Southeast Alaska Acoustic Measurement Facility

Ketchikan, Alaska

Integrated Natural Resources Management Plan

Commander, Navy Region Northwest

United States Navy Signature Page

This Integrated Natural Resources Management Plan is a long-term planning document to guide Southeast Alaska Acoustic Measurement Facility (an outlying property to Naval Base Kitsap) in the management of natural resources to support its military mission, while protecting and enhancing natural resources for multiple uses, sustainable yield, and biological integrity. The primary purpose of the plan is to ensure natural resources management and military operations are integrated and consistent with legal requirements and stewardship. This plan and the use of the natural resources complies with the legal mandates and, to the extent practicable, is integrated with public ecosystem goals.

The Southeast Alaska Acoustic Measurement Facility Integrated Natural Resources Plan meets requirements of the Sikes Act (16 U.S.C. 670a *et seq.*) as amended; Department of Defense Instruction 4715.03, Natural Resource Conservation Program; DOD Manual 4715.03, Integrated Natural Resources Management Plan (INRMP) Implementation Manual; Chief of Naval Operations Instruction (OPNAVINST) 5090.1; and OPNAV M-5090.1, Environmental Readiness Program Manual.

Approved by:

S. D. Barnett 4/8/2020

S. D. BARNETT Date
Rear Admiral, U.S. Navy
Commander, Navy Region Northwest

Commanding Officer

United States Navy Signature Page

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Approved by:

12 Feb 20

R. G. RHINEHART — Date
Captain, U.S. Navy
Commanding Officer, Naval Base Kitsap

Commanding Officer

United States Navy Signature Page

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Approved by:

2/28/20

CEDRIC MCNEAL Date
Captain, U.S. Navy
Commanding Officer, Naval Surface Warfare Center, Carderock Division

Installation Environmental Personnel

United States Navy Signature Page

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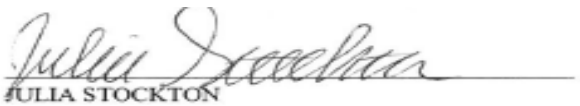
Approved by:

12 Feb 2020

GREG LEICHT
Installation Environmental Program Director
Naval Base Kitsap

Date



12 FEB 2020

JULIA STOCKTON
Natural Resources Manager
Naval Base Kitsap

Date

Region Environmental Personnel

United States Navy Signature Page

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Approved by:

ROBIN SENNER — Date
Senior Natural Resources Specialist
NRNW Code N45

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U.S. Fish and Wildlife Service Signature Page

This Integrated Natural Resources Management Plan meets the requirements of the Sikes Act (16 U.S.C. 670a *et seq.*, as amended); and supports U.S. Fish and Wildlife Service policies, management goals and objectives.

Approved by:

STEWART COGSWELL

Digitally signed by STEWART COGSWELL
Date: 2020.05.29 15:14:26 -08'00'

STEWART COGSWELL — Date
U.S. Fish and Wildlife Service Field Supervisor
Anchorage Fish and Wildlife Conservation Office

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National Marine Fisheries Service Signature Page

This Integrated Natural Resources Management Plan meets the requirements of the Sikes Act (16 U.S.C. 670a *et seq.*, as amended); and supports NOAA/NMFS policies, management goals and objectives.

Approved by:

May 8, 2020

JAMES W. BALSIGER, Ph. D. Date
NOAA Fisheries Regional Administrator, Alaska Region
National Marine Fisheries Service

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Alaska Department of Fish and Game Signature Page

This Integrated Natural Resources Management Plan meets the requirements of the Sikes Act (16 U.S.C. 670a *et seq.*, as amended); and supports Alaska Department of Fish and Game policies, management goals and objectives.

Approved by:

DLlang 4-29-20

DOUG VINCENT-LANG Date
Commissioner
Alaska Department of Fish and Game

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This Integrated Natural Resources Management Plan (INRMP) will be reviewed annually by the Navy and updated as needed. The annual INRMP review will include participation by representatives from U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) and Alaska Department of Fish and Game (ADF&G), and will use reports from the Navy's Conservation Website (https://eprweb.cnic.navy.mil/) to evaluate the plan's relevance, operation, and effectiveness. A review for operation and effect will be conducted in cooperation with USFWS, ADF&G, and NMFS at least once every five years. The review for operation and effect will be conducted during the annual Navy's Natural Resources Conservation (NRC) metrics meeting. Mutual agreement on operation and effect must be documented in writing by the cooperating parties in the form of a new signature page for the INRMP. The new signature page shall be appended to the INRMP and uploaded to the Navy Conservation Website (https://eprweb.cnic.navy.mil/). Reviews and updates are a necessary part of maintaining a proactive management plan. The section below should be used to document annual reviews and changes to the plan that will improve natural resources management. It is not intended to replace the review for operation and effect.

Date of Annual Review	Date of Annual Report	Name and Title of Reviewer	Summary of Updates

Executive Summary

The United States Department of the Navy has prepared an Integrated Natural Resources Management Plan (INRMP) for Southeast Alaska Acoustic Measurement Facility (SEAFAC). Naval Surface Warfare Center, Carderock Division (NSWCCD) is the operations command at SEAFAC. NSWCCD are in charge of the mission operations of maintenance and replacement of the test site equipment (in-water sensor arrays, barges, and auxiliary infrastructure), and day-to-day maintenance and upkeep at SEAFAC. Naval Facilities Engineering Command Northwest (NAVFAC NW) provides natural resources, real estate, and planning support to both Naval Base (NAVBASE) Kitsap and NSWCCD, and supports the INRMP development. SEAFAC is an outlying property to NAVBASE Kitsap, which has a separate INRMP to cover the installations in Washington State. This plan covers the federally permitted lands and tidal lands of Back Island under the immediate control of the NAVBASE Kitsap Installation Commanding Officer. Activities occurring elsewhere are subject to requirements described in separate INRMPS and/or operational instructions, including Fleet and Afloat guidance.

The INRMP is a long term planning document to guide the Command in the management of natural resources in support of its military mission, while protecting and enhancing natural resources for multiple uses, sustainable yield, and biological integrity. The purpose of the INRMP is to ensure natural resources conservation measures and military operations on the installation are integrated and consistent with stewardship and legal requirements. All actions contemplated in this INRMP are subject to the availability of funds properly authorized and appropriated under Federal law. Nothing in this INRMP is intended to be, nor may be construed, to be a violation of the Anti-Deficiency Act (31 U.S.C. 1341 et seq.).

The INRMP is organized according to Chief of Naval Operations Instruction and Manual 5090, Environmental Readiness Program and Department of Defense (DOD) Instruction 4715, Natural Resources Conservation Program, DOD Manual 4715.03 Integrated Natural Resources Management Plan Implementation Manual, and Department of the Navy guidance.. The plan strives to fully integrate and coordinate the natural resources program with the testing activities that occur at the Southeast Alaska Acoustic Measurement Facility. The goals and objectives of the plan may be revised over time to reflect changing missions and/or environmental conditions. Future changes in mission, testing activity, or technology will be analyzed to assess their impact on natural resources. As new installation plans, guidance and regulations are developed, they will be integrated with the goals, objectives and management actions of this INRMP. The plan will be reviewed, assessed, and modified, as needed, to ensure continued integration with other management plans or changes in military mission.

Goals identified for natural resources management at Southeast Alaska Acoustic Measurement Facility include the following:

Goal 1: Integrate natural resources conservation responsibilities with military activities, installation planning and programming, and other activities as appropriate to ensure no net loss to the Navy mission;

Goal 2: Ensure sustainable multipurpose use of the resources and public access when consistent with the mission, and safety and security requirements; and

Goal 3: Interact with the surrounding community to develop positive and productive community involvement, participation, and educational opportunities.

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1 Overview of Integrated Natural Resources Management Plan

1.1 Introduction to the INRMP

This Integrated Natural Resources Management Plan (INRMP) is consistent with guidance and regulations provided in the Department of Defense (DOD) Instruction 4715, Natural Resources Conservation Program, and DOD Manual 4715.03 Integrated Natural Resources Management Plan Implementation Manual and Chief of Naval Operations Instruction and Manual 5090, Environmental Readiness Program , Department of the Navy (DON), DOD Sikes Act as amended, and the Department of the Navy INRMP guidance memoranda. These guidance documents collectively require a plan and management approach that integrates mission support, multipurpose use, ecosystem or landscape-level management, and environmental compliance and stewardship.

This INRMP was developed to regulate and manage Southeast Alaska Acoustic Measurement Facility (SEAFAC) natural resources through detailed discussions with multiple stakeholders. Naval Base (NAVBASE) Kitsap is the land manager at SEAFAC and is in charge of maintaining the natural resources at SEAFAC. Naval Surface Warfare Center, Carderock Division (NSWCCD) is the operations command at SEAFAC. They are in charge of the mission operations of maintenance and replacement of the test site equipment (in-water sensor arrays, barges, and auxiliary infrastructure), and day-to-day maintenance and upkeep at SEAFAC. Naval Facilities Engineering Command Northwest (NAVFAC NW) provides natural resources, real estate, and planning support to both NAVBASE Kitsap and NSWCCD, and supports the INRMP development.

This INRMP strives to integrate INRMP activities with other installation activities, and provides explicit goals and objectives to which natural resources initiatives and projects will contribute. The projects and initiatives contained in this INRMP include a combination of ongoing natural resources management activities from previous years and new projects and activities identified as priorities during the review process.

Figure 1-1: Permitted Area Map – Southeast Alaska Acoustic Measurement Facility

1.2 Purpose and Plan

The purpose of this INRMP is to provide for long term planning that informs and guides SEAFAC in the management of natural resources in support of the military mission, while protecting and enhancing natural resources for multiple uses and biological integrity. The intent of the INRMP is to ensure natural resources conservation measures and military operations on the installation are integrated and consistent with stewardship and legal requirements. To the extent practicable, this INRMP and the use of the natural resources comply with the legal mandates and are integrated with ecosystem goals outside the installation's boundaries. The specific intent of this INRMP is to ensure current operations and effects are accounted for, information, goals, objectives and plans are up to date and adequate for the protection of the resources present.

OPNAV M-5090.1, Chapter 12 explicitly requires INRMP development to follow the following principles:

1) A shift from single species to multiple species conservation;
2) Formation of partnerships necessary to consider and manage ecosystems that cross installation boundaries; and

3) Use of the best available scientific information and scientifically sound strategies for adaptive management.

This plan covers the federally permitted lands above Mean High Water (MHW) and tidal lands for the Pier and sewage treatment discharge pipe of Back Island (15 acres); and the adjacent waters under the immediate control of the Installation Commanding Officer, including naval operating areas within Western Behm Canal, as described in 33 CFR 334.1275. Activities occurring elsewhere are subject to requirements described in separate INRMPS and/or operational instructions, including Fleet and Afloat guidance. An INRMP must be prepared for an installation when one or more of its assigned properties have significant natural resources. SEAFAC is part of Navy Region Northwest and falls under the command of Naval Base (NAVBASE) Kitsap. Because SEAFAC's location is unique from many of the other installations within NAVBASE Kitsap, it was determined that management recommendations for SEAFAC should be documented in an individual INRMP for the installation.

1.3 Authority

INRMPs are authorized under the Conservation Programs on Military Installations Sikes Act § 670 (16 U.S.C. §§ 670-670f), as amended; Public Law 86-797, 16 United States Code (U.S.C.) § 670(a) et seq., which requires military installations to prepare and implement INRMPs to provide for:

a) Fish and wildlife management [conducted by the ADF&G, in accordance with the Sikes Act 16 U.S.C. 670a (a)(4)(ii)], land management, forest management and fish and wildlife-oriented recreation
b) Fish and wildlife habitat enhancement or modifications
c) Wetlands protection, enhancement, and restoration, where necessary for support of fish, wildlife or plants
d) Integration of and consistency among the various activities conducted under the plan
e) Establishment of specific natural resources management goals and objectives and timeframes for proposed actions
f) Sustainable use by the public of natural resources to the extent that the use is not inconsistent with the needs of the fish and wildlife resources
g) Public access for outdoor recreation on military installations to include opportunities for disabled veterans, dependents, and others
h) Enforcement of applicable natural resources laws and regulations
i) No net loss in the capability of military installation lands to support the military mission of the installation
j) Such other activities as the Secretary of the Navy determines appropriate

The Sikes Act also sets guidelines for the collection of fees for the use of natural resources such as hunting and fishing.

Over the last several years, various guidance documents have been prepared on the interpretation of the Sikes Act (as amended) and on INRMP preparation. Below are listed key DOD and Department of Navy (DON) documents relevant to natural resource management.

- ***NAVFAC Real Estate Operations and Natural Resources Management Procedure Manual, P-73, Volume I (May 1987):*** Establishes the governing format under which the

INRMP is structured. This document addresses all CNO natural resources program requirements, guidelines, and standards.

- ***Memorandum on Implementation of Ecosystem Management in DOD:*** This memorandum issued by the Deputy Under Secretary of Defense on 8 August 1994, was the first formal statement of an ecosystem management approach to land management in the DOD. Ecosystem management is to be achieved through developing and implementing INRMPs. This memorandum contains DOD's 10 principles of ecosystem management as an attachment, which were later included as an enclosure in DOD Instruction 4715.03 and those policies addressed in the 1996 instruction continue in the most recent guidance (see below).

- ***Memorandum on Implementation of Sikes Act Improvement Amendment: Updated Guidance:*** This memorandum of the Under Secretary of Defense, issued on 10 October 2002, provides guidance for implementing the requirements of the Sikes Act in a consistent manner throughout the DOD and replaces the 21 September 1998 guidance Implementation of the Sikes Act Improvement Amendments. The October 2002 memorandum and its supplement issued in November 2004 emphasize implementing and improving the overall INRMP coordination process and focus on coordinating with stakeholders, reporting requirements and metrics, budgeting for INRMP projects, using the INRMP as a substitute for critical habitat designation, supporting military training and testing needs, and initiating the INRMP review process. Language has been intergrated into M-4715.

- ***Implementation of Sikes Act Improvement Amendments:*** *Supplemental Guidance concerning INRMP Reviews (01 Nov 2004):* This memo provides supplemental guidance for implementing Sikes Act Improvement Amendments requirements consistently throughout the Department of Defense. It adds to Implementing guidance dated October 10, 2002.

- ***The Implementation of Sikes Act Improvement Amendment - Supplemental Guidance Concerning Leased Lands (17 May 2005):*** This document provides supplemental guidance for implementing SAIA requirements consistently throughout the DOD. It adds to implementing guidance dated October 10, 2002 and November 1, 2004 same subject. The guidance covers lands occupied by tenants or lessees or being used by others pursuant to a permit, license, right of way, or any other form of permission. INRMPs must address the resource management of all lands for which the subject installation has real property accountability, including leased lands. Installation Commanding Officers (COs) may require tenants to accept responsibility for performing appropriate natural resource management actions as a condition of their occupancy or use, but this does not

preclude the requirement to address the natural resource management needs of these lands in the installation INRMP.

- ***Best Practices for Integrated Natural Resources Management (INRMP) Implementation, August 2005:*** Memo outlining best practices for INRMP implementation.

- ***Integrated Natural Resources Management Plan Guidance for Navy Installations (10 April 2006):*** This guidance provides natural resource managers at Navy installations with **a**n interpretation of what processes are needed to prepare INRMPs. This document also includes, per the SAIA guidance, significant new reporting requirements and measures of merit associated with INRMP development, implementation, and annual review.

- ***DOD Instruction 4715.03, Natural Resources Conservation Program (18 March 2011)*** This DOD instruction pertains to both natural and cultural resources management on DOD lands. It includes budgeting classifications for funding priorities and detailed information on the intent of INRMPs.

- ***DOD Manual 4715.*03*; Updated Guidance:*** Integrated Natural Resources Management Plan (INRMP)) Implementation Manual (25 November 2013). This manual provides procedures to prepare, review, update, and implement INRMPs in compliance with the Sikes Act.

- ***Memorandum of Understanding (MOU) between the U.S. Department of Defense, U.S. Fish and Wildlife Service (USFWS), and the Association of Fish and Wildlife Agencies. (July 29, 2013)***: This tripartite MOU furthers a cooperative integrated natural resource management program on military installations and further cooperative relationship between the U.S. Department of Defense, U.S. Department of the Interior Fish and Wildlife Service, and state fish and wildlife agencies acting through the Association of Fish and Wildlife Agencies in preparing, reviewing, revising, updating, and implementing Integrated Natural Resource Management Plans for military installations.

- ***U.S. Fish and Wildlife Service Guideline for Coordination on Integrated Natural Resource Management Plans (June 2015):*** This provides updated guidance to U.S. Fish and Wildlife Service personnel for implementing the requirements of the Sikes Act. It replaces the following memorandum: Guidance for Coordination of Department of Defense Sikes Act integrated Natural Resources Management Plans (June 8, 2001).

- ***OPNAVINST 5090.1E, Environmental Readiness Program; and OPNAV-M 5090.1 Environmental Readiness Program Manual (September 3, 2019):*** OPNAVINST discusses requirements, delineates responsibilities and issues implementing policy

guidance for the management of the environmental resources for all Navy ships and shore activities. The Environmental Readiness Program Manual implements the policy set forth in OPNAVINST 5090.1E, and contains the Navy's policy guidance for environmental readiness.

1.4 Vision, Goals and Objectives

The following sections detail the overall natural resources management elements at SEAFAC and provide specifics on natural resource constituents found at the installation. The goals supported by the INRMP through objectives and projects, which provide management strategies and specific actions to achieve these goals. The goals will ensure the success of the military mission while conserving natural resources. The general philosophies and methodologies used throughout the SEAFAC natural resources management program focus on conducting required military activities while maintaining ecosystem viability. These management strategies in the following chapters begin with the goals and objectives that guide the installation.

1.4.1 Goals and Objectives

This INRMP strives to integrate natural resources management with other installation activities, and provides explicit goals and objectives to which natural resources initiatives and projects will contribute.

In accordance with the OPNAV M-5090.1, a successfully implemented installation Natural Resources Conservation (NRC) program will meet the following three closely related, but not mutually exclusive goals.

1) Integrate NRC responsibilities with military activities, installation planning and programming, and other activities as appropriate to ensure no net loss to the Navy mission;
2) Ensure sustainable multipurpose use of the resources and public access when consistent with the mission, and safety and security requirements; and
3) Interact with the surrounding community to develop positive and productive community involvement, participation, and educational opportunities.

Southeast Alaska Acoustic Measurement Facility's natural resources program objectives are to accomplish the following:

a) Ensure specific responsibility are assigned for INRMP management, provide centralized supervision and assign professionally trained personnel to this NR program; and provide natural resource personnel the opportunity to participate in Natural Resources Management job-training activities and professional meetings.
b) Develop strategies and plans to protect, conserve, and manage the watersheds, wetlands, natural landscapes, soils, fish and wildlife and other natural resources of the site, as vital elements of a natural resources program.
c) Conserve threatened, endangered, and sensitive species and critical habitats regulated by the Endangered Species Act (ESA).
d) Use and care for natural resources in the combination best serving the present and future needs of the U.S. and its people, with specific attention to long-term effects of climate change on the installation.
e) Provide for the optimum use of land and water areas and access thereto, while

maintaining ecological integrity and ensuring no net loss in the capability of installation lands to support the military mission of the installation.

f) Ensure natural resources are managed in accordance with the lease with U.S. Forest Service (USFS); obtain permission for any alteration or improvements to the property, including the removal of trees or shrubbery.
g) Develop staff expertise in climate change and scope a Climate Change Vulnerability Assessment for the installation.
h) Maximize the benefits of the annual increment review process with the Agencies in order to maintain concurrency of the INRMP over time, thereby avoiding extensive re-writing processes and environmental reviews. INRMP objectives will be evaluated via the annual INRMP evaluation.

1.5 Stewardship and Compliance

As a steward of military lands, the Navy recognizes that the installations in Commander Navy Region Northwest (CNRNW) are part of diverse and functioning ecosystems. Sustainability ensures the integrity of natural ecosystems over time while meeting the needs of the military mission. Sustainability goes beyond the definition of regulatory compliance, which is simply meeting the minimum requirements of laws and regulations that pertain to the environment. SEAFAC's personnel will take an active approach to managing the natural resources of the installation and integrate all plans and operations into the concepts of biodiversity and sustainability of these resources.

Conservation biology fully recognizes and embraces the many contributions that are made by biologists and non-biologists alike. In many cases, social values, economics, and political factors have more of an impact on natural resources management than biological sciences. The operations team and other SEAFAC personnel have an influence on environmental conditions at Back Island; they become part of the solution by working with the Natural Resources Managers (NRMs) and integrating their perspectives within the management process of the installations and implementation of this INRMP.

DODI 4715.03 Environmental Conservation Program (November 25, 2013) requires that U.S. Navy installations incorporate ecosystem-based management's "ten guiding principles" as the basis for land use planning and management. The ten principles of ecosystem-based management had first appeared in a 1994 DOD memorandum and were subsequently published as principles and guidelines in an enclosure to DODI 4715.03. DOD principles and guidelines address key components of ecosystem-based management that are generally acceptable to academicians and practitioners alike, and they provide guidance pertinent to installation managers. DODI 4715.03 also provides a DOD definition of ecosystem-based management as: "A goal-driven approach to managing natural and cultural resources that supports present and future mission requirements; preserves ecosystem integrity; is at a scale compatible with natural process; is cognizant of nature's time-frames; recognizes social and economic viability within functioning ecosystems; is adaptable to complex changing requirements; and is realized through effective partnerships among private, local, State, tribal, and federal interests.

1.6 Review and Revision Process

Per DOD Instruction 4715.03, DOD Manual 4715.03, OPNAVINST 5090.1E and OPNAV-M 5090.1, an evaluation of the INRMP and natural resource management at SEAFAC will be

performed annually. The evaluation will utilize the seven focus areas in the Navy's Conservation Website. These seven focus areas are:

1) Ecosystem Integrity;
2) Listed Species and Critical Habitat (CH);
3) Recreational Use and Access;
4) Sikes Act Cooperation;
5) Team Adequacy;
6) INRMP Implementation;
7) Support of Installation Mission

The Navy's Natural Resources Conservation Metrics (Metrics) ensures that Navy installations are in compliance with the Sikes Act and that each region or installation is preparing, maintaining, and implementing its INRMP. The Metrics also supports ESA expenditure reporting to Congress by the USFWS, and contributes to information collected for the Defense Environmental Program Annual Report to Congress and the Office of Secretary of Defense's Environmental Management Review.

The annual INRMP review will include participation by representatives from USFWS, NMFS and ADF&G, and will use the Navy's Conservation Website (https://eprweb.cnic.navy.mil/) (U.S. Navy Environmental Portal Account and Common Access Card (CAC) are required to access) to evaluate the plan's relevance, operation, and effectiveness. These annual evaluations are the venue for assessing the effectiveness of the INRMP, discuss future planning and implementation, and also serve to ensure regular interagency coordination. The INRMP Metric review serves as the Agencies review of the document for 'operation and effect'. Mutual agreement on operation and effect will be documented in writing in the form of a new signature page for the INRMP. A review for 'operation and effect' is defined as a comprehensive review by the stakeholders at least once every 5 years. This review is to evaluate the extent to which the goals and objectives of the INRMP continue to meet the purpose of the Sikes Act, which is to carry out a program that provides for the conservation and rehabilitation of natural resources on military installations. If the INRMP is greater than 5 years old, then it must have undergone a review for operation and effect within the past 5 years. The new signature page will be appended to this INRMP. The NRM for SEAFAC will lead the annual reviews with the Agencies with the support of NAVFAC NW and the SEAFAC Site Director. Depending upon the topics to be discussed, additional stakeholders, including but not limited to, the USFS may be invited to attend the annual INRMP metrics meetings. The cooperating partners will work together to measure both the successes and issues resulting from INRMP implementation.

1.7 Roles and Responsibilities

Several Commands share management or stewardship responsibilities at SEAFAC. Responsibilities for the implementation of this INRMP flow through the following chain of command:

1.7.1 Navy Responsibilities

Chief of Naval Operations, Environmental Readiness Division

Chief of Naval Operations (CNO) shall serve as the principal leader and overall Navy program manager for the development, revision, and implementation of INRMPs and shall:

a) Provide policy, guidance, and resources for the development, revision, and implementation of INRMPs and associated National Environmental Policy Act (NEPA) documents.

b) Represent the Navy on issues regarding the implementation of INRMPs and delegate responsibility in writing.

c) Resolve high-level conflicts associated with development and implementation of INRMPs.

d) Approve all INRMP projects before INRMPs are submitted to regulatory agencies for signature.

Commander, Navy Installations Command

The Commander, Navy Installations Command (CNIC) shall:

a) Ensure that installations under its command develop, revise, and implement INRMPs if required, and:

   1) Reevaluate the need for an INRMP at all installations that currently do not have an INRMP.

   2) Following the initial evaluation, reevaluate all remaining installations that do not have an INRMP every five years.

b) Ensure that installations comply with DOD, Department of the Navy (DON) and CNO policy on INRMPs and associated NEPA document preparation, revision and implementation;

c) Ensure the programming of resources necessary to maintain and implement INRMPs, which involves:

1) The review of an endorsement of projects recommended for INRMP implementation prior to submittal for signature. These projects are identified in Appendix D;
2) The evaluation and validation of Environmental Program Review (EPR) web project proposals;

d) Participate in the development and revisions of INRMPs, which involves the maintenance of a close liaison with N45, NAVFAC and other budge submitting offices (BSOs);

e) Provide overall program management oversight for all natural resources program elements.

