confirmation of the documents sent on April 28, 2004
May 12, 2004	e <sup>2</sup> M	NOAA HQ	Email	Data Request	Sarah Hegadorn requested a copy of the U.S. Navy Underwater Swimmer Detection System EA referenced in the IAS EAs.
May 12, 2004	NOAA HQ	e <sup>2</sup> M	Email	document	With concurrence from USCG e <sup>2</sup> M forwarded the Navy EA to NOAA staff in an email.
May 14, 2004	USCG	NOAA SW Region	Letter	San Pedro EA	Provided some comments on the Draft reports and formally deferred the Marine Mammal Permit issue to NOAA HQ.
June 17, 2004	NOAA HQ	e <sup>2</sup> M	Phone	NOAA HQ MMPA Review	Request for status of NOAA review. NOAA suggested potential mitigation. NOAA HQ staff gave no formal schedule for providing comments.
June 24, 2004	NOAA HQ - Ken Hollingshead	USCG - Bill Nagy	Phone	NOAA HQ MMPA Review	USCG requested update on status of NOAA review. Ken Hollingshead provided some details of NOAA review process and deferred specific comments to Sarah Hegadorn.
June 28, 2004	NOAA HQ Sarah Hegadorn	USCG - Kebby Kelly	Phone	NOAA HQ MMPA Review	Conversation regarding status of NOAA HQ review and need for MMPA permits. Questions from NOAA prompted scheduling a conference call for July 1.

<p align="center"><b>Communication History between USCG and NOAA Fisheries for the Environmental Assessments of the Operation of an Integrated Anti-Swimmer System Galveston, Texas and San Pedro, California</b></p>					
<b>Date</b>	<b>To</b>	<b>From</b>	<b>Type</b>	<b>Re:</b>	<b>Notes</b>
July 1, 2004	NOAA HQ	USCG	Conference Call	NOAA HQ MMPA Review	<p>Participants included: Kebby Kelly (G-SEC-3), Bill Nagy (G-OPD), LT Curtis Borland (G-LEL), and Zante Capuno (G-SEC-3) from USCG; Alan Finio and Don Beckham from e2M; and on the phone at NOAA, Ken Hollingshead, Sara Hegadorn, Monica DeAngelis and representatives of NOAA's NEPA compliance group and acoustical lab.</p> <p>USCG answered several question from NOAA Fisheries to clarify information in the Draft EAs. NOAA indicated that a permit might not be required for the operation of the IAS in Galveston and San Pedro IAS. NOAA did indicate that they might require some type of nationwide permit action after they review the draft Programmatic IAS EA (PEA) (on hold for resolution of this issue). When pressed by USCG, NOAA indicated that they would have a written decision and comments to USCG within three weeks [on or before July 22, 2004].</p>
July 28, 2004	NOAA HQ – Sarah Hegadorn	USCG – Kebby Kelly	Phone	NOAA HQ MMPA Review	USCG requested a status for NOAA's comment letter. Sarah Hegadorn said all of her supervisors were in CA and NOAA would not have the letter ready for 2 weeks.
August 3, 2004	NOAA HQ	USCG	Call	NOAA HQ MMPA Review	Bill Nagy called NOAA Fisheries and requested a status of the comment letter. NOAA Fisheries told Mr. Nagy that letters of "no take" for the Galveston and San Pedro IAS EAs was drafted and were in NOAA Fisheries internal review process, and could be expected soon.
August 23, 2004	NOAA HQ	USCG	Call	NOAA HQ MMPA Review	Bill Nagy called NOAA Fisheries and requested a status of the comment letter.

<p align="center"><b>Communication History between USCG and NOAA Fisheries for the Environmental Assessments of the Operation of an Integrated Anti-Swimmer System Galveston, Texas and San Pedro, California</b></p>					
<b>Date</b>	<b>To</b>	<b>From</b>	<b>Type</b>	<b>Re:</b>	<b>Notes</b>
August 23, 2004	USCG	NOAA HQ	Email	NOAA HQ MMPA Review	<p>From Sarah Hegadorn (NOAA) stating that "The letter of 'no take' for the Galveston IAS is complete. Ken [Hollingshead] has reviewed it and approved it. It is with our General Counsel now. We are making a separate letter of 'no take' for San Pedro - we have to respond to each project location separately."</p> <p>Email unofficially outlined four conditions that NOAA Fisheries feels should be implemented in order to ensure that no takes of marine mammals would occur. These conditions have been incorporated into the San Pedro and Galveston IAS EAs, with additional language necessary to protect the integrity of the IAS mission and emphasize the importance of the IAS to port security strategies.</p> <p>This email included a question regarding the attenuation of sound levels from the IAS. It should be noted that this question was asked almost 4 months after Ken Hollingshead received the Draft EAs for review. At the request of Bill Nagy, e2M developed a response to NOAA's question</p>
August 27, 2004	NOAA HQ	USCG	Email	Document	USCG forwarded its response to Sarah Hegadorn's August 23, 2004 email question.

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