Regional Commander, Navy Region Northwest

The Regional Commanders shall:

a) Ensure that installations comply with DOD, DON, and Director Environmental Readiness Division (CNO) policy on INRMPs, and associated NEPA document preparation, revision, and implementation.

b) Ensure that installations INRMPs undergo annual informal reviews as well as formal five-year evaluations. Ensure installations complete the annual INRMP metric review, and endorse the results prior to submittal to CNIC via the chain of command.

c) Ensure the programming of resources necessary to maintain and implement INRMPs, which involves:

1) The evaluation and validation of EPRWeb project proposals.

2) The funding of installation natural resources management staff.

d) Establish positive, productive relationships with local and regional authorities responsible for natural resource conservation for the benefit of subordinate command functions and INRMP development and implementation is accomplished.

Installation Commanding Officer

The SEAFAC property and property management falls within the authority of Naval Base Kitsap. The NAVBASE Kitsap Commanding Officer (CO) shall ensure the preparation, completion, and implementation of the INRMP and associated NEPA documentation for this installation and should systematically apply the conservation practices set forth in the Plans.

The installation CO’s role is to:

a) Act as steward of the natural resources under their jurisdiction and integrate natural resources requirements into the day-to-day decision-making process.

b) Ensure natural resources management and the INRMP comply with all natural resources related legislation; Executive Orders (EO) and Executive Memoranda; as well as DOD, SECNAV, DON and OPNAV directives, instructions, and policies.

c) Involve appropriate tenant, operational, training, or R&D commands in the INRMP review process to ensure no net loss of military mission.

d) Designate by letter, one or more Natural Resources Managers (NRMs) responsible for the management efforts related to the preparation, revision, implementation, and funding for the INRMP. (Appendix F)

e) Involve appropriate Navy Judge Advocate General (JAG) or Office of the General Counsel (OGC) Legal Counsel to provide advice and counsel with respect to legal matters related to natural resources management and INRMPs.

f) Endorse INRMPs via NAVBASE Kitsap Commanding Officer signature.

The installation CO at NAVBASE Kitsap holds the highest-ranking position at the installation and is ultimately responsible for all aspects of the installation and its many functions. This includes ensuring that the INRMP is developed, implemented, and fully supported. The installation CO can facilitate the implementation of the INRMP by encouraging support down the chain-of-command; ensuring that a process is established for early coordination between the NRMs and key installation staff; and ensuring that natural resources management is integrated with other installation management functions, military operations, security, and Research, Development, Testing & Evaluation (RDT&E) activities.

Installation Environmental Program Director

The Installation Environmental Program Director (IEPD) works for the installation CO to ensure the installation is in compliance with all natural resources related legislation; EO and Executive Memoranda; DOD and CNO directives, instructions, and policies. The NRM is a member of the IEPD's staff who is recommended by the IEPD to the installation CO to be designated the NRM. The IEPD assists in project design, implementation, and in identifying personnel, internal or external to the installation with expertise to accomplish INRMP projects. The IEPD is one of many signatories to the INRMP and works at a high level to ensure its success.

Natural Resources Manager

The NRM is responsible for natural resources management at SEAFAC in coordination with the Carderock Division and Site Director at SEAFAC. The NRM duties include ensuring that the CO is informed of natural resource conditions and issues; goals and objectives of the INRMP; and potential or actual conflicts between mission requirements and natural resource mandates. The NRM is a member of the NAVBASE Kitsap Public Works Department – Environmental Division and is administratively a NAVFAC employee. They are primarily responsible for the preparation, revision and implementation of this INRMP and coordinating with other personnel on the installations as necessary to implement the INRMP to meet the goals and objectives. They

are also responsible for ensuring this plan is reviewed, current, and compliant in coordination with the USFWS, NMFS, and the ADF&G. The NRM is responsible for annually compiling, tracking and maintaining the INRMP metrics on the Navy Conservation Website. The CO designates the NRM in writing (Appendix F).

Region Program Director for Environmental (N45)

The Region Program Director for Environmental (N45) provides a Senior Regional Natural Resources Specialist to ensure execution of Natural Resources conservation responsibilities in support of the Regional Commander. The specialist reviews and signs INRMPs for technical sufficiency, consistency within the region, and compliance with Navy and DOD policy.

Naval Surface Warfare Center, Carderock Division

NSWCCD is in charge of all mission operations; as well as operation, maintenance and replacement of the test site equipment (in-water sensor arrays, barges, and auxiliary infrastructure). NSWCCD primarily uses the SEAFAC test site to conduct high-fidelity passive acoustic signature measurements of submarines and ships. The SEAFAC site includes hydrophone arrays and data collection and processing systems for real-time data analysis and signature evaluation. SEAFAC is the Navy's primary acoustic engineering measurement facility in the Pacific, and provides the capability to perform Research, Development, Testing and Evaluation (RDT&E) analysis to determine the sources of radiated acoustic noise, to assess vulnerability, and to develop quieting measures. Additionally, NSWCCD oversees the day-to-day maintenance and upkeep of the SEAFAC site, along with coordinating natural resources management with the NRM.

NSWCCD will integrate the principles of this INRMP into its operations at SEAFAC in order to sustain the facility's availability to meet mission requirements by:

a) Designating a responsible party to participate as a stakeholder in the development, revision, and implementation of INRMPs.
b) Coordinating with NRM to share concerns regarding operations requirements as they relate to natural resources management.
c) Providing local knowledge and assisting with the implementation of natural resources management activities, as appropriate.
d) Programming of resources necessary to maintain and implement this INRMP, which involves:
    - Review and endorsement of natural resources projects recommended to meet the goals of this INRMP.
    - Evaluation of EPR-Web project proposals.
    - Coordination with local stakeholders (USFS, ADF&G, etc.), as appropriate.
    - Coordination with the NRM as needed to implement INRMP projects.

SEAFAC Site Director

The SEAFAC Site Director works for NSWCCD to ensure that SEAFAC is maintained and operated in accordance with their testing mission. The Site Director is supported on site by a contractor operations team and off site by other NSWCCD staff. The SEAFAC Site Director will provide the NRM with input regarding natural resources concerns that may affect SEAFAC's

Research, Development, Testing and Evaluation (RDT&E) mission and will review the proposed NRM's resource conservation projects to ensure that they do not adversely affect facility operations. The SEAFAC Site Director will be the onsite Project Manager for all natural resources projects that occur at SEAFAC. This will ensure proper coordination occurs with the site for all funded projects, as well as proper integration of natural resource conservation needs into the site operating procedures. The SEAFAC Site Director is a signatory to the INRMP and works at a high level to ensure its success.

Public Affairs Office

The Public Affairs Office (PAO) provides a significant link between the INRMP and the on-and off-installation communities. The PAO will facilitate communication between offices across the installation, tenant commands, and nearby communities regarding environmental management initiatives. Within NAVBASE Kitsap, there are multiple PAOs depending on the issue at hand, the installation, and the command.

Naval Facilities Engineering Command Northwest

Naval Facilities Engineering Command Northwest (NAVFAC NW) provides oversight and support for the development, maintenance, and implementation of Navy Region Northwest's installation INRMPs and the natural resource program. NAVFAC Northwest's role in natural resources management is to:

a) Provide technical and contractual support to NAVBASE Kitsap for the preparation, development, and implementation of INRMPs and associated NEPA documents.

b) Facilitate and coordinate the issuance of INRMP-related NEPA documents.

c) Evaluate and disseminate information concerning new technology, methods, policies and procedures for use in the development and implementation of INRMPs.

d) Assist with the development of the INRMP Project Implementation Table, EPR and Legacy project proposals.

e) Provide technical and administrative guidance for the development and execution of contracts and cooperative agreements to develop and implement INRMPs.

f) Facilitate the acquisition of INRMP "mutual agreement" between the Navy, USFWS and state fish and wildlife agencies.

g) Facilitate conflict resolution between the Navy, USFWS and state fish and wildlife agencies and other stakeholders, as necessary.

h) Provide technical oversight and resources for forest management and assist in implementing forest habitat management actions.

i) In the event an installation fish and wildlife program is initiated, provide support and resources to installation fish and wildlife program and assist with hunting and fishing fee and permit collections and distributions.

j) Assist with compiling, tracking and maintaining INRMP metrics on the Conservation website.

NAVFAC NW, including the installation NRMs, are a compilation of professionally qualified foresters, botanist, fisheries specialists, marine mammal experts, marine and terrestrial bird specialist, and knowledgeable biologists for invasive species management. These subject matter experts are all available to support and assist the installation's natural resources program and associated consultations pertaining to Endangered Species Act (ESA), Clean Water Act (CWA) Magnuson Stevens Act, Marine Mammal Protection Act (MMPA), Bald and Golden Eagle Protection Act (BGEPA), Migratory Bird Treaty Act (MBTA) and Soil and Water Conservation Act (SWCA).

1.7.2 External Stakeholder Responsibilities

U.S. Fish and Wildlife Service

The Sikes Act directs DOD to cooperate with the USFWS in the management of natural resources on DOD installations. The USFWS has been included in the development, review and approval of this INRMP.

National Marine Fisheries Service

Even though the Sikes Act does not require NMFS participation in installation natural resources management, they provide a valuable role in assisting with fisheries and marine mammal management under other federal statutes. NMFS is included in the review and signature approval of this INRMP because of their legal jurisdiction over marine resources within Behm Canal as stated in OPNAV-M 5090.1 and 2006 Navy INRMP Guidance. NMFS has been included in the development, review and approval of this INRMP.

Alaska Department of Fish and Game

The Sikes Act also directs DOD to coordinate with the appropriate state fish and wildlife office in the management of natural resources on DOD installations. ADF&G is responsible for the management of fish and wildlife populations on all public lands in Alaska. ADF&G has been included in the development, review and signatory approval of this INRMP.

U.S. Forest Service

The SEAFAC facility is located on Back Island within the U.S. Forest Service's Tongass National Forest. The Navy maintains a Special Use Permit for the property and works continuously with the Ketchikan Area Tongass National Forest, Forest Supervisor to ensure the responsible stewardship of the property. Although USFS is not a signatory authority on the INRMP in accordance with the Sikes Act, the Navy is including the Forest Supervisor in the interdisciplinary, cooperative development of this INRMP, and is including the USFS in all

Agency correspondence associated with the preparation of this draft INRMP document. The Forest Supervisor has extensive knowledge of the surrounding area, the resources, and the potential management issues that should be addressed within the SEAFAC INRMP. There are minimal forestry resources within the SEAFAC permitted property, but the Navy will seek approval from the USFS forest officer in charge and the Navy Staff Forester regarding the management of vegetation resources at SEAFAC. Issues or concerns regarding fire safety, hazard trees, restoration, or other pertinent issues may involve Navy permitted property. The Navy will again seek approval from the USFS forest officer in charge and the Navy Staff Forester and will comply with recommendations, per the Special Use Permit, especially as they relate to public safety. Under the terms of the Navy's Special Use Permit, any operations or maintenance plans that include clearing or disturbance of ground cover or material will be submitted to the Forest Supervisor for approval. As the land manager for Back Island, the USFS is responsible for compliance with the requirements set forth by the Alaska National Interest Lands Conservation Act (ANILCA).The following ANILCA allowances are applicable to Back Island:

- ANILCA 1314 states that the State of Alaska is responsible for the management of fish and wildlife on public lands, except as provided by Title VIII of ANILCA and the Alaska Constitution.
- ANILCA 1316 allows the taking of fish and wildlife on all public lands and the establishment and use of temporary campsites, tent platforms, shelter, and other temporary facilities and equipment directly and necessarily related to such activities.

Tribal Governments

Alaska Native groups are represented by Regional Corporations established in 1971 under the Alaska Native Claims Settlement Act (ANCSA). ANCSA settled land and financial claims made by Alaska Natives and provided for the establishment of Regional Corporations to administer those claims and foster economic development. Sealaska is the Regional Corporation for this area. In addition, distinct from the Regional Corporation, there are four federally recognized Native entities in the SEAFAC region: the Central Council of the Tlingit and Haida Indian Tribes of Alaska, the Ketchikan Indian Community, the Metlakatla Indian Community, and the Organized Village of Saxman.

ANCSA extinguished aboriginal claims to land and hunting and fishing rights, but Alaska Native Tribes have use of state fisheries for commercial, subsistence, and ceremonial activities. However, the Western Behm Canal is located within the Ketchikan Nonsubsistence Use Area (ADF&G, 2011), which precludes subsistence uses of resources in Western Behm Canal by both Alaska Native and non-Native fishermen. Population drives this designation; Ketchikan is a densely populated area. Within these designated areas, people can receive permits to sport fish, commercial fish and fish for personal use.

There are no common land claims on the island, nor have any Natives expressed interest in having access to the island. Alaska state law directs the Board of Game and Board of Fisheries to provide a reasonable opportunity for subsistence uses first, before providing for other uses of any harvestable surplus of a fish or game population. State law also requires identification of nonsubsistence areas, which are defined as areas where dependence upon subsistence (customary and traditional uses of fish and wildlife) is not a principal characteristic of the economy, culture,

and way of life. For example, SEAFAC has contacted Natives in the past when a decision was made to drop a spruce tree, which has historically been used by Natives to create totem poles. In summary, the consultation with Native groups is formal and on an as-needed basis for projects. Government to government consultation will be conducted on this INRMP based on COMNAVREGNWINST 11011.14 requirement for all INRMPs.

1.8 Integration with Other Installation Plans and Environmental Impact Statements

Per DOD Manual 4715.03-M Enclosure (2): *Integrating Other Plans, Programs and Policies*, this INRMP has been prepared in coordination with other planning documents. Information within this INRMP has been incorporated from other plans to help identify management priorities and potential impacts to natural resources. Multiple documents have been reviewed and incorporated into this document including the SEAFAC Operational Management Plan (OMP), Northwest Training and Testing (NWTT) Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS), Naval Base Kitsap INRMP, the State of Alaska Wildlife Action Plan, and the Tongass National Forest Management Plan.

When applicable, natural resources personnel coordinate INRMPs with natural resources conservation-related plans and programs on and adjacent to the installation to foster collaborative efforts, and ensure that priorities align with military mission and resource management requirements.

1.8.1 SEAFAC Operational Management Plan

The SEAFAC OMP (Navy, 2007) was developed for NSWCCD. The OMP is a plan for sustaining SEAFAC to support naval research, development, test and evaluation missions and as a lead-in document for follow on environmental documentation. Although parts of the document are now dated, the SEAFAC OMP discusses sustainability goals, community and stakeholder involvement, SEAFAC assets, past operations, land management, and encroachment and sustainment challenges that are not discussed in other documents. The military operations section of this document has been superseded by NWTT EIS/OEIS (described below). Discussion on the mission and operations at SEAFAC are discussed in Section 2.1.3.

1.8.2 Northwest Training and Testing Environmental Impact Statement

SEAFAC's Research, Development, Testing and Evaluation (RDT&E) mission is covered by the Navy's Northwest Training and Testing (NWTT) EIS/OEIS. The NWTT EIS/OEIS describes the testing operations at SEAFAC, which are also briefly described in Section 2.1 of this INRMP. The NWTT EIS/OEIS can be found at http://nwtteis.com. SEAFAC complies with the MMPA and ESA requirements established in the NWTT EIS consultations with NMFS and USFWS by reviewing mission actions and determining what mitigation measures apply based on the nature of the action. This INRMP does not repeat the analysis or resources management decisions of the mission activities that have already been analyzed in detail in the NWTT EIS/OEIS and supporting compliance documents, but does include some of the Mitigation Measures associated with those documents that have been incorporated into day-to-day operations at SEAFAC, that provide a conservation benefit to the species.

1.8.3 Naval Base Kitsap Integrated Natural Resources Management Plan

SEAFAC is part of Navy Region Northwest and falls under the command of Naval Base (NAVBASE) Kitsap. Because SEAFAC's location is unique from many of the other installations within NAVBASE Kitsap, it was determined that management recommendations for SEAFAC should be documented in an individual INRMP for the installation.

1.8.4 Pest Management Plan

SEAFAC will implement a similar Pest Management Plan (PMP) as Naval Base Kitsap. The installation will have a PMP reviewed by the NRM and other appropriate personnel that provides guidelines for the use and storage of pesticides and herbicides. The NRM provides guidance for the management of pest problems such as insects and rodents.

1.8.5 State of Alaska Wildlife Action Plan

As a stakeholder in the management of natural resources on the installation, the Navy works with ADF&G for recommendations on various fish and wildlife conservation issues. The Navy has reviewed ADF&G's Alaska Wildlife Action Plan (2015). Alaska's Wildlife Action Plan brings together the best science available to conserve priority fish and wildlife species and their habitats. The Plan identifies species with important conservation needs and offer a set of actions to address key threats, providing a voluntary, non-regulatory alternative to the federal listing process. In the Plan, ADF&G identifies "species of greatest conservation need" (SGCN). A single species identified as SGCN has the potential to occur at the SEAFAC facility. The NRM coordinates with ADF&G on potential wildlife management that could be conducted at SEAFAC in support of the State of Alaska's conservation goals annually during the metrics meeting. Further information on the State of Alaska Wildlife Action Plan can be found online or by request to the NRM.

1.8.6 Tongass National Forest Management Plan

Back Island is part of the Tongass National Forest which is managed under the U.S. Forest Service's Final Tongass National Forest Management Plan (2008). The management plan outlines the goals and objectives, management prescription, and standards and guidelines for improving and maintaining the integrity of the environment and fish and wildlife conservation issues. In the Tongass National Forest Plan, Back Island falls into management area 8641. In addition to the Management Plan, the USFS also prepared a Tongass Integrated Plan (TIP) 2015-2019, which provides information on specific management prescriptions or projects that will be occurring over the five-year span. Under the 2015-2019 TIP, there are no projects scheduled at Back Island.

The NRM has coordinated with Forest Service on potential land management that could be conducted at SEAFAC in support of the Plan's goals and objectives. There are no trees located within the fenced boundary of the SEAFAC property; though there are trees in other portions of the managed lands covered by the Special Use Permit. Further information on the Tongass National Forest Management Plan can be found by requesting this information from the NRM.

1.8.7 Other Department of Defense and Navy Natural Resources Plans

The NRM maintains contact with the DOD Partners in Amphibian and Reptile Conservation (PARC) program to stay situationally aware of project and program opportunities. The Strategic Plan for Amphibian and Reptile Conservation and Management on Department of Defense

Lands was prepared to help natural resource managers better address the conservation and protection of amphibians and reptiles and their habitats; to help Commanders comply with the Endangered Species Act and the National Environmental Policy Act; and to help both Commanders and resource managers achieve their mission objectives by providing relevant technical guidance on amphibian and reptile conservation. This plan has been reviewed and incorporated into this document, as appropriate (Section 2.3.2.3 and Section 4.6.3).

Partners in Flight (PIF) Strategic Plan for Bird Conservation and Management on Department of Defense Lands assists installation natural resources managers in improving the monitoring and inventory, research and management, and education programs involving birds and their habitats. The DOD PIF Strategic Plan (DOD, 2014) identifies actions that support and enhance the military mission while also working to secure bird populations. The PIF is discussed in Section 4.4.1 of this INRMP.

2 SEAFAC Overview

Southeast Alaska Acoustic Measurement Facility (SEAFAC) is a 15 acre site, per the Special Use Permit, located within the 110-acre Back Island. Back Island is part of the Tongass National Forest, which is located in the 'Alaskan panhandle' in the southeast portion of the state (Figure 2.1). The closest city is Ketchikan, Alaska which is located about 20-miles from the site. The SEAFAC facility also includes a set of in-water test sites in the marine waters of Western Behm Canal adjacent to Back Island. The Navy holds a "special use permit" with the USFS for the development and operation of the shore site. The shore facility consists of cleared, graded and improved lands inside the security fence plus a paved drive to a 200-foot long pier with an adjacent floating dock. The structures on site includes work space/computer labs, office space, dormitory with a kitchen and break area, covered storage/repair shop space, a water cistern, wastewater treatment operations, and fuel tanks. The operational portion of the site has been paved or graveled, but the Navy's Special use Permit from USFS does include a portion of intertidal area, a vegetated buffer area that surrounds the properties fence line, and the original construction staging area outside the fence, which has reverted to native cover.

Table 2-1: Land & Water Use at SEAFAC

USFS Permitted - Land	**Approximate Area (Acres)**	**Percentage of Approx. Total**
Buildings/structures	.9	6%
Paved Area	2.3	16%
Gravel	1.1	7%
Vegetation (Construction Staging)	6.8	45%
Drainage Swale	1.5	10%
Security Buffer	1.2	8%
Power cable corridor	1.2	8%
Total Land	**Approximate Total Acres**	**Percentage of Total**
	15	**100%**
Other Permitted - Water	**Approximate Area (Acres)**	**Percentage of Total**
Pier	.3	98%
Waste Water Discharge Area	.007	2%
Total Water	**Approximate Total Acres**	
	.307	**100%**
Overall Total of Land and Water	**Overall Approximate Total Acres**	**Overall Percentage**
	15.307	**100%**

2.1 SEAFAC Military Mission and History

The SEAFAC site also includes the in-water test sites, which are established as Navy Restricted Areas in 33 C.F.R. 334. The outlines of these areas are published in the U.S. Coast Guard (USCG) Pilot 8 and all National Oceanographic and Atmospheric Administration (NOAA) nautical maps and charts of Behm Canal. The SEAFAC facility location was chosen primarily for its deep water, large submarine maneuvering area, and quiet ambient environment. Behm Canal is a large, deep, protected fjord that is located west of the Cleveland Peninsula and east of Revillagigedo Island. The Navy's Restricted Area covers an area of 48 nm^2 (33 CFR 334.1275).

SEAFAC mission operations primarily consist of measuring the noise emissions of submarines and surface ships when a vessel is underway and is at rest and moored. SEAFAC maintains and operates permanently installed in-water infrastructure to support these capabilities including: a pair of barges permanently moored in the Static site; sensor arrays and auxiliary equipment in Areas 1 and 2 positioned on permanently anchored vertical cables; power and communications feeds from the shore facility to the equipment in the test sites (throughout Area 3) are deployed on the floor of Behm Canal. the instruments are arrays of hydrophones for passive sensing of surface vessel and submarine acoustic signatures. Other types of testing, as described in the NWTT EIS/OEIS (Navy, 2015) may also be accommodated at this facility. Back Island is connected to Ketchikan electric and telephone utilities through additional in-water cabling located in Area 4. In addition, SEAFAC maintains a 200-foot long pier, a floating dock, an auxiliary boat ramp and a sewage outfall below the extreme low tide line.

Figure 2-1: Vicinity Map – Southeast Alaska Acoustic Measurement Facility

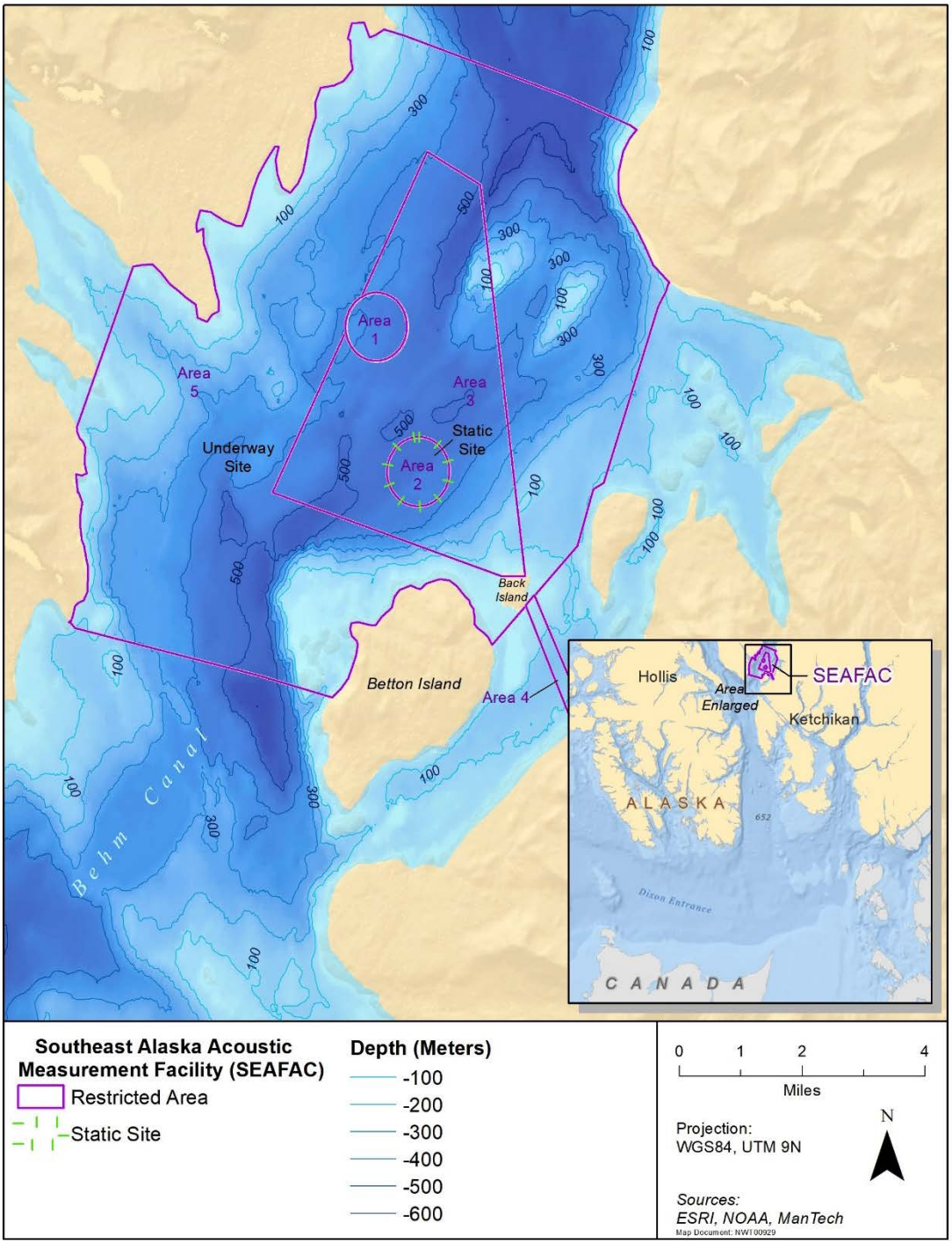

Figure 2-2: Installation Location within Behm Canal.

2.1.1 Installation History

British Captain George Vancouver accomplished an exploration of Behm Canal having circumnavigated Revillagigedo Island in early August of 1793. Back Island was named by the U.S. Coast and Geodetic Survey in 1886. USFS records show that there has been no historic

mining, fur farming, fishing, homestead, or special use activities on Back Island other than the SEAFAC facility.

2.1.2 Military Mission

The primary military mission for the SEAFAC installation is to support full-scale submarine acoustic trials, during which it conducts acoustic evaluations of submarine equipment and submarine silencing training. The SEAFAC site includes sensors and auxiliary equipment in the water connected to power and data processing equipment on shore needed to conduct very sensitive acoustical trials and other activities to support the military mission. SEAFAC initial operating capability began in 1991 and averages 10-to-12 submarine trials each year. Construction of SEAFAC began after completion of an Environmental Impact Statement (Navy, 1988) and an Addendum (Navy, 1989). The EIS and Addendum thoroughly evaluated the impacts of construction on the Back Island environment where the facility administration, maintenance and storage buildings are located. The 1989 EIS has been replaced by a 2015 EIS (Navy, 2015), which evaluates the environmental impacts of operations at the Static Site and Underway Site in Behm Canal.

2.2 Regional Land Use

The property surrounding Back Island is part of the Tongass National Forest in southeastern Alaska. The USFS has a land use designation (LUD) 2 for Back Island as part of “The Behm Islands Roadless Area” (Roadless Area 525). LUD 2 is a designation used by Tongass National Forest and its primary purpose is to retain wild land character primarily in a roadless state and allow limited development under certain circumstances. This land use designation allows building and operation of the SEAFAC facility.

While there is no commercial land use for resources on Back Island, there is commercial and recreational land use in the surrounding areas. Land based industries in nearby areas include logging, fishing, hatchery production, and mining.

2.3 Other Operations, Activities and Land and Water Uses

Throughout the year, RDT&E analyses are conducted to determine the sources of radiated acoustic noise, assess vulnerability, and develop quieting measures. The shore facility is there to support the RDT&E analyses with range control and communications, data collection and processing, and overnight accommodations for test personnel. Other activities within the shore facility are focused on maintenance of the in-water equipment including range craft as well as maintenance of the shore facility and basic facility operations (e.g., potable water and waste water treatment).

2.3.1 Land Management

The Behm Island Roadless Area has a land use designation 2 (LUD II) for Back Island, which under certain circumstances allows limited development. LUD II areas are defined in the Tongass Land Management Plan as lands that are "to be managed in a roadless state to retain their wildland character" (USFS 2016). This land use designation allowed for the limited building and operation of the SEAFAC facility.

2.3.2 Facility Maintenance and Operation

The SEAFAC site is remote from municipal and public services and all transit to and from the site is by boat. Therefore, some utility services are operated on-site including fresh water collection, potable water treatment, and sewage treatment with discharge to the environment. The site is connected to public utilities for electrical and phone/data services. Solid waste is packaged and hauled by boat for disposal in the municipal Ketchikan solid waste land fill. In addition, a fuel management system is located on site to support terrestrial vehicles and the range craft.

2.3.3 Project Review Procedures

All construction and maintenance projects performed at the site go through an environmental review process. This ensures that all actions are taken in compliance with all environmental laws and regulations, provides feedback to the program or project manager regarding costs and length of time to receive environmental permits, and provides opportunity to ensure all adjunct issues (safety, security, contract, real estate, etc.) are fully considered in project design. Mission and facility maintenance actions under NSWCCD authority follow the Naval Sea System Command review process. For NSWCCD activities that will impact the facility footprint or natural resources, coordination with the NRM must begin as early in the planning process as practical to ensure concurrence.

The review process for construction projects under NBK authority consist of the following steps:

1) A project manager notifies the NRM that a project or maintenance activity will be performed.
2) The program manager provides initial project information, including maps, outlining the project and showing the location.
3) The NRM or a designated staff review coordinator will receive the package and a) log it into a database to track the review process and b) send it to the correct Environmental Division staff members for their review and comments.
4) The review coordinator (which may be the NRM or a designated employee) will coordinate the comments and return them to the project manager. The review comments will include:

    - the identification of any environmental concerns,
    - suggestions for best management practices to minimize or eliminate any potential environmental degradation;
    - the identification of all environmental permits and other documents required to carry out the project,
    - the designation of the environmental staff person who will write and obtain the permits or carry out the environmental consultation process with outside regulatory agencies,
    - an estimation of any costs necessary to obtain environmental permits or other documents (example: an EIS may require a consultant to carry out the work and these costs would be estimated and provided to the program manager), and

- a schedule for obtaining all permits and documentation.

The Carderock review process for maintenance projects consists of the following steps:

1) Standard site operations within the conditions of the Special Use Permit is Carderocks' responsibility.
2) Site maintenance and improvement that triggers review of the terms and conditions of the Special Use Permit falls under CNIC review.

The above processes are a standard practice for the installation and provides for the conservation of the environment, natural resources, and health and safety of personnel.

2.3.4 Hazardous Waste Management

The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6921 et seq. regulates the management of solid waste and hazardous waste. Navy facilities are held to state hazardous waste substantive and procedural requirements under the Federal Facilities Compliance Act (42 U.S.C 6961), this includes the state permits for hazardous waste management and disposal. The Alaska Hazardous Waste law is found in the Alaska Statutes Title 46, Chapter 3 Section 299 and Section 308, and Chapter 9. The Alaska Hazardous Waste regulations are found in the Alaska Administrative Code Title 18, Chapter 62.

SEAFAC is a conditionally exempt small quantity generator per RCRA. SEAFAC maintains hazardous waste accumulation areas outfitted with secondary containment. Waste materials are recycled or disposed of using the City of Ketchikan RCRA-permitted small quantity generator disposal program.

2.3.5 Spill Prevention, Control, and Countermeasures

A Spill Prevention, Control, and Countermeasures (SPCC) plan (2015) has been developed for the installation and can be found in Comprehensive Environmental Response Plan (CERP) for the NSWC Carderock Division, SEAFAC. The SPCC plan can be requested from the installation Natural Resources Manager. The SEAFAC Site Director implements the plan; coordinates training and drills for installation staff; carries out inspections of storage tanks and equipment; reviews procedures that have a potential to release oil to the environment; and participates as a spill response team member in the event of an actual release. The SPCC plan recognizes navigable water in the vicinity of Back Island and prescribes strategies for protecting the waterway. The SEAFAC Site Director and staff are trained and have the necessary equipment to respond to a spill to the water and begin clean-up procedures (CERP, 2015). The installation will call upon the Commander, Navy Region Northwest, for notification and assistance in a spill response. If further assistance is needed, the installation can call upon the Coast Guard.

2.4 Regulatory Requirements for Natural Resources Management

This section provides a brief overview of the primary federal statues, executive orders, and guidance that are applicable to this INRMP.

2.4.1 Sikes Act

The Sikes Act requires Department of Defense (DOD) installations that contain significant natural resources to carry out programs to conserve and rehabilitate natural resources. Sikes Act

Section 16 U.S.C. 670a(3)(a) requires that, consistent with the use of military installations and to ensure the preparedness of the Armed Forces, the Secretaries of the military departments shall implement INRMPs in coordination with the USFWS and the appropriate State fish and wildlife management agency (ADF&G). This is to conserve and rehabilitate natural resources in installations, including hunting, fishing, trapping, and non-consumptive uses and, subject to safety requirements and military security, allow public access to military installations to use these resources.

2.4.2 Endangered Species Act

The ESA of 1973 (16 U.S.C. § 1531 et seq.) provides for the conservation of threatened and endangered (T&E) species and the ecosystems upon which they depend. The USFWS and NMFS jointly administer the ESA and are responsible for the listing of species. OPNAVINST 5090.1E and OPNAV-M 5090.1 direct NRMs to ensure that their INRMPs are prepared and implemented using scientific principles of ecosystem management to the maximum extent practicable, and in a manner consistent with the military mission, to preclude designations of critical habitat under the ESA. Section 4(a)(3)(b) of the Endangered Species Act (ESA) prohibits designating as critical habitat any lands or other geographical areas owned or controlled by the DOD, or designated for its use, that are subject to an Integrated Natural Resources Management Plan (INRMP) prepared under Section 101 of the Sikes Act (16 U.S.C.670a), if the Secretary (i.e. USFWS or NMFS) determines in writing that such a plan provides a benefit to the species for which critical habitat is proposed for designation. Section 7(a)(1) states that Federal agencies shall, in consultation with the assistance of the Secretary, insure that any action authorized, funded, or carried out by an agency is not likely to jeopardize the continued existence of any endangered species or threatened species or their habitat. Section 7(a)(2) requires each federal agency to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat.

At SEAFAC, proposed projects, operations, or other actions are scrutinized for potential impacts to T&E species through a formal review process. The Navy enters into consultation with the USFWS and NMFS whenever a proposed action may affect listed T&E species of plants and animals (50 CFR § 402.14(a)). The installation's INRMP serves as a baseline tool to identify at an early stage the potential impacts of planned Navy actions on endangered or threatened species. USFWS or NMFS, or both, may require changes or mitigation that could result in project delays and additional costs. Because of this, it is imperative that the Command initiates early environmental/natural resources review of proposed actions in order to assess risks, develop alternatives and correctly identify mitigation costs both in terms of time and dollars.

2.4.3 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801-1884), as amended in October 1996, requires that federal agencies consult with the U.S. Secretary of Commerce, through NMFS, on any action proposed to be undertaken that may adversely affect essential fish habitat (EFH). EFH in Alaska is identified in Fishery Management Plans developed by the North Pacific Fishery Management Council and approved by the Secretary of Commerce. EFH has been identified within the Behm Canal testing area and is part of Gulf of Alaska Slope Habitat Conservation Areas (North Pacific Fishery Management Council, 2016).

The Navy reviews all proposed projects, operations and training plans for possible impacts to EFH. If impacts to EFH are identified, recommendations to the program/project managers would be provided so that changes or mitigation can be considered early in the planning process. NMFS may require changes or mitigation that could result in delays and additional costs. Because of this, it is imperative that early environmental/natural resources review of proposed actions is conducted in order to assess risks, develop alternatives and correctly identify mitigation costs both in terms of time and dollars.

2.4.4 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) (16 U.S.C. §§ 1361 1423h) was enacted on October 21, 1972. All marine mammals are protected under the MMPA. The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products to the U.S. Congress passed the MMPA of 1972 based on the following findings and policies:

- Some marine mammal species or stocks may be in danger of extinction or depletion as a result of human activities.
- The species or stocks must not be permitted to fall below their optimum sustainable population level ("depleted").
- Measures should be taken to replenish these species or stocks.
- There is inadequate knowledge of the ecology and population dynamics.
- Marine mammals have proven to be resources of great international significance.

The Navy must apply for Incidental Take Authorizations for many activities, including military sonar training exercise, geophysical surveys for energy and scientific research projects, use of explosives, and pile driving associated with construction projects. For these activities, the "take" is incidental or unintentional to the activity, but not completely unexpected. The MMPA allows, upon request, the incidental take of a small number of marine mammals. Incidental takes are authorized by the NOAA Fisheries Office of Protected Resources if they find that the taking would:

- be of small numbers,
- have no more than a "negligible impact" on those marine mammal species or stocks, and
- not have an "immitigable adverse impact" on the availability of the species or stock for subsistence use (NOAA, 2018).

SEAFAC complies with the MMPA by reviewing projects, and determining their impact to the marine environment. Upon which consultations are held with NMFS to determine level of authorization if required for the type of project.

2.4.5 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703–712) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful. MBTA protects migratory birds and their nests and eggs from being hunted, captured, purchased, or traded.

In 2001, Executive Order 1386 was signed by The President to state the responsibilities of federal agencies to protect migratory birds. This executive order directs executive departments and agencies to take certain actions to further implement the MBTA. Those likely to have a measureable negative effect on migratory bird populations was directed to develop and implement, within 2 years, a MOU with the Fish and Wildlife Service that shall promote the conservation of migratory bird populations.

In 2003, the National Defense Authorization Action (NDAA) exempted DOD from the MBTA for the incidental take of migratory birds that results from authorized military readiness activities. With the passage of the NDAA, Congress signaled that DOD would give appropriate consideration to migratory bird protection when planning and executing readiness activities. Consequently, as directed by language in the NDAA, USFWS, in cooperation with DOD, developed the Military Readiness Rule to carry out congressional intentions. Military Readiness Rule. Reference (t), section 21.15 authorizes incidental "take" of migratory birds for military readiness activities, provided the Navy action proponent confers with USFWS to develop and implement appropriate conservation measures to minimize or mitigate negative effects if the proposed action will have a significant negative effect on the viability of a migratory bird population. Population is defined in reference (t), section 21.3. Potential impacts to migratory bird populations and MBTA compliance must be addressed in NEPA analyses using information from the appropriate INRMP where applicable, and the best scientific data available.

On March 15, 2005, the U.S. Fish and Wildlife Service published in the Federal Register (FR 70(49):12710-12716) a final list of the bird species to which the MBTA does not apply because they are not native to the United States and have been introduced by humans everywhere they occur in the nation. The list is required by the Migratory Bird Treaty Reform Act of 2004. The actual list of migratory birds protected by the MBTA is published in the Code of Federal Regulations (Title 50, Part 10.13). When it became law in 2004, the Reform Act excluded any species from protection not specifically included on the Title 50, Part 10 list.

2.4.6 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d), enacted in 1940, and amended several times since then, prohibits anyone, without a permit, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides for criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle… alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb".

"Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that

interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

Permit regulations for the Bald and Golden Eagle Act can be found at 50 CFR Part 22.

2.4.7 Clean Water Act and Executive Order (EO) 11990

The Federal Water Pollution Control Act (33 U.S.C 1251 et. seq), known as the Clean Water Act (CWA), requires each state to establish water quality standards for its surface waters based on designated uses. For "impaired" water bodies, each state is supposed to develop total maximum daily loads (TMDLs), which are the amount of pollutants that can be assimilated by a body of water without exceeding the water quality standards. Section 404 of the Clean Water Act prohibits discharges of dredged or filled material into waters of the U.S., including wetlands, without first obtaining a permit from the U.S. Army Corps of Engineers. OPNAV M-5090.1 refers to 33 CFR § 320-330, Clean Water Act (CWA) Section 404, and requires that the Navy comply with the national goal of no net loss of wetlands, and to avoid loss of size, function, and value of wetlands.

According to Executive Order 11990 (1977), the term "wetlands" includes areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. EO 11990 requires federal agencies to minimize the loss or degradation of wetlands and to enhance their natural values.

2.4.8 National Environmental Policy Act (NEPA)

The National Environmental Policy Act of 1969 (42 U.S.C. § 4321 *et seq*.) requires federal agencies to evaluate the impacts of their proposed actions on the quality of the human environment. The Navy recognizes that the NEPA process includes the systematic examination of the likely environmental consequences of implementing a proposed action. To be an effective decision-making tool, the Navy integrates the NEPA process with project planning at the earliest possible time. This ensures that planning and decision-making incorporate environmental values, avoids delays and minimize potential conflicts. The Navy is able to achieve its mission more efficiently when environmental planning is properly integrated into Navy decision- making for those Navy actions that have the potential for adverse environmental consequences.

NEPA and Navy policy require early review and coordination for environmental considerations. This is achieved by the installation's environmental review processes (Section 2.3.3), which requires all new projects, programs, and operations, or changes to existing projects, programs, and operations, be reviewed by the appropriate Navy personnel for potential impacts to the environment, including potential impacts to natural resources. The NRM helps identify the risks to natural resources, and provides comments and/or alternatives to the action proponents that will minimize or eliminate the risks, if possible.

2.4.9 EO 13751 (Dec 5, 2016) and EO 13112 (Feb 3, 1999)

It is the policy of the United States to prevent the introduction, establishment, and spread of invasive species; as well as to eradicate and control populations of invasive species that are established. Executive Order 13751 amends Executive Order 13112 and directs actions to

continue coordinated federal prevention and control efforts related to invasive species. This order maintains the National Invasive Species Council (Council) and the Invasive Species Advisory Committee; expands the membership of the Council; clarifies the operations of the Council; incorporates considerations of human and environmental health, climate change, technological innovation, and other emerging priorities into federal efforts to address invasive species; and strengthens coordinated, cost-efficient federal action.

Executive Order 13112 of February 3, 1999 (Invasive Species), called upon executive departments and agencies to take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established.

3 Current Management (Ecological Setting)

Back Island is located on the southeastern side of Western Behm Canal of Clover Passage. The island is approximately six-miles from Clarence Strait and sheltered by Betton Island less than a mile to the southwest. The predominant surface water feature is Behm Canal, a large water body consisting of a network of saltwater and brackish estuaries. The Cleveland Peninsula lies to the northwest of Back Island and Revillagigedo Island lies 2.5-miles away to the southwest shore. The mountains on either side of the canal rise rapidly to elevations in excess of 1,000 feet. This configuration of the surrounding geographic features greatly affects the microclimate of Back Island.

3.1 Physical Setting

3.1.1 Climate

Back Island and the surrounding islands have an oceanic climate with moderate, but generally cool, temperatures. Average annual precipitation is 153.35 inches (3,350 mm); average seasonal snowfall is 36.4 inches (84 cm), falling on 233 days and 19 days respectively. The mean annual temperature is 45.3 °F (7.4 °C), with monthly means ranging from 36.4 °F (2.4 °C) in January to 57.2 °F (14.0 °C) in August. Local climatological data indicates about 40 clear days, and 260 cloudy days and the remainder listed as partly cloudy.

Table 3-1: Monthly Climate Summary at Ketchikan, Alaska (1949-2010)

Month	Average Max Temp (F)	Average Min Temp (F)	Average Total Precipitation (in.)	Average Total Snow Fall (in.)
January	39.0	28.5	13.88	13.2
February	41.8	31.1	12.74	8.8
March	44.0	32.2	11.28	3.4
April	50.1	36	11.19	0.2
May	56.5	41.4	9.25	0.1
June	61.6	47.2	7.37	0.0
July	65.0	51.2	7.43	0.0
August	65.3	51.6	10.80	0.0
September	60.0	47.2	14.22	0.0
October	51.8	40.8	22.17	0.0
November	44.6	34.6	17.26	2.2
December	40.5	31.0	15.76	8.5
Annual	51.7	39.4	153.35	36.4

(From Western Regional Climate Center, 2015; and Alaska Climate Research Center, 2015)

3.1.2 Climate Change

Climate change regulations are evolving. To implement its climate policy, the federal government is using voluntary and incentive-based programs to create conservation efforts and promote climate technology and science. A more regulatory approach to addressing this issue may evolve over time at the national level.

The state government has instituted some policies and regulatory initiatives addressing climate change. In 2007, Alaska Administrative Order No. 238 created the Climate Change Sub-Cabinet to prepare and implement an Alaska Climate Change Strategy. The Sub-Cabinet strategy with includes:

- Building the state's knowledge of the actual and foreseeable effects of climate warming in Alaska;
- Developing appropriate measures and policies to prepare communities in Alaska for the anticipated impacts from climate change;
- Providing guidance regarding Alaska's participation in regional and national efforts addressing causes and effects of climate change.

In 2007, the governor of Alaska signed the state as an Observer to the Western Climate Initiative (WCI), not an active participant. The WCI is a collaboration among western states and provinces in Canada and Mexico, in order to:

- Set a regional greenhouse gas reduction goal that is consistent with each partner's individual reduction goal;
- Join a multi-state registry to track, manage and credit entities that report their greenhouse gas emissions and the reductions they make; and
- Develop a design for a regional multi-sector market based mechanism, such as a load-based cap and trade program, to help achieve the emission reductions.

3.1.2.1 Climate Change Vulnerability Assessment

NOAA adopted the Intergovernmental Panel on Climate Change (IPCC) definition, which states "vulnerability is the degree to which a system is susceptible to and unable to cope with adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity." Within the context of this INRMP, the "system" described above in the IPCC definition is synonymous with "natural resource" for the purpose of conducting a vulnerability assessment.

A thorough vulnerability assessment will lay the foundation for an adaptation strategy. It will help planners understand what might happen as climate changes and help focus attention on the areas or assets, in this case - natural resources, that are most vulnerable as well as the phenomena and associated impacts that could cause the greatest losses.

The phenomena expected to be of greatest importance and applicability for SEAFAC are as follows:

- Increased Storm Intensity/Frequency
- Increased Flooding Intensity/Frequency
- Increased Air Temperatures
- Increased Water Temperatures
- Rising Sea Levels

- Drought

Observed Conditions

Using official records and studies from the last century the following conditions and changes in climatic conditions in southeast Alaska have been documented:

- The southeast region experienced an average temperature increase of 3.6°F in the winter and 1.7°F in the summer over the last 65 years, with some areas in Alaska having an average increase of up to 9.1°F in the winter and 2.7°F in the summer (EPA, 2014).
- Higher temperatures have resulted in drier condition, leading to increase vulnerability to diseases, drought, and forest fires (Williams, 2012).
- Glacier surface elevations decreased over 95% in southeast Alaska.
- Large floods result from intense storms.
- Increased water temperatures have resulted in diseases and parasites in rivers and streams causing a dramatic decrease in native fish populations (Chapin et al, 2014).
- The timing of the peak spring runoff has been shifting over the past 50 years with the peak of spring runoff shifting from a few days earlier in some places to as much as 25 to 30 days earlier in others.
- Ocean acidification is occurring along the Alaskan coast.
- Southeast Alaska is headed towards milder winter temperatures, longer growing seasons, and increased boat traffic, which has increased the opportunity for the spread and establishment of invasive species (Bauder and Heys, 2004; McKee, 2006; Wolken et al., 2011).

Anticipated Conditions

- Temperatures are projected to increase another 2 to 10°F by 2100 (EPA, 2014).
- Increases in winter precipitation and decreases in summer precipitation are projected (Scenarios Network for Alaska Planning., 2009).
- The trend in the earlier timing of the peak spring runoff is projected to continue, with shifts anticipated of 20 to 40 days.
- Storms will become more intense and frequent during the winter months. Extreme high and low streamflow's are projected to change. Increased winter rainfall is expected to lead to more flooding, and low flows in the late summer are projected to decrease, resulting in drier soil and increase fire risk (Scenarios Network for Alaska Planning. 2009).
- At low elevations, it will become increasingly rare for below-freezing temperatures and snowfall (EPA, 2016).
- Salmon and other cold water species will experience increased stresses as a result of rising water temperatures.

Potential Vulnerabilities

The coastal and marine environment will be most affected by observed and anticipated climatic changes. Affected resources would be marine species that use this habitat in their various life stages. These anticipated conditions include:

- Increased storms volume, frequency and intensity resulting in more runoff across the facility
- Increased potential for existing infrastructure to be insufficient to carry storm runoff, leading to potential for structural damage due to flooding or poor drainage
- Health and preservation of ESA listed Species

Climate change regulations are evolving. Currently, the following serve as guidance:

The United States National Climate Assessment – Alaska Technical Regional Report (Markon, et al 2012)

EO 13514**:** Oct 2009**.** Energy (GHG reduction), Water, Waste conservation and reduction goals

- Requires agency Strategic Sustainability Performance Plans

Whitehouse Council on Environmental Quality (CEQ): (Mar 2011). "Federal Agency Climate Change Adaptation Planning, Implementing Instructions" require federal agencies to:

- Assess likely effect of climate change on agency's ability to achieve its mission & strategic goals, Sept 30, 2011

Quadrennial Defense Review (QDR): **(**Feb 2010) "The Department must complete a comprehensive assessment of all installations to assess the potential impacts of climate change on its missions and adapt as required."

Department of Defense Strategic Sustainability Performance Plan: (August 2010). Planning actions in accordance with EO13514

DODI 4715.03: (Feb 2011). Integrate climate change impact assessment and adaptation planning in INRMPs.

Climate Adaptation for DOD Natural Resource Managers: A Guide to Incorporating Climate Considerations into INRMPs and associated Memo (3 June 2019)

3.1.3 Water Quality Management in Western Behm Canal

Alaskan coastal resources are generally considered pristine because of the State's low population density and the distance of most of its coastline from major urban and industrial areas (EPA, 2012). The water quality index rating for the coastal waters of southeastern Alaska is good (Figure 2-5). The occasional ratings noted on the figure of fair likely resulted from natural conditions including low clarity measurements from glacial silt input or low dissolved oxygen

concentrations, which are typically associated with deeper fjords of southeastern Alaska (EPA 2012). Behm Canal has good water quality because most of the watershed consists of undeveloped lands in Tongass National Forest.

Marine water quality in the area can be affected by discharges from seafood processing plants, timber industry activities, shipyard and other industrial activity, treated sewer system outflows, cruise ships and other vessels operating in marine waters, and sediment runoff from paved surfaces and disturbed areas. The nearest impaired site is Ward Cove, which is on Alaska's impaired waterbodies list (Section 303(d) list) for low dissolved oxygen and sediment toxicity associated with pulp residues (ADEC, 2010). This estuarine embayment of Tongass Narrows is about 7 miles southeast of SEAFAC. Wastewater discharges and wood wastes associated with the historical operation of a pulp mill are the primary sources of impairment (ADEC, 2010). No other contaminated areas were identified within the vicinity of SEAFAC (ADEC, 2016).

Domestic wastewater generated at the SEAFAC shore facility on Back Island is treated by a secondary treatment system and is discharged to Behm Canal in accordance with a National Pollutant Discharge Elimination System Permit. The permitted maximum daily flow is 3,900 gallons per day. The permit contains treatment requirements, effluent limitations, and monitoring requirements.

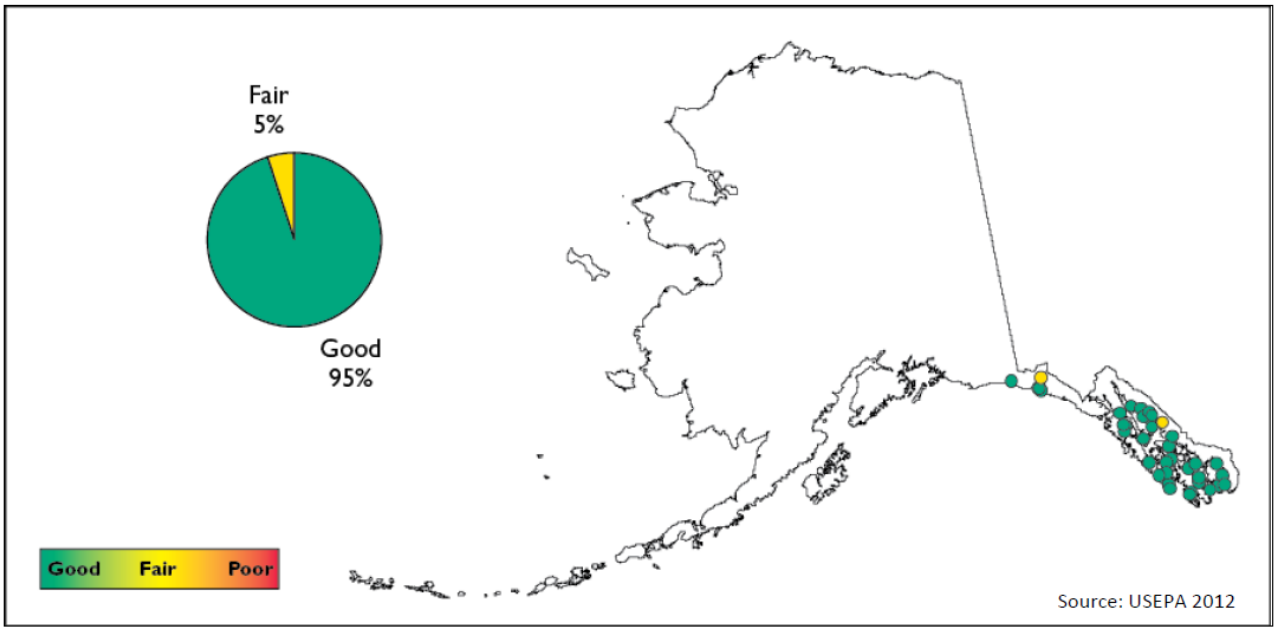

Figure 3-1: Water Quality Index for Southeastern Alaska

3.1.4 Air Quality Management

Air quality in the Ketchikan area and Southeast Alaska is good. The prevailing winds off the Pacific Ocean, the relatively small amount of industrial development, and low population densities all contribute to maintaining clean air in the region (Ketchikan Gateway Borough 2007). Sources of air pollutant emissions in the area include electric power generation facilities,

a limited number of industrial facilities, wood burning for heating, and mobile sources such as ships, boats, aircraft, and automobiles. Monitoring conducted by Alaska Department of Environmental Conservation indicated that particulate matter concentrations increased in the area during the wood smoke season (December through January), but the concentrations did not approach or exceed National Ambient Air Quality Standards (NAAQS) (Ketchikan Gateway Borough, 2007).

Approximately 489 cruise ships are scheduled to dock in Ketchikan from May through October 5, 2018 (Cruise Line Agencies of Alaska 2016). Fuel combustion emissions from cruise ships and other marine vessels contribute nitrogen oxides, sulfur dioxide, carbon monoxide, and particulate matter to the air. The Alaska Air Quality Control Plan restricts the density of smoke (opacity) that a marine vessel can emit. In general, the opacity level for a docked ship cannot exceed 20 percent for more than three minutes in any one-hour period. The Alaska Department of Environmental Conservation conducted ambient air quality monitoring in Juneau, which receives the highest volume of cruise ship traffic of any Alaska port, to address concerns about cruise ship emissions. Data from these monitors indicated that concentrations of measured air pollutants (sulfur dioxide, nitrogen dioxide, and particulate matter) were appreciably below the State and national air quality standards in both 2000 and 2001 (ADEC, 2008).

As required by the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has established NAAQS for the following criteria pollutants: carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, lead, particulate matter 10 microns in diameter or smaller, and particulate matter 2.5 microns in diameter or smaller. Emissions of volatile organic compounds and nitrogen oxides may also be regulated because they are precursor pollutants to the atmospheric generation of ground-level ozone. Areas that do not currently meet the NAAQS for a given pollutant are designated as nonattainment areas for that pollutant and areas that previously did not meet the NAAQS are designated as maintenance areas.

Section 176(c)(1) of the Clean Air Act, the General Conformity Rule, requires federal agencies to ensure that their actions conform to applicable implementation plans for achieving and maintaining NAAQS. Ketchikan Gateway Borough, where SEAFAC is located, is not classified as a nonattainment or maintenance area for any criteria pollutants (EPA, 2010; ADEC, 2010). Therefore, the General Conformity Rule is not applicable and conformity determination is not required at SEAFAC.

3.1.5 Geology

Molybdenum deposits were discovered in areas nearby to Back Island, which led to an increased interest in the areas geological characteristics. The glacial till in the area is composed of sandstone and shale, alternating between layers of Upper Triassic slate. These composites are exposed between the low- and high-water marks forming an intertidal bedrock shelf around the entire shoreline of Back Island. Above the high-water mark, the bedrock is overlain by a thin soil veneer that supports forest and brush type vegetation. A narrow strip of shingle/shale beach, varying in width from 10-to-40 feet, is present between the exposed bedrock formations and the extreme high-water mark along much of Back Island's shoreline and is devoid of vegetation (Navy, 1988). The shingle/soil matrix is poorly drained with small freshwater pools and channels. The shoreline of Back Island is very stable because of the exposed bedrock shelf. Evidence of some wave-induced erosion of the thin soil veneer at the extreme high-water mark exists. A low scarp cut into the soil is evident around much of Back Island. The scarp varies in

height from about six inches to one foot. The forest and brush vegetation that extends to the high water mark tends to buffer the erosive action of waves on the soil during extreme tides (Navy, 1988).

3.1.6 Seismology

The diverse tectonic forces bearing on the Southeast Alaska have created numerous linear features in the earth's crust that appear to be fault or fault scars. The general trends of the majority of faults are northwest-southeast, which coincides with the postulated subduction zones of crustal plates. Many of these faults have been widened and made more pronounced by water and ice, resulting in numerous valleys, bays, fiords, and straits. These linear features are common in southeastern Alaska and help create some distinctive features, like the Tongass Narrows, Vallenar-Bostwick Valley, and the Carrol Inlet (Lemke, 1975).

3.1.7 Marine Sediments

The lateral distribution of sediment types is variable across the western Behm Canal seafloor. In general, sediments are either deposited by glaciers as glacial sediments or after the retreat of the glaciers and rise of sea level as post-glacial sediments. Glacial sediments mapped along the sea floor or near subsurface consist of several sizes, ranging from large-grain sizes (e.g., shell, gravel, sand) to mixed sizes (e.g., clayey sand, sandy silt) to finer-grained sizes (e.g., inorganic silt, gray clay) to hard exposed bedrock. Post-glacial sediments are usually soft, unconsolidated, green, organic silt or brown, fluffy mud deposited from streams. Sand is found along the coastal beaches, and gas-charged sea floor sediments have also been reported (Naval Oceanographic Office, 2006).

The sediment quality index rating is good for the coastal waters of southeastern Alaska, with few occurrences of fair or poor ratings at sampling sites (Figure 2-6; EPA, 2012). The fair and poor ratings were primarily associated with sediment total organic carbon concentrations at sampling locations in Angoon and Hydaburg, Alaska.

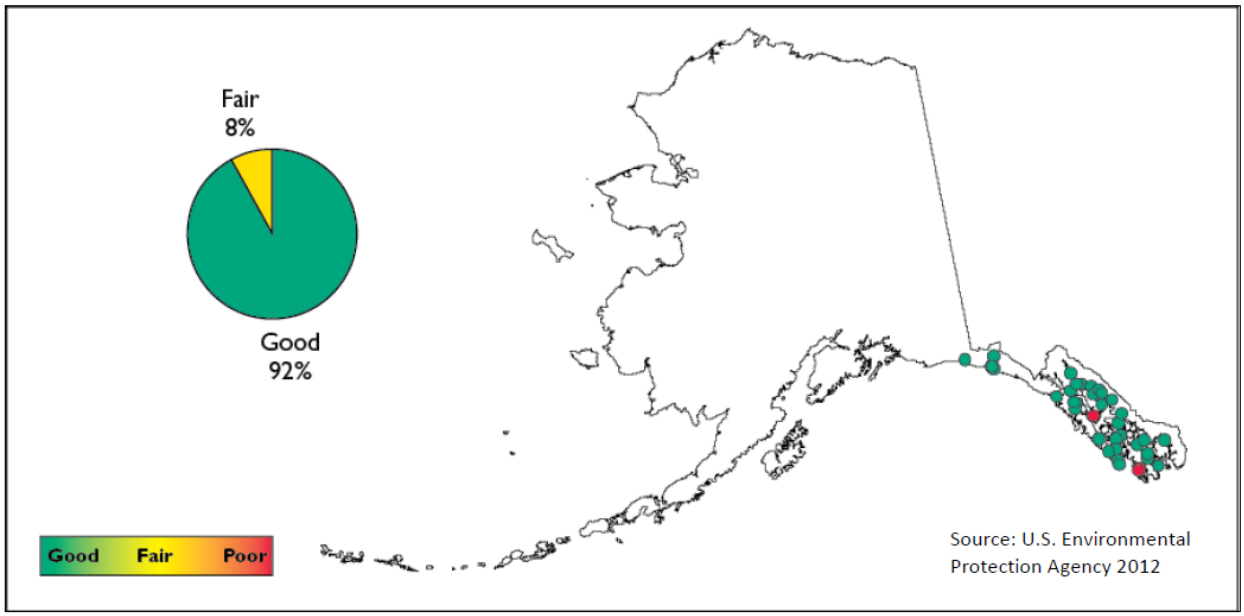

Figure 3-2: Sediment Quality Index for Southeastern Alaska

3.2 Ecological Communities of SEAFAC

Southeast Alaska Acoustic Measurement Facility is located in the North American Pacific Maritime Ecoregion (Comer et al., 2003). The North American Pacific Maritime Ecoregion lies along the west coast, from Northern California to Southern Alaska, including the Ketchikan region. The North American Pacific Maritime Ecoregion is characterized by high amounts of rainfall, dense forest, and lush vegetation.

The North American Pacific Maritime Ecoregion exists in a complicated landscape of islands and fjords along the west coast. The ecoregion is characterized by steep elevations from glacial landforms. The climate is mild due to the Pacific oceanic weather systems. Historically, the uplands were covered in extensive conifer forests, with prairies, muskegs and other open areas found in the southern portion of the ecoregion. Specific to SEAFAC, the ecosystems that are managed for are Marine nearshore, intertidal, and Alaskan Pacific Maritime Western Hemlock forest. These are specific to the site, and updated surveys of the site will help continued management of natural resources at SEAFAC.

3.2.1 Wetlands Management

There are no wetlands within the fence line of the SEAFAC facility. According to the EPA and EO 11990 (1977), the term "wetlands" means those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. The shoreline at SEAFAC consists of rocky intertidal habitat, estuarine and marine wetlands.

It is unknown whether there are wetlands outside the fence line of the SEAFAC facility. Therefore, the Navy will review projects to ensure habitat protection, erosion control, stormwater runoff, and water quality protection. The NRM, during the program/project review process, will be diligent about encroachment and impacts to the intertidal habitat and ensure that program/project managers are aware of the laws and regulations regarding the protection of the marine environment. The following general management guidelines are applied to the installation:

a) The Navy plans all construction and operational actions to avoid adverse impacts, to the extent practicable, to the marine environment. Any construction requirement that cannot be sited to avoid the intertidal habitat shall be designed to minimize impacts and permitted as needed under the Clean Water Act;

b) Any actions significantly affecting the marine environment are addressed during the environmental review and public notification process (NEPA);

c) Boundaries of the intertidal and marine environment are mapped with sufficient accuracy to advise new projects about how they can avoid impacts. Maps are available to all potential users, including facilities planners, operational units and tenant commands.

d) Adequate expertise is available to the installation CO for the protection, and management of the intertidal environment;

Implementation of intertidal habitat creation or enhancement projects and banking, where compatible with the installation mission, is encouraged. Natural resources managers should identify potential mitigation sites.

Figure 3-3: Estuarine Areas at Back Island, Alaska

3.2.2 Intertidal Management

The intertidal habitat is managed to ensure that there is no loss to their function or natural values. Point and non-point discharges from the facility are managed to minimize pollution and comply with the Navy's discharge permit.

The Navy's low impact development (LID) policy for stormwater management (USN 2007d) has set a goal of no net increase in stormwater volume, sediment, or nutrient loading from major renovations and construction projects[1]. To support this goal, the policy directs that LID be considered in project design for stormwater management. The Navy is directed to plan, program, and budget to meet the requirements of this policy starting in fiscal year (FY) 2011. Additionally, Congress enacted Section 438 of the Energy Independence and Security Act (EISA) of 2007 to require federal agencies to reduce storm runoff from federally funded development projects. Federal agencies can comply with EISA Section 438 by incorporating a variety of LID stormwater management practices into the design of development projects. EISA Section 438 will apply to a larger number of projects on SEAFAC as compared with the Navy's LID policy triggers. The EISA provision is as follows:

> **"**The sponsor of any development or redevelopment project involving a federal facility with a footprint that exceeds 5,000 square feet shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow."

A strong component of LID stormwater management is maintaining or mimicking the natural functions of wetland and riparian buffers to infiltrate, evapotranspirate, dissipate, and filter runoff from developed areas. Additionally, maintaining or restoring predevelopment hydrology under the requirements of the EISA Section 438 will further encourage new construction to occur in previously developed areas thus promoting preservation of undeveloped lands.

3.2.3 Shoreline and Nearshore Management

Shellfish, forage fish, and many other wildlife species utilize the beaches and shoreline areas of SEAFAC. At SEAFAC, proposed projects, operations, or other actions are reviewed for any foreseeable effect on coastal use or resource. This analysis includes direct and indirect environmental effects as well as effects on coastal resources. Review of upland projects could include identification of point and nonpoint source pollution while projects on the shoreline may need review for above water shading and marine habitat impacts. This review will include NAVBASE Kitsap staff with expert knowledge in many areas including the ESA, CWA, MMPA, wetlands management, and forestry.

While conducting project reviews the NRMs will review for the following in support of managing SEAFAC shoreline habitats:

[1] Major renovation projects are defined as having a stormwater component and exceeding $5 million when initially approved. Major construction projects are defined as those exceeding $750 thousand.

a) **Site Director will inspect the shorelines, especially the beach areas, for manmade debris.** If any debris is observed near or on Navy properties, they will be reported to the Alaska Regional Coordinator for the NOAA Marine Debris Program.

b) **Protect aquatic vegetation.** Marine vegetation may be found along some of the sub- and intertidal areas around Back Island. During the program/project review process, the NRM will look for potential impacts to aquatic vegetation and offer alternatives to minimize or eliminate the impacts.

c) **Stormwater runoff.** The NRM will work with NAVBASE Kitsap stormwater managers in reviewing proposed projects and programs for stormwater or other discharges, and ensure that these discharges do not degrade the water or sediment quality of the waters surrounding an installation.

d) **Military testing.** The Navy and other services may conduct studies or tests in the water surrounding Back Island. The NRM will coordinate with the NEPA team in charge of updating the at-sea military activity and their knowledge of the seasonal use of the waterway by birds and forage fish spawning, and recommend seasonal timing that will result in minimal or no impact to these species or their habitats.

DOD Instruction 4715.03 requires installations to manage its operations, activities, and natural resources to avoid or minimize adverse effects to natural resources on, adjacent to, or in close proximity to DOD lands or near-shore areas, and also to complete planning-level surveys to characterize significant installation and near-shore natural resources.

To the maximum extent possible, SEAFAC will:

- protect, preserve, and restore the nation's coastal ecosystems through existing federal capabilities and authorities;
- collaborate and cooperate in the stewardship of coastal living resources by working together and in partnership with other federal programs; and
- provide a framework for action that effectively focuses expertise and resources on jointly identified problems to produce demonstrable environmental and programmatic results that may serve as models for effective management of coastal living resources.

3.2.4 Vegetation Management

The entire SEAFAC site has been previously disturbed, so vegetation management is conducted primarily through mowing the security buffer around the perimeter fence, maintenance of vegetation around buildings that grows through the graveled areas, and the control of invasive species. Vegetation around fence lines are kept trimmed to ensure proper maintenance and security of the installation. Under the terms of the Navy's Special Use Permit, any trees or shrubbery on the site may only be removed after USFS's Forest Supervisor has approved and has marked or otherwise designated which vegetation can be removed.

3.2.4.1 Forest Management

SEAFAC holds a special use permit for 15 acres of property granted by the U.S. Forest Service. The remaining acreage of Back Island is not permitted to the Navy and remains under the guidance of the Tongass National Forest's Forest Plan (USFS, 2008). The surrounding land

remains undisturbed with primary species of Western Hemlock. There is no forestry program at SEAFAC.

3.2.4.2 Invasive/Noxious Species and Aquatic Nuisance Species Management

Management of invasive plants complies with DODI 4150.07 “DOD Pest Management Program” (May 2008), EO 13112 “Invasive Species” (February 1999), EO 13751 “Impacts of Invasive Species” (December 2016), Sections 7701-7772 of Title 7, United States Code, and the “Aquatic Nuisance Prevention and Control Act” (1990). The term “invasive species” is defined by Presidential EO 13112 to mean “an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Per Executive Order 13751 - Safeguarding the Nation from the Impacts of Invasive Species 'Invasive species' means, with regard to a particular ecosystem, “a non-native organism whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health.”

EO 13112 goes on to define an alien species as any species not native to a particular ecosystem, including the seeds, eggs, spores, or other biological material capable of propagating that species. Exotic invasive plants and animals have the potential to cause vast ecological and economical damage, and sometimes pose human health impacts in areas they infest. Per Executive Order 13751 'Nonnative species' or 'alien species' means, with respect to a particular ecosystem, an organism, including its seeds, eggs, spores, or other biological material capable of propagating that species, that occurs outside of its natural range.

Invasive plants can adversely affect an area when the plant becomes established or when an existing invasive plant spreads. Invasive plants can negatively affect habitat by changing the vegetation to reduce native plant populations as well as harm habitat for wildlife and fish. Highly invasive plants often have aggressive reproductive methods and can successfully compete for resources (Schrader and Hennon, 2005).

Occurrences of invasive plants throughout Alaska are tracked by the Alaska Exotic Plants Information Clearinghouse. Additionally, all invasive plant surveys, invasive plant finds, and treatments are entered into the Forest Service’s Natural Resource Information System georeferenced invasive species database (USFS, 2014). Eighty-eight species of non-natives that have been recorded within the Tongass National Forest, but only Japanese knotweed (*Fallopia japonica*) has been identified at Back Island. It is an herbaceous perennial plant, originating from Eastern Asia and has proven to be highly successful in North America and Europe.

Multiple agencies including Alaska Division of Agriculture (ADA), USFS, and the Navy want to stop the spread and eradicate invasive plants such as Japanese knotweed. Japanese knotweed was first identified at Back Island in 2015. It was contained to an isolated area within the upper intertidal habitat and was growing from a decaying tree stump (no shoots were beyond the stump). On-going monitoring will ensure that this is an isolated occurrence and that Japanese knotweed will not establish itself at the installation.

If the plant does spread/reestablish, the recommended removal prescription for Japanese knotweed depends upon the location and the density of the infestation. Hand removal and/or a combination of mowing/cutting back the plant and a direct herbicide application is an option to eradicate Japanese knotweed. Timing of the removal prescriptions should occur prior to seeding and repeated treatment is likely to be necessary (cutting once or twice per month during the growing season). This keeps the plants from flowering and weakens the roots & rhizomes. All

plant material should be removed, dried and burned if possible; composting is not an appropriate disposal method and any burnt material should be gathered and appropriately disposed of in a landfill. New plants can sprout from very small fragments.

A more direct and less intensive method is provided by USDA guidelines for control of knotweed. These options include smothering the plant with heavy plastic or other material heavy enough to prevent the plant from growing through, and keep in place for 3-5 years. Another option, and the most effective option, is to have an authorized applicator apply a systemic herbicide containing aquatic glyphosate (injection best in aquatic areas), imazapyr, or triclopyr (foliar application) to the actively growing plant. Herbicides can be applied 2-3 times per year; a spring treatment in June, and a summer treatment in August. Follow-up check would occur in the fall (September to October) and retreat of the site depending on the weather. Certification requirements for applying herbicides can be found in 18 AAC 90.300-18 AAC 90.315. The herbicide must also be listed on the DOD Authorized Pesticide Use List for use on SEAFAC.

In accordance with the Plant Protection Act of 2000 (7 U.S.C. 7701 et seq.), the U.S. government has designated certain plants as noxious weeds. The term "noxious weed" means any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment. More information on federal and state noxious weed lists, an invasive plant list, or an introduced plant list, can be found at http://plants.usda.gov/java/noxiousDriver#federal. The Alaska Pest Risk Assessment Committee (AKPRAC), Alaska Committee for Noxious and Invasive Plant Management (CNIPM), and the Alaska Invasive Species Working Group have a statewide focus on the prevention and eradication of both noxious and invasive species.

Invasive species can also spread through boat traffic. Nonindigenous Aquatic Nuisance and Prevention and Control Act of 1990 was enacted to control discharge of ballast water. The Nonindigenous Aquatic Nuisance and Prevention and Control Act was revised and reauthorized by the National Invasive Species Act of 1996. In 1996, ballast water management law that requires exporting tankers to conduct water ballast exchange in at least 2,000 meters of water depth to prevent the unintentional spread of invasive species.

The Aquatic Nuisance Species (ANS) Committee has the following objectives on record:

- Coordinate all ANS management programs within Alaska and Collaborate with Regional, National, and International Programs.
- Prevent the introduction of new ANS into Alaska waters
- Detect, monitor, control or eradicate populations of aquatic nuisance species as quickly as possible with a minimum of environmental impact.
- Educate the public and appropriate resource user to the importance of preventing ANS introductions and how the harmful impacts of ANS can be reduced.
- Identify, develop, conduct, and disseminate research on ANS that are identified as species of concern in Alaska.
- Take appropriate steps to ensure that federal and state rules and regulations sufficiently promote the prevention and control of ANS.

Their ANS 2002 Management Plan outlines a broad, coordinated approach, including new law, new regulation, new studies, assessments, public education, public outreach and other responsible measures aimed at controlling and eliminating the introduction of harmful bio-invasive organisms and avoiding or mitigating the harm they cause.

In order to conserve SEAFAC, the following actions will be undertaken:

Site surveys and eradication, if necessary, will be planned and timed for maximum effectiveness for the protection of natural resources on the affected installations. In-House surveys will occur to manage invasives at the site, along with coordination with USFS for management.

As necessary, the NRM will conduct surveys on the terrestrial and intertidal portions of SEAFAC in order to determine the presence, location and extent of any noxious and invasive plant types. Required grounds maintenance actions will be coordinated to eradicate invasive species, where present. Additional information on noxious weeds is located at: http://plants.alaska.gov/invasives/noxious-weeds.htm. Invasive and noxious weeds will be controlled via the appropriate method for the species (hand pick, mechanical removal, chemical removal, etc.).

The NRM annually proposes and submits projects and seeks funding for natural resources management issues. This will be assisted by grounds maintenance contracts already in place on the site..

The NRM will meet with SEAFAC's Site Director to insure that proposed new missions, or changes to existing missions consider adequate measures to avoid the spread of invasive species.

Goals:

- Interact with the surrounding community to develop positive and productive community involvement, participation, and education opportunities.

Objectives:

- Develop approaches and plans to protect, conserve, and manage the watersheds, wetlands, natural landscapes, soils, fish and wildlife (in cooperation with ADF&G) and other natural resources of the site, as vital elements of a natural resources program.
- Protect threatened, endangered, and sensitive species and critical habitats regulated by the Endangered Species Act (ESA).
- Ensure natural resources are managed in accordance with the lease with USFS; obtain permission for any alteration or improvements to the property, including the removal of trees or shrubbery.

If extensive monitoring is required, then detailed survey plans will be designed and timed to deliver the best quality data possible within the constraints of the project budget. Survey design will consider repeatability with the intent to enable easy transition for planned follow up surveys over time, in order to monitor invasive species. The scope of the INRMP is five years in duration, but includes provisions for annual review.

3.2.4.3 Wildland Fire Management

SEAFAC does not have a fire department. Therefore, the risk of drought is even more of a concern for the installation. Firefighting capacity is limited to hoses and fire extinguishers on

piers and in buildings (Navy, 2007). A clear zone is maintained outside the fence to act as a firebreak. If a fire occurs on Back Island, SEAFAC will contact the USFS fire marshal for the district, and evacuate the site if necessary. Additionally, the State Forest Action Plan has been developed to meet federal and state expectations for forest resources.

3.3 Wildlife Management

Wildlife management actions fall into two categories: population management and habitat management. Population management involves working with ADF&G, which establishes hunting, trapping, and fishing regulations and harvest objectives, controls nuisance animals, conducts habitat enhancement, and coordinates other projects to conserve and enhance game and nongame populations. Habitat management affects wildlife populations indirectly by manipulating their habitat.

3.3.1 Federally Listed Threatened and Endangered (T&E) Species

Federal agencies are required by the Endangered Species Act (ESA) to manage federally listed T&E species, and ensure consistency with plans for recovery of such species. This INRMP is meant to be used as a tool to identify at an early stage the potential impacts of the planned and ongoing Navy actions on T&E species and to provide avoidance and minimization measures.

3.3.2 Federal Candidate Species

Candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities (USFWS 2011). NMFS also maintains a list of species of concern for which more information is needed before they can be proposed for listing (USFWS 2011). Candidate species receive no statutory protection under the ESA (USFWS 2011). USFWS encourages cooperative conservation efforts for these species because they are, by definition, species that may warrant future protection under the ESA (USFWS 2011). The NRMs at NAVBASE Kitsap are aware of candidate species that occur in Alaska, and when noted to potentially occur at SEAFAC will work with the agencies on alleviating threats to the species.

3.3.3 Nuisance Wildlife and Feral Animal Management

At SEAFAC, pest problems related to insects and rodents such as mice and rats are handled by on site personnel. The IPMC and the NRM are notified when other agency's (e.g. ADF&G) need to be involved for pest problems related to feral animals or other nuisance wildlife. The term feral animal, as defined by Webster, has several meanings, but suggest a definition that feral animals are "animals that have escaped from domestication and become wild" (Witmern, et.al, 2005)

3.4 Special Management and Protection of Species

Special management and protection is a term that originates in the definition of Occupied Critical Habitat (OCH) in Section 3 of the ESA. For Occupied Critical Habitat, it is necessary to determine if:

a) The area contains the physical and biological features essential to the conservation of the species, and

b) The area has or needs additional special management or protection.

Adequate special management or protection is provided by a legally operative plan. The Navy uses the term "Integrated Natural Resources Management Plan", or INRMP. The INRMP is required by the Sikes Act. As provided in the 2004 National Defense Authorization Act [PL 108-136, Section 4(a)(3)(B)(i)], DOD lands with approved Sikes Act compliant INRMPs will not be included in critical habitat designations. It addresses the maintenance and improvement of the primary constituent elements important to the species and manages for the long-term conservation of the species. Navy INRMPs for T&E species must demonstrate compliance with strict criteria, intended to insure the adequacy of management for the benefit of the species. The Navy uses the following three criteria to determine if a plan provides adequate special management or protection:

Criteria 1. Conservation Benefit

The plan provides a conservation benefit to the species. The cumulative benefits of INRMP management activities for the length of the plan, must maintain or provide for an increase in a species population, or the enhancement or restoration of its habitat within the area covered by the plan i.e., those areas deemed essential to the conservation of the species. A conservation benefit may result from reducing fragmentation of habitat, maintaining or increasing populations, insuring against catastrophic events, enhancing and restoring habitats, buffering protected areas or testing and implementing new conservation strategies.

Criteria 2. Implementation of the Plan

The plan provides assurances that the management plan will be implemented. Persons charged with plan implementation are capable of accomplishing the objectives of the management plan and have adequate funding for the management plan. They have the authority to implement the plan and have obtained all the necessary authorizations or approvals. The plan provides a conservation effort implementation schedule, including completion dates.

Criteria 3. Management Effectiveness

The plan provides assurances that the conservation effort will be effective. The following criteria will be considered when determining the effectiveness of the conservation effort: The plan includes (1) biological goals (broad guiding principles for the program) and objectives (measurable targets for achieving the goals); (2) quantifiable, scientifically valid parameters that will demonstrate achievement of objectives, and standards for these parameters by which progress will be measured; (3) provisions for monitoring and, where appropriate, adaptive management; (4) provisions for reporting progress on implementation based on compliance with the implementation schedule, and effectiveness based on evaluation of quantifiable parameters of the conservation effort. This goal will be accomplished at the annual INRMP review and update in coordination with the appropriate federal and state agencies; and (5) a duration sufficient to implement the plan and achieve the benefits of its goals and objectives.

3.4.1 ESA Species Potentially Occurring at SEAFAC

As listed in Table 3-2, there are three federally listed species around Back Island, all living in the marine environment.

The ESA requires federal agencies to manage federally listed T&E species and their habitats in a manner that promotes conservation of T&E species and is consistent with recovery plans for such species. Section 7 of the ESA requires all federal agencies to enter into consultation with the USFWS and NMFS whenever actions are proposed that may affect listed and proposed T&E species of plants and animals or their critical habitat.

Table 3-2: Threatened and Endangered Species that may be present within the vicinity of SEAFAC

Species	Status	Critical Habitat Designated	Habitat
FAUNA			
MARINE MAMMALS			
Fin whale *(Balaenoptera physalus)*	Endangered 35 FR 18319 Dec. 2, 1970	Not designated	Marine Nearshore waters
Humpback whale (Mexico DPS) *(Megaptera novaengliae)*	Threatened 81 FR 62259 Oct. 11, 2016	Proposed 84 FR 54354 Oct. 09, 2019	Marine Nearshore waters
Sperm whale (*Physeter Macrocephalus)*	Endangered 35 FR 18319 Dec. 2, 1970	Not designated	Marine Nearshore waters
Steller sea lion (Western DPS) (*Eumetopias jubatus*)	Endangered 62 FR 24345 May 5, 1997	Not designated	Marine Nearshore waters

This INRMP is to be used as a tool to identify at an early stage the potential impacts of planned Navy actions on T&E species, and to provide a basis for altering the action to prevent or minimize those impacts.

3.4.2 Fin Whale

Figure 3-4: Fin Whale

Genus/Species:	Fin Whale (*Balaenoptera physalus*)
Status:	Endangered, under "Baleen Whales – all species".
Citation:	Vol 35, No. 6069, p 8491.
Habitat Designated:	Vol 35, No. 8491, p 8498, "Where Found".
Habitat exemption:	None

The fin whale (*Balaenoptera physalus*) is the second largest living animal. Their back and sides are dark grey/black with a white belly. They are streamlined in appearance with a distinct ridge along the back behind the dorsal fin. The dorsal fin, on average is about 60 cm in height and is set two thirds of the way down the back. The jaw is large and when the mouth is closed, the lower jaw protrudes slightly beyond the tip of the snout.

The fin whale is listed as depleted under the MMPA and endangered under the ESA. The population structure in the Pacific Ocean is not well known. In the North Pacific, NMFS recognizes three fin whale stocks: Alaska (or Northeast Pacific) stock; the California, Oregon, and Washington stock; and the Hawaii stock (Allen and Angliss, 2013; Carretta et al., 2015). The Alaska/Northeast Pacific stock is the most likely stock to be found in Behm Canal, but its occurrence is still considered rare.

Fin whales prey on small invertebrates such as copepods and squid, as well as schooling fish, including capelin, herring, and mackerel (Goldbogen et al., 2006; Jefferson et al., 2011).

There is no critical habitat listing for the fin whale. Fin whales were observed seven times in the summer during surveys of the inland waters of Southeast Alaska from 1991 to 2007 (Dahlheim et al., 2009). Fin whales typically utilize deeper pelagic waters, but as the population increases, some fin whales may venture into previously rarely used inland waters (Chamberlain, 2015).

Goals associated with this species that are explained earlier in the document are:

- Integrated NRC responsibilities with military activities, installation planning and programming, and other activities as appropriate to ensure no net loss to the Navy mission.

Objectives associated with this species and the overall management from the INRMP are:

- Develop approaches and plans to protect, conserve, and manage the watersheds, wetlands, natural landscapes, soils, fish and wildlife and other natural resources of the site, as vital elements of a natural resources program.
- Protect threatened, endangered, and sensitive species and critical habitats regulated by the Endangered Species Act (ESA).
- Provide for the optimum use of land and water areas and access thereto, while maintaining ecological integrity and ensuring no net loss in the capability of military installation lands to support the military mission of the installation.
- Maximize the benefits of the annual increment review process with the Agencies in order to maintain concurrency of the INRMP over time, thereby avoiding extensive re-writing processes and environmental reviews.

Criteria 1. Conservation Benefit

Consultation: SEAFAC will ensure that all proposed actions that may affect (including beneficially affect) the species comply with section 7 of the ESA which requires, at a minimum, informal consultation with NMFS; this includes emergency repairs to structures and other activities that are required by SEAFAC to meet the installation's mission.

Operations & Oversight: The NRM will identify facility operations and infrastructure that could affect water quality (storm drains that release directly to the water body; pesticide applications near the shore, new construction, etc.) and coordinate with appropriate Commands and/or departments to minimize or eliminate releases to fresh or marine waters. The SEAFAC Site Director will maintain SEAFAC's SPCC plan, which is part of SEAFAC's larger CERP. The Site Director will insure that these plans are implemented to prevent accidental contaminant releases to marine waters.

Criteria 2. Implementation of the Plan

Staffing: CNRNW annually funds and tasks the NRM position with natural resources oversight of the facilities and grounds. The NRM is directed by the Command to implement the INRMP. SEAFAC is also able to call upon the natural resources expertise of the Naval Facilities and Engineering Command Northwest, which is staffed with environmental planners and specialists to assist facility managers in conservation and environmental compliance requirements.

Projects & Funding: Given the mobility and range of the species, there are few facility actions that may be conducted at SEAFAC that will have a definable or measurable effect upon fin whale habitat, beyond those measures, which represent responsible stewardship. Projects oriented upon habitat enhancement on behalf of fin whales are therefore not reasonably within the scope of this INRMP. A Regional Marine Mammal Monitoring effort was programmed for all NBK sites, and can be used at SEAFAC.

Planning & Authority: The NRM and the SEAFAC Site Director have the authority to implement maintenance and protection plans and obtain all the necessary authorizations or approvals for proposed management actions.

Concurrency: The NRM will meet as appropriate with the SEAFAC Site Director to insure that proposed new facility operations, or changes to existing facility operations consider adequate protection measures for T&E species and their respective habitats.

Criteria 3. Management Effectiveness

There is a "Final Recovery Plan for the Fin Whale" that was issued by NMFS in July 2010. The overall goal of the plan is to ensure the success of the species.

Additional goals within this Recovery Plan include the following:

- Maintain and enhance habitats used by fin whales currently or historically.
- Identify and reduce direct human-related mortality, injury and disturbance,
- Measure and monitor key population parameters, and
- Improve administration and coordination of recovery program(s) for fin whales (NMFS 2010a).

The NRM or designated staff will record areas of fin whale use in the waters of or near the installation. The information within Monitoring and Adaptive Management will be used to update the INRMP and provide management guidance to the installation.

Monitoring & Adaptive Management: Species presence and frequency is currently monitored by the NRM using existing resources, including NMFS SARs reports and marine mammal monitoring funded through the Navy's Marine Species Monitoring program. Knowledge gaps identified by the NRM can be communicated to the Navy Marine Species Monitoring program, which addresses the monitoring requirements of the ESA and MMPA.

Reporting: During the annual review of the INRMP, the NRM will consult with NMFS to identify any necessary changes to the plan that would benefit fin whales.

Sufficient Duration: The INRMP is a long term planning document, with annual reviews capturing new data and changes to the management plans, and a review for operation and effect occurring every 5 years. Structured in this manner, the duration offers a suitable time frame for implementation and sufficient flexibility to enable plan effectiveness.

3.4.3 Humpback whale

Figure 3-5: Humpback Whale

Genus/Species:	Humpback whale (*Megaptera novaeangliae*)
Status:	Threatened (Mexico DPS), Delisted (Hawaii DPS)
Citation:	81 FR 62259
Habitat Designated:	Proposed Critical Habitat, 84 FR 54354.
Habitat exemption:	Proposed National Security Exclusion

Humpback whales (*Megaptera novaeangliae*) are large baleen whales. They have large pectoral fins that can reach 15 feet in length. Humpbacks are primarily dark gray in color with substantial white patches on their ventral side. Each individual whale can be identified using the unique pigmentation pattern on the underside of their tail, which they often show before performing a deep dive (NMFS, 2016a).

On September 8, 2016, NMFS issued a Final Rule that identified 14 Distinct Population Segments (DPS) of humpback whales, globally (81 FR 62259). DPSs are identified by their breeding locations, but migrate towards the poles from these locations. Of the 14 DPSs, only the Mexico and the Hawaii DPSs occur/are known to occur within waters near SEAFAC (NMFS, 2016b). In NMFS Final Rule, they listed the Mexico DPS as threatened and delisted the Hawaii DPS (81 FR 62259).

On September 8, 2016, NMFS, Alaska Region issued guidance regarding the occurrence of ESA listed humpback whales off Alaska (NMFS, 2016b). In that document, NMFS adopted information from Wade et al. 2016 to determine the probability of encountering humpback whales from each DPS in various feeding areas. Based on that information, we know that the majority of humpback whales that are identified at SEAFAC are from the delisted Hawaii DPS

(93.9% of the whales; CV = 0.17). Nevertheless, the Mexico DPS of humpback whales still utilizes the area (6.1%; CV = 0.03) which remain threatened on the ESA list (NMFS, 2016b). Since there is no way to tell these whales apart, the Navy will continue to manage all humpback whales within the SEAFAC operation area as a threatened species. Delisted populations are still protected and managed under the MMPA, so management of the humpback whale, as outlined in this INRMP, is unlikely to change (with the exception of Section 7 consultations) even if both populations are delisted at a later date.

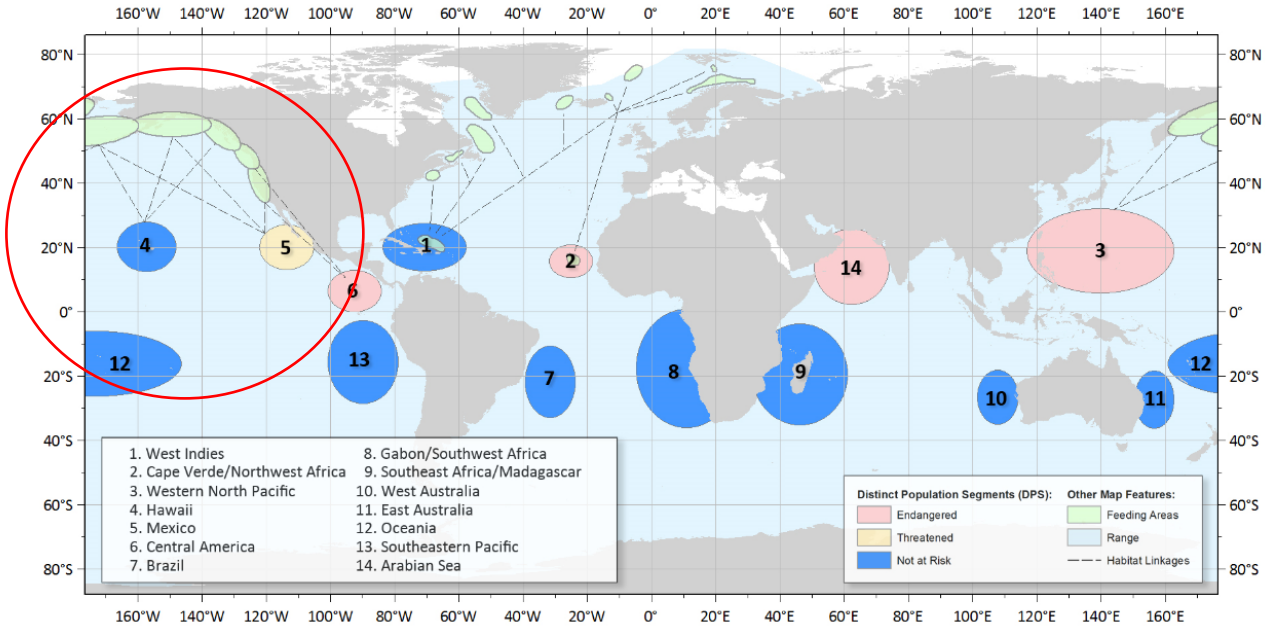

Figure 3-6: Humpback Whale DPS Map

Critical habitat has been proposed for humpback whale within Behm Canal; however, a national security exclusion is also proposed within the Federal Register (84 FR 54354). This exclusion includes SEAFAC, and the waters surrounding within Behm Canal. The Physical and Biological Feature (PBF) Essential to the Conservation of the species proposed by NMFS is: (1) Prey as an essential feature. In summer, relatively high densities of humpback whales occur throughout much of Southeast Alaska (Allen & Angliss, 2013). Because this species makes extensive use of inland coastal waters, it is the large whale species most likely to be found in the Southeast Alaska area. Humpback whales are commonly sighted and heard within Behm Canal (Harney, 2016). Humpback whales were observed frequently during the 1991–2007 surveys (spring through fall) of the inland waters of Southeast Alaska (Dahlheim et al., 2009). Although surveys were not conducted in the winter months in Southeast Alaska, observations have been made of humpback whales that have not migrated south, but remained in Alaskan waters to feed (Teerlink et al, 2015).

Goals associated with this species are:

- Integrate NRC responsibilities with military activities, installation planning and programming, and other activities as appropriate to ensure no net loss to the Navy mission.

Objectives associated with this species and the overall management from the INRMP are:

- Develop approaches and plans to protect, conserve, and manage the watersheds, wetlands, natural landscapes, soils, fish and wildlife and other natural resources of the site, as vital elements of a natural resources program.
- Protect threatened, endangered, and sensitive species and critical habitats regulated by the Endangered Species Act (ESA).
- Provide for the optimum use of land and water areas and access thereto, while maintaining ecological integrity and ensuring no net loss in the capability of military installation lands to support the military mission of the installation.
- Maximize the benefits of the annual increment review process with the Agencies in order to maintain concurrency of the INRMP over time, thereby avoiding extensive re-writing processes and environmental reviews.

Criteria 1. Conservation Benefit

Consultation: SEAFAC will ensure that all proposed actions at the station that potentially affect (including beneficially affect) the species comply with section 7 of the ESA, which requires, at a minimum, informal consultation with NMFS; this includes emergency repairs to structures and other activities that are required by the installation's mission.

Operations & Oversight: The NRM will identify facility operations and infrastructure that could affect water quality (storm drains that release directly to the water body; pesticide applications near the shore, new construction, etc.) and coordinate with appropriate Commands and/or departments to minimize or eliminate releases to fresh or marine waters. The SEAFAC Site Director will maintain SEAFAC's SPCC plan, which is part of SEAFAC's larger Comprehensive Emergency Response Plan (CERP). The Site Director will insure that these plans are implemented to prevent accidental contaminant releases to marine waters.

Criteria 2. Implementation of the Plan

Staffing: CNRNW annually funds and tasks the NRM position with natural resources oversight of the facilities and grounds. The NRM is directed by the Command to implement the INRMP. SEAFAC is also able to call upon the natural resources expertise of the Naval Facilities and Engineering Command Northwest, which is staffed with environmental planners and specialists to assist facility managers in conservation and environmental compliance requirements.

Projects & Funding: Given the mobility and range of the species, there are few actions that may be conducted at SEAFAC that will have a definable or measurable effect upon humpback whale numbers beyond those measures which represent responsible stewardship. Projects oriented upon habitat enhancement on behalf of humpback whales are therefore not reasonably within the scope of this INRMP. A Regional Marine Mammal Monitoring effort was programmed for all NBK sites, and can be used at SEAFAC.

Planning & Authority: The NRM and the SEAFAC Site Director have the authority to implement maintenance and protection plans and obtain all the necessary authorizations or approvals for proposed management actions.

Concurrency: The NRM will regularly meet with SEAFAC Site Director to insure that proposed new missions, or changes to existing missions consider adequate protection measures for T&E species and their respective habitats.

Criteria 3. Management Effectiveness

There is a "Final Recovery Plan for the Humpback Whale" that was issued by NMFS in 1991. The overall goal of the plan is to insure the success of the species. Accordingly, "biological success will be achieved when humpback whales occupy all of their former range in sufficient abundance to buffer their populations against normal environmental fluctuations or anthropogenic environmental catastrophes." This will lead to the second order "Political Success" of the species, when "… Humpback whales are abundant enough to allow them either to be reclassified from 'endangered' to 'threatened'; or possibly removed from the list of protected species" (NMFS, 1991).

Within this Recovery Plan there are goals, which include the following:

- Maintain and enhance habitats used by humpback whales currently or historically.
- Identify and reduce direct human-related mortality, injury and disturbance,
- Measure and monitor key population parameters, and
- Improve administration and coordination of recovery program(s) for humpback whales.

The NRM for SEAFAC will support the Recovery Plan goals, as appropriate, for the humpback whale. The NRM or designated staff will record areas of humpback whale use in the waters of or near the installation. The information within Monitoring and Adaptive Management will be used to update the INRMP and also provide management guidance to the installation.

Monitoring & Adaptive Management: Species presence and frequency is currently being monitored by the NRM using existing resources including NMFS SARs reports and marine mammal monitoring funded through the Navy's Marine Species Monitoring program. The NRM or designated staff will coordinate with the Navy's Marine Monitoring Program to determine if additional surveys in Behm Canal for humpback whales are needed. Surveys would focus on the summer months when humpbacks utilize higher latitudes for feeding. In addition, the surveys would investigate changes in season use patterns, as well as population estimate during peak months. Information gained will be utilized to update the INRMP and provide information for operation compliance documents.

Reporting: During the annual review of the INRMP, consult with NMFS and ADF&G to identify necessary changes to the plan that would benefit humpback whales.

Sufficient Duration: The INRMP is a long term planning document, with annual reviews capturing new data and changes to the management plans, and a review for operation and effect occurring every 5 years. Structured in this manner, the duration offers a suitable time frame for implementation and sufficient flexibility to enable plan effectiveness.

3.4.4 Sperm Whale

Figure 3-7: Sperm Whale

Genus/Species:	Sperm Whales (*Physeter Macrocephalus*)
Status:	Endangered
Citation:	Vol 35, No. 6069, p 8491.
Habitat Designated:	Vol 35, No. 8491, p 8498, "Where Found".
Habitat exemption:	None

Sperm whales (*Physeter Macrocephalus*) are the largest of the toothed whales, with males reaching 52 feet and females reaching 36 feet in length (NMFS, 2016c). They have extremely blunt heads that make up one-fourth to one-third of their body length, and their rod-shaped lower jaw is substantially smaller than their upper jaw. Sperm whales are usually dark gray in color but some have white patches on their ventral side and inside their mouth (NMFS, 2016c).

Sperm whales are listed as federally endangered and depleted under the MMPA (NMFS, 2016c). They are found in all oceans from the equator to sub-Arctic pack ice. In the eastern North Pacific, sperm whales have been divided into three stocks: California/Oregon/ Washington stock, the Hawaii stock, and the North Pacific stock. The North Pacific stock is the most likely stock to be in western Behm Canal. The North Pacific stock is comprised mainly of adult male sperm whales (Mesnick et al., 2011). Typically, only males are seen at higher latitudes while females and their calves remain in tropical or sub-tropical waters. Large, sexually mature males may migrate toward warmer waters to breed. Sperm whales prefer open water habitat, and are usually found in water deeper than 984 feet (NMFS, 2016c).

Critical Habitat has not been designated for sperm whales. The species is listed as endangered "throughout its range." Recent efforts to reduce depredation by sperm whales on long-line fisheries has included satellite tagging of multiple sperm whales in the Gulf of Alaska. These satellite tags show a clear preference for areas along the continental shelf, though several tagged whales ventured into Chatham Strait, roughly 100 miles to the northwest of Back Island. One sperm whale's satellite tag stopped transmitting in Dixon Entrance, a body of water roughly 90 miles south of Back Island (SEASWAP, 2015). Although the waters around Back Island are

included in the overall range of sperm whales (NMFS, 2016c), to date there have been no confirmed sightings of sperm whales in Behm Canal (Navy, 2015).

Goals associated with this species are:

- Integrate NRC responsibilities with military activities, installation planning and programming, and other activities as appropriate to ensure no net loss to the Navy mission.

Objectives associated with this species and the overall management from the INRMP are:

- Develop approaches and plans to protect, conserve, and manage the watersheds, wetlands, natural landscapes, soils, fish and wildlife and other natural resources of the site, as vital elements of a natural resources program.
- Protect threatened, endangered, and sensitive species and critical habitats regulated by the Endangered Species Act (ESA).
- Provide for the optimum use of land and water areas and access thereto, while maintaining ecological integrity and ensuring no net loss in the capability of military installation lands to support the military mission of the installation.
- Maximize the benefits of the annual increment review process with the Agencies in order to maintain concurrency of the INRMP over time, thereby avoiding extensive re-writing processes and environmental reviews.

Criteria 1. Conservation Benefit

Consultation: SEAFAC will ensure that all proposed actions at the installation that potentially affect (including beneficially affect) the species comply with section 7 of the ESA, which requires, at a minimum, informal consultation with NMFS; this includes emergency repairs to structures and other activities that are required by the installation's mission.

Operations & Oversight: The NRM will identify facility operations and infrastructure that could affect water quality (storm drains that release directly to the water body; pesticide applications near the shore, new construction, etc.) and coordinate with appropriate Commands and/or departments to minimize or eliminate releases to fresh or marine waters. The SEAFAC Site Director will maintain SEAFAC's SPCC plan, which is part of SEAFAC's larger CERP. The Site Director will ensure that these plans are implemented to prevent accidental contaminant releases to marine waters.

Criteria 2. Implementation of the Plan

Staffing: CNRNW annually funds and tasks the NRM position with natural resources oversight of the facilities and grounds. The NRM is directed by the Command to implement the INRMP. SEAFAC is also able to call upon the natural resources expertise of the Naval Facilities and Engineering Command Northwest, which is staffed with environmental planners and specialists to assist facility managers in conservation and environmental compliance requirements.

Projects & Funding: Given the mobility and range of the species, there are few facility actions that may be conducted at SEAFAC that will have a definable or measurable effect upon sperm whale habitat, beyond those measures, which represent responsible stewardship. Projects oriented upon habitat enhancement on behalf of sperm whales are therefore not reasonably

within the scope of this INRMP. A Regional Marine Mammal Monitoring effort was programmed for all NBK sites, and can be used at SEAFAC.

Planning & Authority: The NRM and the SEAFAC Site Director have the authority to implement maintenance and protection plans and obtain all the necessary authorizations or approvals for proposed management actions.

Concurrency: The NRM will regularly meet with SEAFAC Site Director to insure that proposed new missions, or changes to existing missions consider adequate protection measures for T&E species and their respective habitats.

Criteria 3. Management Effectiveness

There is a "Final Recovery Plan for the Sperm Whale" that was issued by NMFS in December 2010 (NMFS, 2010b). The overall goal of the plan is to ensure the success of the species.

Specified within this Recovery Plan are goals, which include the following:

- Maintain and enhance habitats used by sperm whales currently or historically.
- Identify and reduce direct human-related mortality, injury and disturbance,
- Develop methods to determine population structure,
- Measure and monitor key population parameters, and
- Improve administration and coordination of recovery program(s) for sperm whales.

The NRM for SEAFAC will support the Recovery Plan goals, as appropriate, for the sperm whale. The NRM or designated staff will record areas of sperm whale use in the waters of or near the installation. The information within Monitoring and Adaptive Management will be used to update the INRMP and provide management guidance to the installation.

Monitoring & Adaptive Management: Species presence and frequency will be monitored by the NRM using existing resources. The NRM or designated staff will work with the Navy's Marine Monitoring Program to determine if further surveys of Behm Canal for sperm whales are needed. Potential monitoring should focus during summer months when young male sperm whales migrate northward. Information gained to update the INRMP and provide management guidance to the installation's command and departments.

Reporting: During the annual review of the INRMP, consult with NMFS and ADF&G to identify necessary changes to the plan that would benefit sperm whales.

Sufficient Duration: The INRMP is a long term planning document, with annual reviews capturing new data and changes to the management plans, and a review for operation and effect occurring every 5 years. Structured in this manner, the duration offers a suitable time frame for implementation and sufficient flexibility to enable plan effectiveness.

3.4.5 Steller Sea Lion (Western Distinct Population Segment)

(Joling, 2017)

Figure 3-8: Steller Sea Lion

Genus/Species:	Steller Sea Lion (*Eumetopias jubatus*)
Status:	Endangered
Citation:	62 FR 24345
Habitat Designated:	58 FR 45269 (Not in SE Alaska).
Habitat exemption:	None

Steller sea lions (*Eumetopias jubatus*) are the largest member of the family Otariidae, with males reaching 11 feet and up to 2,500 pounds; and females reaching 9.5 feet and up to 800 pounds (NMFS, 2020). Adults are lighter tan in color, but when born are almost black. The Steller sea lions are the only living member of the genus *Eumetopias*, and are protected by both the ESA and MMPA. Historically, Steller sea lions as a whole were listed under the ESA in 1990. As of 1997, NOAA Fisheries recognized two DPSs (62 FR 30772). The two recognized DPSs are:

- Western DPS, which includes all Steller sea lions originating from rookeries west of Cape Suckling (west of 144^{o} W. longitude). This DPS is designated as Endangered.
- Eastern DPS (east of 144^{o} W. longitude), which was designated as threatened until 2013 when it was delisted.

The western DPS of Steller sea lions, even though increasing slightly, are still declining rapidly in areas of its range. The species feeds on over 100 species of fish and invertebrates, including Pollock, sand lance, mackerel, herring, polychaete worms, and cephalopods (Sinclair and Zeppelin 2002). Despite a broad diet, Steller sea lion have a relatively specialized dietary niche and target prey items at specific age classes or seasons when they exhibit certain characteristics (Sinclair et al. 2019).

Critical habitat is not designed in Behm Canal for Steller sea lion. The western DPS of Steller sea lion is listed as threatened in this vicinity. Potential threats to Steller sea lions in the western DPS are:

- Direct and indirect effects of fisheries

- Global climate change and other environmental variability
- Changes to prey
- Human disturbance
- Predation in areas where sea lions are depleted
- Environmental contaminants
- Disease and parasites
- Illegal shooting
- Entanglement
- Subsistence harvest
- Illegal feeding
- Vessel strikes. (NMFS, 2020)

Goals associated with this species are:

- Integrate NRC responsibilities with military activities, installation planning and programming, and other activities as appropriate to ensure no net loss to the Navy mission.

Objectives associated with this species and the overall management from the INRMP are:

- Develop approaches and plans to protect, conserve, and manage the watersheds, wetlands, natural landscapes, soils, fish and wildlife and other natural resources of the site, as vital elements of a natural resources program.
- Protect threatened, endangered, and sensitive species and critical habitats regulated by the Endangered Species Act (ESA).
- Provide for the optimum use of land and water areas and access thereto, while maintaining ecological integrity and ensuring no net loss in the capability of military installation lands to support the military mission of the installation.
- Maximize the benefits of the annual increment review process with the Agencies in order to maintain concurrency of the INRMP over time, thereby avoiding extensive re-writing processes and environmental reviews.

Criteria 1. Conservation Benefit

Consultation: SEAFAC will ensure that all proposed actions at the installation that potentially affect (including beneficially affect) the species comply with section 7 of the ESA, which requires, at a minimum, informal consultation with NMFS; this includes emergency repairs to structures and other activities that are required by the installation's mission.

Operations & Oversight: The NRM will identify facility operations and infrastructure that could affect water quality (storm drains that release directly to the water body; pesticide applications near the shore, new construction, etc.) and coordinate with appropriate Commands and/or departments to minimize or eliminate releases to fresh or marine waters. The SEAFAC Site Director will maintain SEAFAC's SPCC plan, which is part of SEAFAC's larger CERP. The Site Director will ensure that these plans are implemented to prevent accidental contaminant releases to marine waters.

Criteria 2. Implementation of the Plan

Staffing: CNRNW annually funds and tasks the NRM position with natural resources oversight of the facilities and grounds. The NRM is directed by the Command to implement the INRMP. SEAFAC is also able to call upon the natural resources expertise of the Naval Facilities and Engineering Command Northwest, which is staffed with environmental planners and specialists to assist facility managers in conservation and environmental compliance requirements.

Projects & Funding: Given the mobility and range of the species, there are few facility actions that may be conducted at SEAFAC that will have a definable or measurable effect upon Steller sea lion habitat, beyond those measures, which represent responsible stewardship. Projects oriented upon habitat enhancement on behalf of Steller sea lions are therefore not reasonably within the scope of this INRMP. A Regional Marine Mammal Monitoring effort was programmed for all NBK sites, and can be used at SEAFAC.

Planning & Authority: The NRM and the SEAFAC Site Director have the authority to implement maintenance and protection plans and obtain all the necessary authorizations or approvals for proposed management actions.

Concurrency: The NRM will regularly meet with SEAFAC Site Director to insure that proposed new missions, or changes to existing missions consider adequate protection measures for T&E species and their respective habitats.

Criteria 3. Management Effectiveness

There is a "Recovery Plan for the Steller sea lion" that was issued by NMFS in March 2008 (NMFS, 2008). The overall goal of the plan is to restore endangered western DPS Steller sea lions to the point at which they are again secure, self-sustaining members of their ecosystems, allowing initially for reclassification of the western DPS to threatened status and, ultimately, removal from the List of Endangered and Threatened Wildlife (List).

Specified within this Recovery Plan are objectives, which include the following:

- The collection of information on status and vital signs,
- Research programs to collect information on the remaining threats to recovery, including natural and anthropogenic factors, and,
- The implementation of conservation measures to remove impacts to anthropogenic threats to recovery.

Additionally, the plan highlights four actions that are especially important to the recovery program for the western DPS:

- Continue population monitoring and research on the key threats potentially impeding sea lion recovery.
- Maintain current or equivalent level of fishery conservation measures.
- Design and implement an adaptive management program to evaluate fishery conservation measures.
- Develop an implementation plan.

The NRM for SEAFAC will support the Recovery Plan objectives, as appropriate, for the western DPS Steller sea lion. The NRM or designated staff will record areas of Steller sea lion use in the waters of or near the installation. The information within Monitoring and Adaptive Management will be used to update the INRMP and provide management guidance to the installation.

Monitoring & Adaptive Management: Species presence and frequency will be monitored by the NRM using existing resources. The NRM or designated staff will work with the Navy's Marine Monitoring Program to determine if further surveys of Behm Canal for Steller sea lions are needed. Information gained to update the INRMP and provide management guidance to the installation's command and departments.

Reporting: During the annual review of the INRMP, consult with NMFS and ADF&G to identify necessary changes to the plan that would benefit Steller sea lions.

Sufficient Duration: The INRMP is a long term planning document, with annual reviews capturing new data and changes to the management plans, and a review for operation and effect occurring every 5 years. Structured in this manner, the duration offers a suitable time frame for implementation and sufficient flexibility to enable plan effectiveness.

3.4.6 Species of Greatest Conservation Need (SGCN)

The objective of having an INRMP is not only to outline conservation measurements for the recovery of T&E listed species, but to also identify species and/or habitats of concern that can be managed in a manner to prevent the need for future listing. Although limited resources are available to actively manage these species, the Navy looks from opportunities that it can provide conservation benefit to these sensitive species. In this manner the Navy takes a proactive rather than reactive approach to species management at SEAFAC.

SEAFAC has to take into consideration the ADF&Gs list of Species of Conservation Need. Species qualified as SGCN under one or more of the following criteria:

- At-risk species – Primary weight is given to those species already listed or at risk of being listed.
- Stewardship species – Any taxon with a large percentage of its population or range in Alaska.
- Culturally important species – Culturally important species for hunting or trapping
- Economically important species – Also noted as culturally important. These species include aquatic harvested commercial species.
- Ecologically important species – Species that exert disproportionate influence on ecosystem structure or composition.
- Sentinel species – Species that indicate ecosystem health or environmental change.

(Alaska Wildlife Action Plan, 2015, Appendix A)

3.4.7 Invertebrates

Figure 3-9: Pinto Abalone

Pinto abalone (*Haliotis kamtschatkana)* is listed as a species of concern under the ESA in 2006. They have an oval shell that can grow up to 6 inches long with 4-6 holes. The shell exterior color can be red, pink, tan, or mottled, while the interior color is mother of pearl (ADF&G, 2017). The muscle in the center is cream colored, while mottled orange on the side and darker orange at the foot. Maturity occurs after 6-8 years, and the maximum lifespan is 15 years. (ADF&G, 2017)

Pinto abalones reside in relatively shallow waters (low-low tide to minus 30-40 feet) along coastal waters of southeast Alaska (ADF&G, 2017). They range from southeast Alaska south to Point Conception, California. This species requires exposure to ocean currents, and is frequently found in kelp beds on rocky bottoms. Pinto abalones feed on many forms of algae up to large bull kelp. Very little research has been conducted on the species, especially with regards to life history, abundance, and distribution. Using phylogenetic and population genetic criteria, cryptic species or subspecies testing is occurring. (ADF&G, 2017).

4 Resources of Southeast Alaska Acoustic Measurement Facility

4.1 Physical Conditions

4.1.1 Hydrology

There are no surface waters (lakes, streams, or creeks) on Back Island or flooding associated with over-bank runoff. Surface water will be minimal and only occurs when associated with poor soil drainage. Snowmelt and storm runoff will evaporate or feed in to Behm Canal (Young et al, 1987).

The 1996 amendments to the Safe Drinking Water Act (42 U.S.C. 300 et. seq) section 1447(a), provide that federal agencies: “1) owning or operating any facility in a wellhead protection area; 2) engaged in any activity at such facility resulting, or which may result, in the contamination of water supplies in any such area; 3) owning or operating any public water system; or 4) engaged in any activity resulting, or which may result in underground injection which endangers drinking water”; shall be subject to and comply with all substantive and procedural federal, state, interstate, and local requirements to the same extent as any person.

The Alaska Department of Environmental Conservation, Division of Water’s mission is to improve and protect water quality.

- Establishes standard for water cleanliness (18 AAC 70)
- Regulates discharge to waters and wetlands
- Provide financial assistance for water and wastewater facility construction, and waterbody assessment and remediation
- Train, certifies and assists water and wastewater system operators
- Monitors and report on water quality

Domestic wastewater generated at the SEAFAC shore facility on Back Island is treated by a secondary treatment system and is discharged to Behm Canal in accordance with a National Pollutant Discharge Elimination System (NPDES) permit (EPA Permit # AKG572040). The permitted maximum daily flow is 3,900 gallons, (14,763 L) per day. The permit contains treatment requirements, effluent limitations, and monitoring requirements.

Industrial facilities such as SEAFAC, that have "no exposure" of industrial activities or materials to storm water are exempted from stormwater permitting requirements. SEAFAC is not required by regulations to prepare a stormwater pollution prevention plan (SWPP) because the facility is not subject to stormwater NPDES permitting. However, certain SWPP elements are included as a BMP (Leidos, 2015) (18 AAC 70 & 40 CFR 122).

4.1.2 Marine Waters

The SEAFAC testing facilities are in the western portion of Behm Canal, a fjord where fresh and salt water mix. It has a bathymetric sill that separates the seawater from the fresh inland water. This sill inhibits water mixing, weakens tidal flow at depth, and produces stratification with fresh water (less dense) at the surface and seawater (more dense) entering slowly at depth (Navy, 2015).

The tides in the Behm Canal are strong and semi-diurnal. Tide ranges at spring tides (new/full moon) are 15 to 22 ft (1.5 - 7 m). Neap tidal ranges are 9 to 15 ft (3 – 4.5 m) (Naval Oceanographic Office, 2006). Behm Canal is ideal for acoustic testing due to inland protection and relatively low level of in-water noise interference from competing human activities. The depth of the waterway for the testing sites averages 1,300 feet.

4.1.3 Bathymetry of Behm Canal

Behm Canal is a large, deep protected fjord carved out of bedrock by glacial action. The western proportion is about 60 mi (96.6 km) in length and has a mean width of 3 mi (4.83 km). Some areas of the fjord have depths exceeding 2,000 ft (610 m), but waters within the Navy's restricted area reach approximately 500 ft (152.5 m). The bathymetry of the canal is also marked by an end moraine and a lateral moraine (Navy, 2015).

The end moraine feature in Behm fjord is a bathymetric sill lying at the entrance to western Behm Canal. This bathymetric sill has a narrow groove approximately 1.5 nm wide occurring between 600 and 900 ft. (183-274 m). This structure acts as a boundary to physical mixing of the water column in western Behm Canal (Navy, 2015). The seafloor of the Behm Canal consists of large grain sizes (shell, gravel, sand) to mixed sizes (clayey sand, sandy silt) to finer-grained sizes (inorganic silt, gray clay) to hard exposed bedrock. Sand is found along the coastline beaches, and gas-charged seafloor sediments have also been reported (Navy, 2015).

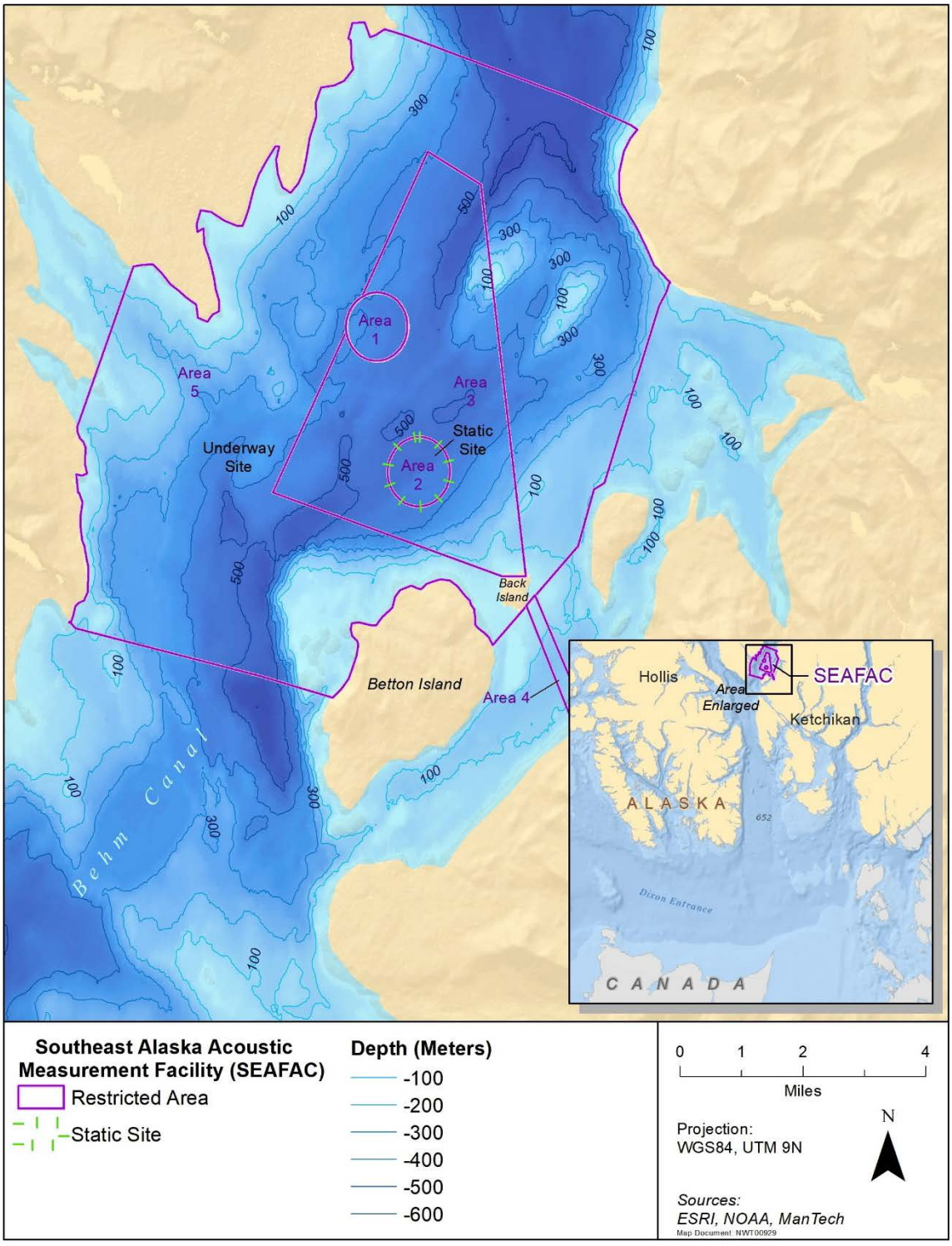

Figure 4-1: Bathymetry of the Southeast Alaska Acoustic Measurement Facility

4.1.4 Soils

The United States Department of Agriculture (USDA) Natural Resource Conservation Service provided the soil types found on Back Island (http://websoilsurvey.nrcs.usda.gov). The northern and southern ends of Back Island were delineated as a 615AC map unit, Typic Hymicryods and Lithic Humicryods with each composition comprising 45 percent of the soil with minor components making up the remaining 10 percent. Typic Hymicryods and Lithic Humicryods soil types are in 59.0 acres of the island. Land slope in the 615AC map unit is from zero to 35 percent (Figure 2-3).

Both Hymicryod soil types are weathered residuals of greywacke; a soil composed from a variety of sandstone. The typical profile of Hymicryod soil is slightly decomposed plant material at the ground surface to eight-inches below surface; silt to loam at 8 to 23-inches below surface; fine sandy loam at 23 to 27-inches below surface; and unweathered bedrock at the deepest surface.

The Back Island interior is delineated by the Natural Resource Conservation Service (NRCS) as a 710F map unit-McGilvery and Cryosaprists soils type with each composition comprising 45 percent of the soil and minor components making up the remaining 10 percent. McGilvery and Cryosaprist soil types are in 55.7 acres of the island. Land slope in the 710F map unit is from 75 to 100 percent.

McGilvery soil is comprised from organic material over greywacke. The typical profile of McGilvery soil is slightly decomposed plant material from the surface to four inches below surface; fine sandy loam from four to five inches below surface; highly organic silt loam from 5 to 12-inches below surface; gravely silt loam from 12 to 45-inches below surface; and bedrock from 40 to 6-inches at the lowest level.

Cryosaprist soil is comprised from organic material over colluvium, which are loose unconsolidated sediments deposited at the base of hillslopes by water flow. The typical profile of this material is mucky peat from surface to 5-inches below surface; muck from 5 to 30-inches below surface; extremely gravel sandy loam from 30 to 32-inches below surface; and unweathered bedrock from 32 to 60 inches at the lowest level. Both soil types have very poor drainage properties with a high runoff rate (USFS, 2015).

(USDA, 2019)

Figure 4-2: Soil Map for Back Island, Alaska

4.2 Habitats and Communities

4.2.1 Wildlife Habitat

4.2.1.1 Tidal Wetlands and Intertidal Habitat

Wetlands are defined jointly by the U.S. Army Corps of Engineers (33 CFR 328.3) and the Environmental Protection Agency (40 CFR 230.3). Wetlands are a subset of the "waters of the United States" that may be subject to regulations under Section 404 of the Clean Water Act. One key feature of the definition of wetlands is that, under normal circumstances, they support "a prevalence of vegetation typically adapted for life in saturated soil conditions." There are no wetlands within the fenced boundary at SEAFAC.

The National Wetland Inventory compiled by the USFWS Alaska Regional National Wetland Inventory office also maps the intertidal habitat around Back Island, AK. The mapped areas on Back Island are delineated as 'Estuarine and Marine Wetland' types having deep water tidal habitats and adjacent tidal wetlands that are influenced by water runoff from semi-enclosed land (Figure 2-7). There are no tidal wetlands at the SEAFAC site, but the intertidal area is included as waters of the state.

4.3 Flora and Fauna

4.3.1 Flora

4.3.1.1 Terrestrial Vegetation

Outside of the installation fence, Back Island contains dense forest upland. The dominant tree species on Back Island are western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), and sitka spruce (*Picea sitchensis*). Dense alder second growth has grown in the area northeast of the fence line, which was the lay down site during the original construction of SEAFAC. The understory consists of huckleberries and blueberries (*Vaccinium sp*.), devil's club (*Oplopanax horridus*), ground dogwood (*Cornus Canadensis*), false lily of the valley (*Majianthemum dilatatum*), and skunk cabbage (*Lysichitum americanum*) (Strand et al, 1986). Minimal terrestrial vegetation exists within the SEAFAC fenceline, as the site has been heavily disturbed. The surrounding property outside of the Special Use Permit boundary, as described above, is managed by the USFS.

4.3.1.2 Intertidal Vegetation

The shoreline community is dominated by a mixed stand of sedges, rushes, grasses, and scattered forbs. The entire western shoreline of Back Island is dominated by a mixed stand of sedges, rushes, grasses, and scattered forbs (Young et al, 1987). Lyngbye's sedge (*Carex lyngbyei*) is common on the lower beach and is replaced by Arctic rush (*Juncus articus*) in areas of drainage. Sea plantain (*Plantago maritima*) is also common to the lower beach in niches on rocks that are above the high-water mark. At higher and drier elevations, sedge and rush are replaced by wild rye (*Elymus mollis*), which is the dominant species on the upper shoreline in early June. Buttercup (*Ranunculus orthoryhn- chus*), plantain (*Plantago sp*.), yarrow (*Achillea millifolium*), Pacific cinquefoil (*Potentilla pacifica*), few-flowered shooting star (*Dodecatheon pulchellum*), and sea coast angelica (*Angelica lucida*) are also found at higher elevations along the shoreline and tree line (Strand et al, 1986).

4.3.1.3 Marine Vegetation

Back Island contains approximately 70 acres of intertidal zones between the lowest low tide and the highest hide tide lines. During an initial site inspection in September 1986 observations were made of the intertidal and subtidal zones (Young et al, 1987). Intertidal communities were dominated by numerous species of algae. Brown alga (*Fucus distichus*) and red algae (*Rhodomela larx*) were prominent in the high and middle intertidal zone. Green alga (*Blidingia minma, Monostroma sp*) and an unidentified green filamentous were observed in the middle to lower intertidal zone. The brown algal species (*Alaria marginata* and *Costaria costata*) were conspicuous at the seaward limit of the intertidal zone (Young et al, 1987). A subsequent visit to Back Island in 2016 confirmed many of these same species (Navy, 2016).

4.3.2 Fauna

4.3.2.1 Terrestrial Mammals

The predominant big game species on the island is the Sitka black-tailed deer (*Odocoileus hemionus sitkensis*); however, the estimated population for the deer is very low and temporary because of the size of the island (Stand et al, 1986; Navy, 2015). Resident populations of American black bear (*Ursus americanus*) and gray wolves (*Canis lupus*) are present on the larger neighboring Revillagigedo Island and could be found on Back Island at any time of the year. A Alexander Archipelago wolf (subspecies of gray wolf) has been seen at SEAFAC and was photographed eating a harbor seal on the beach (Harney, 2016). Due to the small size of the island, all large mammals found at any time on the island are theorized to be transient and utilize the island for short durations.

Other fur bearers including mink (*Mustela vison*), marten (*Martes americana*), and river otter (*Lutra canadensis*) are expected on Back Island. These smaller mammals may have established populations or regularly utilize the island. Smaller mammals including rodents and bats have the potential to be found on the island, either as transients or residents. A list of species potentially found at Back Island is listed in Appendix C.

Many non-native wildlife species have been introduced in Alaska. Norway rats (*Rattus norvegicus*) are thought to be causing substantial ecological harm in coastal ecosystems (USFS, 2015) and can be found on Back Island. SEAFAC maintains traps around the facility to control populations of this invasive species.

4.3.2.2 Birds

There are over 264 species of birds representing 52 families, documented to have occurred in the Ketchikan Gateway Borough (Juneau Audubon Society, 2009). Species of birds that could be found within the vicinity of SEAFAC include loons, grebes, cormorants, sea ducks, eagles, gulls, crows, ravens and alcids, among others. Common species that occur year round include bald eagle (*Hailiaeetus leucocephalus*), Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), surf scooter (*Melanitta perspicillata*), common merganser (*Mergus merganser*), common loon (*Gavia immer*), mew gull (*Larus canus*), glaucous-winged gull (*Larus glaucescens*), common murre (*Uria aalge*), and marbled murrelet (*Brachyramphus marmoratus*) (eBird 2016). Birds that can be found within the Ketchikan Gateway and the timing of their occurrences can be found in Appendix C of this document.

USFS conducted aerial surveys from 1986-1990 to determine nest location and activity status of the bald eagle on Back Island (Canterbury, 1990). During surveys, five nests were located on Back Island, but none are located within the Navy's SEAFAC property (Canterbury, 2008).

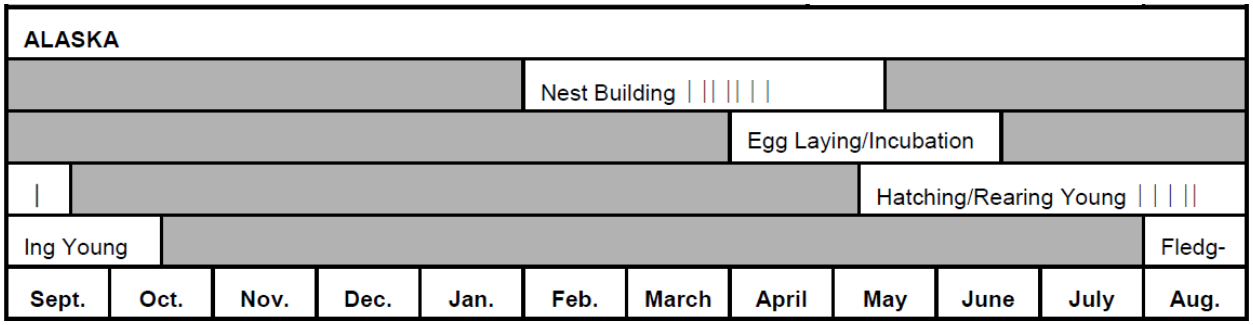

Figure is adopted from USFWS's 2007 Bald Eagle Guidelines (USFWS, 2007)

Figure 4-3: Chronology of typical reproductive activities of bald eagles in Alaska

Migratory Birds

Migratory birds are protected under the MBTA. The MBTA prohibits the taking of most birds, nests, and eggs, except as permitted by the USFWS. In addition, an MOU between USFWS, DOD identifies specific activities where cooperation between the two agencies will contribute to the conservation of migratory birds and their habitats. The MOU describes actions that should be taken by DOD to advance migratory bird conservation, avoid or minimize the take of migratory birds, and ensure DOD activities (other than military readiness activities) are consistent with the MBTA. The MOU describes how DOD and USFWS will work together cooperatively to achieve conservation of migratory birds. The 2008 Birds of Conservation Concern (BCC) list (USFWS, 2008) identifies 32 species in the Northern Pacific Forest Region. Migratory birds and specifically those on the BCC list may fly over or be occasional visitors to the installation.

The NRM will ensure compliance with the MBTA and the 2014 MOU. Individual projects will be evaluated for potential effects to migratory birds and appropriate consultations conducted with USFWS. One mechanism to accomplish this will be to identify proposed projects that could potentially affect migratory birds and discuss them at the annual INRMP evaluation and conservation metrics meeting.

4.3.2.3 Reptiles and Amphibians

Managing habitat for diversity, protection and enhancement will have the greatest benefit for wildlife, including reptiles and amphibians. Protection of any potential wetlands and retention of some downed logs will have the greatest benefit to these species. The DOD Partners in Amphibian and Reptile Conservation (PARC) provides a network through which the DOD can work to avoid future mission restrictions while providing stewardship for T&E herpetofauna. DOD PARC focuses on habitat and species management; inventory, research, and monitoring; and education, outreach, and training. It provides a framework for the effective management of amphibians and reptiles by the military services and their installations.

No specific surveys for amphibians or terrestrial reptiles have been conducted at SEAFAC. Amphibians and reptiles are considered rare at Back Island, but have the potential to be found on the island. Species that can be found within the region include the rough-skinned newt (*Taricha granulosa*) and the western toad (*Bufo boreas*) (ADF&G, 2016a).

Two invasive amphibian species are present in coastal Alaska; the northern red-legged frog (*Rana aurora*) and the Northern Pacific tree frog (which is also known as Pacific chorus frog in some areas) (*Pseudacris regilla*). Red-legged frogs are native to the Pacific Northwest, and have established populations on Chichagof Island and in the Juneau area, with recent surveys suggesting that its range is expanding (MacDonald, 2003). The North Pacific tree frog has an established breeding population on Revillagigedo Island, where it is currently thought to have little effect on native amphibian species (MacDonald, 2003).

It would be extremely unlikely to find any sea turtles including the loggerhead sea turtles (*Caretta caretta*), leatherback turtles (*Dermochelys coriacea*), olive ridley turtles (*Lepidochelys olivacea*) around Back Island as part of their normal or abnormal behavior. Occurrence of these marine reptiles in inland waters is considered extralimital (Seminoff, 2016).

4.3.2.4 Pollinators

President Obama's June 2014 memorandum, creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators, directs federal agencies to take steps to protect and restore domestic populations of pollinators. Alaska pollinators including honey bees, Andrenid bees, native bumblebees, wasps, moths, birds, bats, and butterflies; which contribute substantially to the health of the environment and to the economic vitality of the agriculture sector.

The DOD issued a memo to the Military Services in September 2014 reminding them that it is DOD's policy to use native landscaping. Also, when possible, to avoid using pesticides in sensitive habitats, to coordinate with other agencies and non-governmental organizations on habitat and pollinator issues, and to emphasize habitat restoration in National Public Lands Day projects (see DOD Policy to Use Pollinator-Friendly Management Prescriptions). Where possible, SEAFAC will take effort to reverse pollinator losses and help restore populations to healthy levels. Although opportunities are limited due to the constrained boundaries of the land within the Special Use Permit, any facility landscaping or planter boxes for construction and/or restoration projects should consider governmental regulations that may affect designs (as described in the Unified Facilities Criteria for Landscape Architecture [UFC 3-201-02]). The NRM will also look into ways to reduce pollinator exposure to pesticides at SEAFAC, such as hand removal of invasive species rather than the use of pesticides, when appropriate.

Further information regarding sustainable landscape guidance can be found in the Council on Environmental Quality (CEQ)'s Supporting the Health of Honey Bees and other Pollinators (October 22, 2014) and the Pollinator Health Task Force's National Strategy to Promote the Health of Honey Bees and other Pollinators (May 19, 2015). Some recommendations include:

- Plants utilized at SEAFAC should only be native species, and include pollinator-friendly mixes, when appropriate.
- SEAFAC shall, consistent with law and the availability of appropriations; support habitat restoration projects for pollinators, and shall utilize pollinator-friendly native landscaping

and minimize use of pesticides harmful to pollinators through integrated vegetation and pest management practices.

SEAFAC shall incorporate pollinator friendly practices in new construction, building renovations, and landscaping improvements within the limits of the Special Use Permit.

4.3.2.5 Marine Invertebrates

Benthic species within the marine waters surrounding Back Island are not well documented, but are likely to be similar to aquatic habitats throughout Behm Canal and Ketchikan Gateway borough. Marine invertebrates include red sea cucumber (*Parastichopus californicus*), sunflower sea star (*Pycnopodia helianthoides*), purple urchin (*Strongylocentrotus purpuratus*), red urchin (*S. franciscanus*), purple and orange starfish (*Pisaster spp*.), white plumed anemone (*Metidium giganteum*), and other anemone species (family Actiniidae) (Navy, 2016). Dungeness crab (*Cancer magister*), tanner crab (*Chionoecetes bairdi*), spot shrimp (*Pandalus platyceros*), and coonstripe shrimp (*Pandalus hypsinotus*) are common marine invertebrates of the region (U.S. Forest Service, 1984). Tanner crabs are preyed on by spiny dogfish (*Squalus acanthias*) and Pacific halibut (*Hippoglossus stenolepis*) (Navy, 1991).

Spot shrimp and coonstripe shrimp are the two commercially harvested shrimp species in the region. These invertebrates feed on detritus and provide forage for a number of fish species. High concentrations of these shrimp species are found along the sides of fjord basins (USFS, 1984). Other less abundant shrimp in the SEAFAC area include sidestriped shrimp (*Pandalopsis dispar*) and pink shrimp (*Pandalus borealis*). Neither of these species are commercially harvested (Navy, 1991).

4.3.2.6 Shellfish

The gradual slope of the tidal zone at Back Island supports a diverse ecosystem of shellfish, including several scallops, clam, and mussel. The scallops present on shore are rock scallop (*Hinnites* multirugosus) and spiny pink scallop (*Chlamys hastata hericia)*, along with the Alaska jingle clam (*Pododesmus macrochisma)* and the common blue mussel (*Mytilus edulis*) (Young et al, 1987; Navy, 2016). These shellfish are biological filters, cleaning nutrients and other impurities from local waters. Additionally, native shellfish beds increase water column clarity and facilitate nutrient cycling.

4.3.2.7 Forage Fish

Forage fish are species of fish that provide a food source for a wide array of other species. Pacific herring (*Clupea pallasii*), sand lance (*Ammodytes hexapterus*), capelin (*Mallotus villosus*), eulachon (*Thaleichthys pacificus*), walleye pollock (*Theragra chalcogramma)*, and surf smelt (*Hypomesus pretiosus)* are considered forage fish. Surf smelt and sand lance tend to spawn in sediment depositional beaches. As the name implies, the significance of forage fish is related to the critical part they play as the prey base for a large variety of other marine organisms, their popularity as recreational fishing bait, and their significance to commercial and subsistence fisheries. ADF&G documented that most beaches along Back Island are herring spawning grounds in early April to early May (Strand et al, 1986).

ADF&G manages the Pacific herring on a long-term, sustainable yield basis and monitors the southeast Alaska Distinct Population Segment (DPS) as nine spawning habitats including: Sitka;

Hoona Sound; Seymour Canal; Hobart-Houghton; Tenakee Inlet; Ernest Sound; West Behm Canal; Craig; and Lyn Canal.

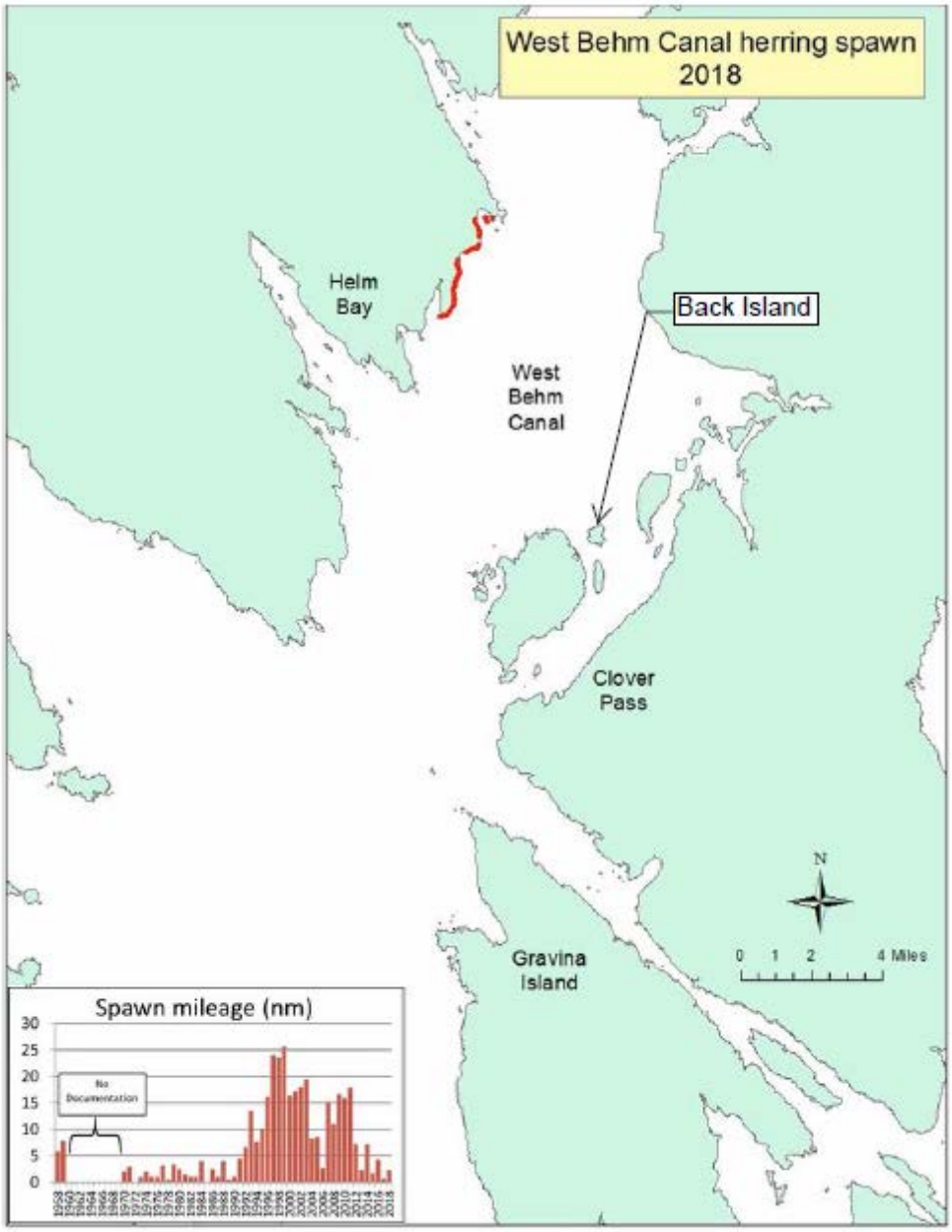

Figure 4-4: Herring spawning in West Behm Canal, Alaska (ADF&G, 2019)

4.3.2.8 Pelagic, Demersal, and Anadromous Fish

The marine waters of the Ketchikan area support various salmon species, including Chinook (*Oncorhynchus tshawytscha*), coho (*O. kisutch*), pink (*O. gorbuscha*), chum (*O. keta*), and sockeye (*O. nerka*), which may utilize Behm Canal as a migratory pathway as juveniles (Navy, 2015). Enhancement efforts by several nearby hatcheries release coho fry into adjacent waterways, and fry released from Neets Bay are most likely to utilize Behm Canal for migratory

passage. Neets Bay Hatchery produces summer and fall chum, and fall coho and Chinook salmon (Southern Southeast Regional Aquaculture Association, 2015). No spawning sites for these species have been reported in the vicinity of Back Island (Navy, 1987).

Other species of importance occurring in the western Behm Canal study area include salmonids, such as steelhead trout (*O. mykiss*), cutthroat trout (*O. clarki*), and Dolly varden (*Salvelinus malma*), Pacific halibut, lingcod, Pacific cod, greenling, herring, and several common species of rockfish (ADF&G, 2016b, ADF&G, 2016c).

4.3.2.9 Marine Mammals

The marine mammals most likely to be in the vicinity of Back Island and Behm Canal are harbor seals (*Phoca vitulina*), eastern stock Steller sea lion (*Eumetopias jubatus*), and Alaska resident and west coast transient killer whale (*Orcinus orca*), humpback whale (*Megaptera novaeangliae*), harbor porpoise (*Phocena phocena*), and Dall's porpoise (*Phocoenoides dalli*). The pinnipeds are year round residents, while the killer whale, and humpback whale are migratory and tend to appear in the spring to the fall, but can also be found year round. Dall's porpoises do not truly migrate, but may have seasonal onshore-offshore movements. Researchers found Dall's porpoises to be distributed through a southeast study area in Alaska with more sightings in spring and summer than in fall. (Dahlheim et al. 2009) Harbor porpoises do not make long migration trips, but occasionally travel to deeper water in the winter. Researchers found their distribution to be clumped in several southeast Alaska study areas with no evidence of seasonality. Other marine mammal species, such as northern fur seal (NMFS, 2020b), western DPS Steller sea lion, sperm whale, and fin whale have ranges that include Southeast Alaska but are rarely seen in the inland waters near Back Island (Navy, 2015).

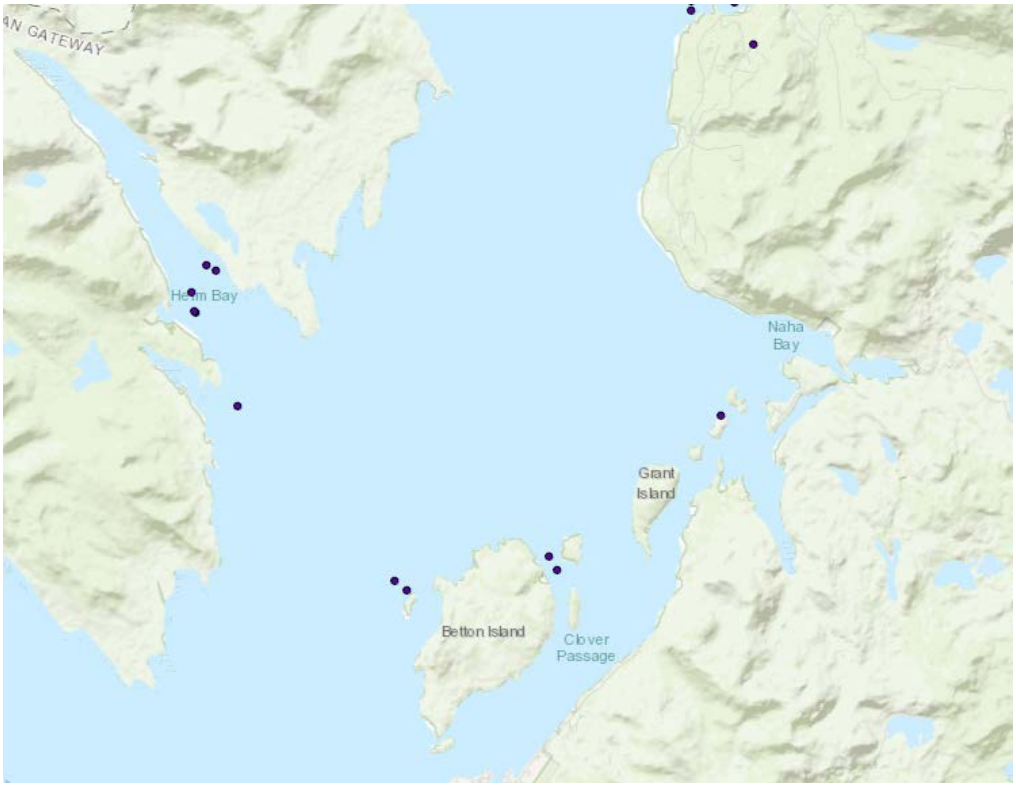

Figure 4-5: Harbor seal Haul outs in West Behm Canal, Alaska (ADF&G, 2020)

4.3.2.10 Invasive Species

Invasive Insects

Four introduced insects are currently established in Alaska and may pose a risk to forested habitats in the future: the larch sawfly, alder woolly aphid, spruce aphid, and amber-marked birch leafminer. These insects can cause widespread tree defoliation and mortality, however, their presence has not been reported on Back Island (USFS, 2015). Non-native slugs, such as European black slug (*Arion ater*), garden slug (*Arion sp.*), and leopard slug (*Limax maximus*) are harming Alaskan estuary habitats. However, none of these slugs are considered invasive (USFS, 2015).

Aquatic Invasive

Several aquatic species are considered potential threats to Alaska, including the Atlantic salmon (*Salmo salar*), green crab (*Carcinus maenas*), New Zealand mud snail (*Potamopyrgus antipodarum),* Chinese mitten crab (*Eriocheir sinensis*), zebra mussel (*Dreissena polymorpha*), signal crayfish (*Pacifastacus leniusculus*), and spiny water flea (*Bythotrephes longimanus*) (ADF&G, 2002). Even though the Chinese mitten crab, green crab, and New Zealand mud snail have not been found in Alaska, they are a major concern because of their potential to damage to Alaskan ecosystems, as observed in other U.S. locations (Hines et al. 2014; Schrader and Hennon, 2005). The green crab is a particular concern, as it has been reported to be in British Columbia coastal waters (ADF&G, 2016d). Several fish species are potential threats to Alaska, and include Atlantic salmon (*Salmo salar*) and yellow perch (*Perca flavescens)* (USFS, 2015). Atlantic salmon are a major concern because of the threat they pose to native salmon populations. Atlantic salmon could potentially out compete and spread diseases and parasites to native salmon population. They have been observed in Southeast Alaska marine waters and, rarely, in streams (ADF&G, 2016b).

5 Environmental Management Strategy and Mission Sustainability

5.1 Supporting Sustainability of the Military Mission and the Natural Environment

The fundamental components of SEAFAC's natural resources management are personnel and funding. OPNAV Manual 5090.1 requires each installation to have, in writing, a designated NRM. This individual is to be a professional knowledgeable and trained in the particular resource issues for that installation. The NAVBASE Kitsap NRM has overall responsibility for managing natural resources at SEAFAC. The NRM also relies extensively on the local NSWC Carderock Division, SEAFAC staff to assist with natural resources management activities. The NRM will integrate environmental protection, conservation, and enhancement/restoration within the constraints of the installation's military mission on Back Island. At the same time, the NRM will identify risks to the environment that may result from military activities within the boundaries of the Special Use Permit, and report these potential risks to all Commands involved so that alternatives may be developed that reduce or eliminate the potential impacts.

5.2 Early Review and Risk Assessment

Early review of proposed actions and the assessment of environmental risk is achieved at SEAFAC by a review process. This requires that all new projects, programs, and operations, or changes to existing projects, programs, and operations, be reviewed by the appropriate environmental staff for potential impacts to the environment, including potential impacts to natural resources. All projects are reviewed to assess the risks to natural resources and the environment. Natural Resources specialist and NEPA specialists provide comments and/or alternatives to the action proponents that will minimize or eliminate the risks, if possible. The early review process also allows for the opportunity to identify the appropriate NEPA documents that will be generated based on the proposed action and the alternatives.

5.3 Management Strategy

Ecosystem management is a process that considers the environment as a complex system functioning as a whole, not as a collection of parts, and recognizes that people and their social and economic needs are a part of the whole. The ecosystem management approach has the overarching goal of protecting the properties and functions of natural ecosystems. Over the long term, this approach will maintain and improve the sustainability and biological diversity of terrestrial and aquatic ecosystems while supporting sustainable economies and communities. Maintenance of healthy ecosystems supports realistic military testing, which in turn promotes mission readiness.

The Commander, Navy Region Northwest, considers this approach to be responsible stewardship. The Natural Resources Management Program is based on the premise that responsible stewardship and ecosystem management are synonymous and are compatible with integrated natural resources management.

Ecosystem based management shall include (OPNAV M 5090.1):

a) A shift from single species to multiple species conservation

b) Formation of partnerships necessary to consider and manage ecosystems that cross boundaries
c) Use of the best available scientific information and adaptive management techniques.

5.4 Natural Resources Consultation Requirements

NEPA and Navy policy require early review and coordination for environmental considerations. This is achieved by the installation's environmental review process, which requires all new projects, programs, and operations, or changes to existing projects, programs, and operations be reviewed by the NRMs for potential impacts to the environment, including potential impacts to natural resources. The NRMs review planned actions, identify the risks to natural resources, and provide comments and/or alternatives to the action proponents that will minimize or eliminate the risks, if possible. The early review process also allows the NRMs an opportunity to work with other Navy personnel to identify the appropriate environmental documents that will be generated based on the proposed action and the alternatives.

The potential large amount of time needed to conduct consultations with regulatory agencies and stakeholders makes it imperative to initiate early environmental/natural resources review of proposed actions in order to assess risks, develop alternatives, and correctly identify mitigation costs in terms of both time and dollars. Regulatory agencies and/or affected parties may request changes or mitigation that could result in delays and additional costs. NRMs shall participate in early review of proposed actions in order to assess risks, develop alternatives, and correctly identify mitigation costs in terms of both time and dollars.

5.5 Coordination and Planning for Construction and Facility Maintenance

The potential impacts of all facility operations actions, including maintenance, repair, replacement, modification, and addition of shore and waterfront infrastructure, are considered before the work begins. This INRMP summarizes the resources that are at the site, and allows planners to assess whether any resources could be impacted by a given action. In most cases, activities are routine with no potential to alter the environment provided standard practices and safety measures are employed. Other actions require more task- or site- specific protection measures to ensure that the environment will not be altered, while a few require consultation with other agencies before they can begin because the project has potential to impact resources. The coordination processes are described below.

5.5.1 Maintenance & Minor Construction, excluding Military Construction

Maintenance and minor construction actions with natural resource implications are reviewed on a case by case basis to determine whether they fall into a Categorical Exclusion or previous NEPA document, or if subsequent NEPA review must occur for the action. Common facility maintenance actions are assessed during the development proposal review and the environmental review checklists is utilized to determine potential environmental impacts of the action. Required permits and consultations are identified during this project review and actions and mitigations are documented in this manner.

5.5.2 Military Construction (MILCON)

Coordinating MILCON funding cycles with NEPA review requirements has been an area of persistent challenge. Specifically, an essential quality of the NEPA process is early review of projects in order to assist the proponent in identifying key environmental elements that may affect the scope, schedule and budget of their project. In cases where the proposal or development is common in nature and where sites are uncomplicated, the lack of full synchronization does not represent a significant risk. However, in instances where the use or development is unique or highly constrained, has unknown potential impacts or when sites characteristics may include unanticipated or unique species, resources or attributes, then a lack of full synchronization may represent a fundamental risk, especially if related to project scope. In all cases it is best if the NEPA Development of Proposed Action and Alternatives (DOPAA) process is completed prior to refinement of the project, during the scoping phase, early in project development.

Additionally, NEPA actions at the shore installation may not be funded with MILCON funds, and must therefore be funded from an alternative source. Given that MILCON funds expire, typically after 5 years, and construction may not be initiated ahead of the completion of necessary NEPA actions, there is usually significant pressure to execute NEPA actions as quickly as possible in order to provide the project the best possible opportunity to meet its schedule and budget. Early communications between proponents and NEPA/Natural Resources staff is vital in order to ensure a thorough review of the project alternatives and to enable planners to secure funding for required NEPA actions as soon as possible. This early and effective coordination delivers maximum flexibility to the project proponent and will allow the best chance of project success.

5.6 Public Access and Outreach

The Navy Restricted Areas 1 – 4 in Western Behm Canal allows transiting of vessels at any time. Areas 1 and 2 are limited for recreational uses; such that anchoring, mooring, towing or deploying any kind of a net, or dumping any material is prohibited within these areas. Within Area 3 anchoring is prohibited and the towing of a drag or any object within 100 feet of the bottom is also prohibited. Additionally, anchoring is allowed within 100 yards of the Back Island shore, but not allowed within 100 yards of each side of the electrical and other cables are brought ashore, and warning signs are visible from the water. Area 4 does not allow anchoring or towing of a drag. Additionally, anchoring is allowed within 100 yards of the Back Island shore, but not allowed within 100 yards of each side of the electrical and other cables are brought ashore, and warning signs are visible from the water. Vessels are allowed to transit through Area 5 unless the Navy is actually conducting operations (33 CFR § 334.1275 West Arm Behm Canal, Ketchikan Alaska, Restricted Areas). Please see USCG Pilot 8 for specific instructions regarding navigation within Behm Canal (USCG, 2016).

Outreach is defined as the process of communicating the military mission and developing and maintaining stakeholder partnerships to ensure the continuation of mission essential operations. Public outreach is used to maintain stakeholder partnerships through regular and proactive dialogue and information exchange. “Stakeholder” is a broad term used to encompass individuals and/or groups in the following categories: elected officials, government agencies, community, Native groups, business, non-governmental organizations and media. Historically, the

community surrounding SEAFAC has been supportive of the facility's activities. The Navy has worked extensively to build and maintain good relations with the community, and offering tours of SEAFAC, and have held open houses for the local community.

Public outreach and comments on the INRMP will be obtained through the NEPA process. The process invites comments on the Navy's SEAFAC INRMP and the Draft SEAFAC INRMP Environmental Assessment. This document will be available through the installations website or at other appropriate outlets. Public comments will be reviewed and considered during this time period.

5.7 Beneficial Partnerships and Collaborative Resource Planning

The NRM will maintain contact with the DOD Partners in Flight (PIF) program and Partners in Amphibian and Reptile Conservation (PARC) program to stay situationally aware of project and program opportunities as they develop.

Additionally, there are partnerships and collaborative agreements with other federal entities that provide guidance with natural resources management:

- January 2006 Memorandum of Understanding (MOU) between DOD, USFWS, and the International Association of Fish and Wildlife Agencies for a Cooperative Integrated Natural Resources Management Program on Military Installations.
- July 2006 MOU between the USFWS and DOD to Promote the Conservation of Migratory Birds.
- November 2006 MOU between DOD and USDA-NRCS for coordinating activities to preserve land and improve water quality on lands surrounding government-owned military bases.
- 1996 MOU between the USEPA and DOD for coordinating of Integrated Pest Management activities.
- 1996 cooperative agreement between DOD and The Nature Conservancy for conducting natural resources inventories at installations.

5.8 Outdoor Recreation

Access to the island is open to the public, and the Boy Scouts have a site on the east side that they use for camping. Additionally, commercial and recreational use in the surrounding National Forest and in Behm Canal is common. Much of the watercraft traffic comes from commercial and recreational fishing and summer cruise ship activities that comprise a large part of the noise disturbances in the area (EIS, 1987; Navy, 2015). There is limited public access to SEAFAC, and the small facility within the fence line does not have resources for outdoor recreation, hunting, trapping, and/or other outdoor recreation activities.

5.9 Encroachment Action Partnering

The RDT&E mission at SEAFAC requires an acoustic environment that has minimal noise and ambient sounds. Encroachment concerns, especially those that raise the noise environment within the Navy's operating area have the potential to restrict the Navy's ability to meet their testing needs. In fact, construction and operation of the SEAFAC facility in the 1990's was largely driven by encroachment issues at the Navy's previous acoustic measurement ranges. The SEAFAC facility replaced the Santa Cruz Acoustic Range Facility in southern California, and the Carr Inlet Acoustic Range in Fox Island, Washington, which became inoperable due to ambient noise conditions (increased noise associated with increased vessel traffic) that would not allow the complete measurement of the Navy's submarine acoustic signatures.

The SEAFAC OMP has outlined areas of current and future encroachment concerns. Potential areas identified include: increased charter fishing, increased charter air traffic, logging vessels within Behm Canal, and open herring fishing. These areas are discussed to provide a baseline of future impacts to SEAFAC's RDT&E mission operations for planning and sustainment strategies.

5.10 Achieving No Net Loss of the Military Mission

Implementation of this INRMP by NAVBASE Kitsap will ensure proper management of natural resources while maintaining no net loss to the military mission of SEAFAC, as well as providing for "environmentally wise" growth, development, and redevelopment activities. Supporting the elements contained within this plan will require not only that the INRMP be implemented but that development is conducted in an environmentally sensitive way with cooperation between environmental, engineering, operational, and planning personnel.

5.11 Training of Natural Resources Professional

Training for natural resources personnel is vital to ensuring that SEAFAC staff are knowledgeable and kept abreast of current natural resources laws, regulations, and guidance. Natural resources personnel would benefit from attending professional conferences and meetings including the annual National Military Fish and Wildlife Association conference, regional natural resources seminars and training, GIS classes, and training related to management of wetlands, forests, and invasive species. Training needs for the NRMs will be assessed on an annual basis in coordination with their supervisors.

Personnel with natural resources conservation responsibilities shall receive the appropriate job-specific education and training to perform their assigned tasks per OPNAV M-5090.1, Chapter 12. Assigned personnel submit and obtain training through their approved Individual Development Plan (IDP). Staff attends training sponsored by CECOS and other internal Navy sources.

5.12 GIS Management, Data Integration, Access and Reporting

The CNRNW GeoReadiness Center (GRC) supports the development of natural resources data reflecting the land and sea habitats of rare and endangered species, migratory birds and marine mammals. This data is critical for the maintenance and management of the environment.

Additionally, it helps with the installations' efforts to comply with environmental laws and ensures the protection of sensitive resources while supporting military operations.

Data coverage of Natural Resource media in general is limited, and it is necessary to "data mine" for datasets and coverage from public sources in order to improve the utility of GIS as a natural resource management tool for informed decision making. Data development, mining and integration are on-going efforts. Final geospatial data deliverables are to be stored and maintained in NAVFAC's enterprise geodatabase, GeoReadiness Enterprise System (GES). This will facilitate accessibility in the GeoReadiness Explorer (GRX), NAFAC's primary web-based geospatial data viewing tool, as well as future editing of data. Data collected to meet this intent can include field surveys, extraction from reports/imagery, or extraction from existing geospatial data.

As this INRMP is reviewed and improved to accommodate new information and objectives, data requirements and surveys will be identified. Planning level surveys proposed under this INRMP will be scoped to require the submittal of data in an appropriate format and sufficient standard to enable spatial inquiries and use of the data within a greater GIS suite as developed by the GRC. The GRC will be consulted when developing survey scopes to ensure sufficient data fidelity for integration into GRX. Updates to this INRMP will include data and visual representations of data that have been compiled and stored by the GRC.

5.13 Natural Resources Management Goals & Objectives

In accordance with the OPNAV M-5090.1, a successfully implemented installation Natural Resources Conservation (NRC) program will meet the following three closely related, but not mutually exclusive goals:

1) Integrate natural resources conservation responsibilities with military activities, installation planning and programming, and other activities as appropriate to ensure no net loss to the Navy mission;
2) Ensure sustainable multipurpose use of the resources and public access when consistent with the mission, and safety and security requirements; and
3) Interact with the surrounding community to develop positive and productive community involvement, participation, and educational opportunities.

Southeast Alaska Acoustic Measurement Facility's natural resources program objectives are to accomplish the following:

a) Promote the cooperative implementation of this INRMP within various chains of commands within the Department of the Navy. Recognize the overlapping Commands that utilize and/or oversee the SEAFAC property. Assign specific INRMP responsibilities, as appropriate, and highlight areas where cooperative management will be needed to meet INRMP objectives.
b) Develop approaches and plans to protect, conserve, and manage the watersheds, natural landscapes, soils, fish and wildlife and other natural resources of the site, as vital elements of a natural resources program.
c) Protect threatened, endangered, and sensitive species and critical habitats regulated by the Endangered Species Act (ESA).

d) Use and care for natural resources in the combination best serving the present and future needs of the U.S. and its people, with specific attention to long-term effects of climate change on the installation.
e) Provide for the optimum use of land and water areas and access thereto, while maintaining ecological integrity and ensuring no net loss in the capability of military installation lands to support the military mission of the installation.
f) Ensure natural resources are managed in accordance with the Special Use Permit with U.S. Forest Service (USFS); obtain permission for any alteration or improvements to the property, including the removal of trees or shrubbery.
g) Maximize the benefits of the annual increment review process with the Agencies in order to maintain concurrency of the INRMP over time, thereby avoiding extensive re-writing processes and environmental reviews.

These INRMP objectives will be evaluated via the annual INRMP review, and documented within the Navy's Conservation website. This review process is discussed previously within Section 1.4 of this INRMP.

6 Implementation

6.1 Project Prescription Development

The most recent policy on INRMP implementation is contained in DOD Manual 4715.03: *Integrated Natural Resources Management Plan (INRMP) Implementation Manual* (Nov 2013). According to this guidance, an INRMP is considered implemented if an installation:

- Actively requests, receives, and uses funds for natural resources management projects, activities and other requirements in support of goals, and objectives identified in the INRMP;
- Ensures that sufficient numbers of professionally trained natural resources management personnel are available to perform the tasks required by the INRMP;
- Invite annual feedback from the appropriate cooperating offices on the effectiveness of the INRMP;
- Documents specific INRMP accomplishments undertaken each year; and
- Evaluate the effectiveness of past and current management activities and adapting those activities as needed to implement future actions.

Key elements of INRMP implementation (e.g., projects) are addressed in Appendix D, SEAFAC INRMP Projects, Schedules and Implementation Table. All actions contemplated in this INRMP are subject to the availability of funds properly authorized and appropriated under Federal law. Nothing in this INRMP is intended to be nor must be construed to be a violation of the Anti-Deficiency Act (31 U.S.C. 1341 et seq.).

6.2 Priority Setting and Funding Classification

Project priority within this INRMP is initially determined by funding classification, as defined in Department of Defense Instruction 4715.03, *Natural Resources Conservation Program* as follows (DOD 2011):

> ***1. Recurring Natural Resources Conservation Management Requirements.*** *Administrative, personnel, and other costs associated with managing the DOD natural resource conservation program that are necessary to meet applicable compliance requirements* in *Federal and State laws, regulations, E.O.s, and DOD policies or in direct support of the military mission.*
>
> *DOD Components shall give priority to recurring natural resources conservation management requirements associated with the operation of facilities, installations, and deployed weapons systems. These activities*

include day-to-day costs of sustaining an effective natural resources management program, as well as annual requirements, including manpower, training, supplies, permits, fees, testing and monitoring, sampling and analysis, reporting and recordkeeping, maintenance of natural resources conservation equipment, and compliance self-assessments.

***2. Non-Recurring Natural Resources Management Requirements**. Non-recurring requirements will be prioritized using the below classifications:*

***a**. Current Compliance. Includes installation projects and activities to support:*

***(1)** Installations currently out of compliance (e.g., received an enforcement action from an authorized Federal or State Agency or local authority).*

***(2)** Signed compliance agreement or consent order.*

***(3)** Meeting requirements with applicable Federal or State laws, regulations, standards, E.O.'s, or DOD policies.*

***(4)** Immediate and essential maintenance of operational integrity or military mission sustainment.*

***(5)** Projects or activities that will be out of compliance if not implemented in the current program year. Those activities include:*

***(a)** Environmental analyses for natural resources conservation projects, and monitoring and studies required to assess and mitigate potential impacts of the military mission on conservation resources.*

***(b)** Planning documentation, master plans, compatible development planning and INRMPs.*

***(c)** Natural resources planning level surveys.*

***(d)** Reasonable and prudent measures included in incidental take statements of biological opinions, biological assessments, surveys, monitoring, reporting of assessment results, or habitat protection for listed, at-risk, and candidate species so that proposed continuing actions can be modified in consultation with the USFWS or NMFS.*

***(e)** Mitigation to meet existing regulatory permit conditions or written agreements such as those required in chapter Title 33 U.S.C., Chapter 26.*

(f) *Nonpoint source pollution or watershed management studies or actions needed to meet compliance dates cited in approved State coastal nonpoint source pollution control plans, as required to meet consistency determinations consistent with Coastal Zone Management.*

(g) *Wetland delineation critical for the prevention of adverse impacts to wetlands so that continuing actions can be modified to ensure mission continuity, as required by chapter Title 33 U.S.C., Chapter 26.*

(h) *Compliance with missed deadlines established in DOD executed agreements.*

b. Maintenance Requirements. *Includes those projects and activities needed to meet an established deadline beyond the current program year and maintain compliance. Examples include:*

(1) *Compliance with future deadlines.*

(2) *Conservation, GIS mapping, and data management to comply with Federal or State laws, regulations, standards, E.O.s, or DOD policies.*

(3) *Efforts undertaken in accordance with non-deadline specific compliance requirements of leadership initiatives.*

(4) *Wetlands enhancement to minimize wetlands loss and enhance degraded wetlands as required by chapter Title 33 U.S.C., Chapter 26.*

(5) *Conservation recommendations in biological opinions issued pursuant to ESA.*

c. Enhancement Actions Beyond Compliance. *Includes those projects and activities that enhance conservation resources or the integrity of the installation mission, or are needed to address overall environmental goals and objectives, but are not specifically required by law, regulation, or E.O., and are not of an immediate nature. Examples include:*

(1) *Community outreach activities, such as International Migratory Bird Day, Earth Day, National Public Lands Day, Pollinator Week, and Arbor Day activities.*

(2) *Educational and public awareness projects, such as interpretative displays, oral histories, Watchable Wildlife areas, nature trails, wildlife checklists, and conservation teaching materials.*

(3) *Restoration or enhancement of natural resources when no specific compliance dictates a course or timing of action.*

(4) *Management and execution of volunteer and partnership programs.*

To further facilitate project funding, the Navy has developed four Environmental Readiness Levels (ERL) (DON 2014a). Descriptions of each of the four Navy ERLs are described below (USN 2006a).

a. Environmental Readiness Level 4 (absolute minimum level of environmental readiness capability required to maintain compliance with applicable legal requirements):

1. Supports all actions specifically required by law, regulation or Executive Order (DOD Class I and II requirements) just in time.
2. Supports all DOD Class 0 requirements as they relate to a specific statute such as hazardous waste disposal, permits, fees, monitoring, sampling and analysis, reporting and recordkeeping.
3. Supports recurring administrative, personnel, and other costs associated with managing environmental programs that are necessary to meet applicable compliance requirements (DOD Class 0).
4. Supports minimum feasible Navy executive agent responsibilities, participation in [Office of the Secretary of Defense] OSD sponsored inter-department and inter-agency efforts, and OSD mandated regional coordination efforts.

b. Environmental Readiness Level 3:

1. Supports all capabilities provided by ERL4.
2. Supports existing level of Navy executive agent responsibilities, participation in OSD sponsored inter-department and inter-agency efforts, and OSD mandated regional coordination efforts.
3. Supports proactive involvement in the legislative and regulatory process to identity and mitigate requirements that will impose excessive costs or restrictions on operations and training.
4. Supports proactive initiatives critical to the protection of Navy operational readiness.

c. Environmental Readiness Level 2:

1. Supports all capabilities provided under ERL3.
2. Supports enhanced proactive initiatives critical to the protection of Navy operational readiness.
3. Supports all Navy and DOD policy requirements.

4. Supports investments in pollution reduction, compliance enhancement, energy conservation, and cost reduction.

d. Environmental Readiness Level 1:

1. Supports all capabilities provided under ERL2.
2. Supports proactive actions required to ensure compliance with pending/strong anticipated laws and regulations in a timely manner and/or to prevent adverse impact to Navy mission.
3. Supports investments that demonstrate Navy environmental leadership and proactive environmental stewardship.

6.3 Project Development and Tracking

Once identified, natural resources projects and funding allocations are tracked via the Navy Environmental Program Requirements Web Database (EPRWeb) (USN 2006b). The Navy uses the database to determine programming and budgeting requirements for projects under the Planning, Programming, Budget, and Execution System (PPBES) process (DON 2014a). The Navy also uses the database information to develop its annual Environmental Quality Report (EQR) for Congress (DON 2014a).

Natural resources management projects identified in Appendix D of this INRMP will be entered into the EPRWeb database. This ensures that projects are reviewed by the chain of command and are documented for inclusion in the annual EQR report to Congress (USN 2006b). Once funding has been allocated, natural resources staff at NAVFAC Northwest will update the EPRWeb with the date project funding was received and the progress made towards project completion (USN 2006b).

The Navy has developed the Navy Conservation Website to assist installations with INRMP development and implementation. Annual NRDCS updates show installations where they stand with regard to INRMP implementation. The NRDCS also requires each installation to answer specific questions related to implementation to ensure that INRMP implementation meets all regulatory requirements. Navy guidance suggests that project progress be updated at least twice per year in EPRWeb.

6.4 Funding Sources and Mechanisms

The PPBES budget process employed by the DOD is an ongoing, continuously reviewed process. The process can be summarized as follows (DOD 2005):

- The PPBES process consists of long-range planning to anticipate and secure requirements to meet security threats and accomplish program goals.
- Resources to meet these requirements are estimated and programmed by program managers in the Future Year Defense Plan (FYDP). The FYDP is a list of resource requirements for the next 6 years. Specifically, the FYDP comprises the subsequent fiscal year budget and funding requirements projected out 5 years.

- The FYDP resources are then analyzed via the Programming Process. In the Programming Process, program managers reassess their requirements, reprioritize planned activity, reevaluate existing funding guidance, and estimate their funding needs for the next budget year and the subsequent five fiscal years (referred to as Program Objectives Memoranda (POM) 1–5).
- The POM process takes place within Defense Components beginning in the fall of each year. Then each DOD component submits the POM in the spring to the OSD. The OSD reviews the budget submissions and develops the President's budget that will be submitted to Congress. At the installation level, data submissions to support this are made to the Major Commands twice annually, in fall and spring.
- Based on POM decisions of each component, budget controls are issued to the field commands for budget preparation.

The time scale of an INRMP fits well into the DOD PPBES forecasting process. One full cycle of the DOD budget process includes the next budgeted fiscal year and projections for the following five fiscal years. One full cycle of the INRMP, with upper command approval, covers a 5-year period. This means that by relying on an INRMP that is updated regularly, you should be able to project relatively accurate funding requirements for natural resources management for 5-year periods, at a minimum (DOD 2005).

The Regional Commander (N45) is responsible for requesting NAVBASE Kitsap sufficient staff and other resources to implement the INRMP. NAVBASE Kitsap is responsible for annual coordination with USFWS and WDFW, requesting funds for INRMP implementation, and documenting implementation actions. However, due to funding limitations, the projects and schedules proposed in this revised INRMP are targets to facilitate natural resources program objectives. When requested funds are not received, natural resource management projects and the programming schedule may be reexamined. In addition, plans may be adapted to account for the revised project schedule, and the proposed budget may be adjusted to account for available funding.

6.4.1 Funding Sources

Once a project has been placed into the EPRWeb database, a funding source needs to be determined. In general, ERL Level 3 and 4 projects will receive funding, but it is up to natural resource managers to find funds for ERL Level 1 and 2 projects (USN 2006b). The following are the primary funding sources for Navy natural resources programs (USN 2006b):

a. **O&MN Environmental Funds**. The majority of natural resource projects are funded with Operations and Maintenance, Navy (O&MN) environmental funds. These appropriated funds are the primary source of resources to support must-fund, just-in-time environmental compliance (i.e., Navy ERL 4 projects). O&MN funds are generally not available for Navy Environmental Readiness Level 3 - 1 projects. In addition to the restriction to Environmental Readiness Level 4 requirements, there are other limitations placed on the use of O&MN funds:

    1. Only the initial procurement, construction, and modification of a facility or project are considered valid environmental funding requirements. The subsequent operation, modification due to mission requirements, maintenance, repair, and eventual

replacement is considered a Real Property Maintenance funding requirement. For example, the cost of initially installing a BMP can be funded through O&MN, but future maintenance or repair of that BMP must be paid by Real Property Maintenance funds.

2. When natural resource requirements are tied to a specific construction project or other action, funds for the natural resource requirements should be included in the overall project costs. For example, if a permit for filling wetlands is required as part of a military construction (MILCON) project, the costs of obtaining the permit and implementing required mitigation should be paid by MILCON funds as part of the overall construction project costs.

b. **Legacy Funds.** The Legacy Resource Management Program (Legacy Program) is a special congressionally mandated initiative to fund military conservation projects. Although the Legacy Program was originally funded 1991 - 1996 only, funds for new projects have continued to be available through this program. The Legacy Program can provide funding for a variety of conservation projects, such as regional ecosystem management initiatives, habitat preservation efforts, archaeological investigations, invasive species control, monitoring and predicting migratory patterns of birds and animals, and national partnerships and initiatives, such as National Public Lands Day. If the installation plans to request Legacy Program funds, it should be aware of the following:

1. The availability of Legacy funds is generally uncertain early in the year.
2. Pre-proposals for Legacy projects are due in March and submitted using the Legacy Tracker Web site: http://www.dodlegacy.org/.
3. The Navy chain-of-command reviews project proposals before they are submitted to the DOD Legacy Resources Management Office for final project selection.
4. The Legacy Website provides further guidance on the proposal process and types of projects requested.

c. **Forestry Revenues.** Revenues from the sale of forest products on Navy lands are a source of funding for forestry and potentially other natural resources management programs. Forestry revenues provide funds for two different funding programs:

1. Annual Navy Forestry Funds. These funds support commercial forestry operations at installations. Borrowed from NAVFAC Headquarters (NAVFAC HQ) O&MN funds at the beginning of each fiscal year, the funds are reimbursed when the forestry revenues are received. The NAVFAC field offices solicit funding needs each year from installations with commercial forestry programs in place. Forestry operations must be commercially viable to be eligible for these funds. The NAVFAC field offices can work with installations to make a work plan, known as an annual increment, for the commercial forestry program and ensure that all funding needs are included. Funding recommendations are forwarded from the field offices to NAVFAC HQ for final approval and disbursement of funds, based on revenue from timber sales.

2. DOD Forestry Reserve Account. Forestry revenues are first used to reimburse commercial forestry expenses. Then, as directed by DOD Financial Management Regulation 7000.14-R Volume 11A, 40% of installation net proceeds for the fiscal year are distributed to the state that contains the installation. The funding is used to support road systems and schools. Once the commercial forestry expenses are reimbursed and a portion of the proceeds is distributed among the state counties, any remaining amount is transferred to a holding account known as the DOD Forestry Reserve Account. Reserve account funds can be used for the following:

- Improvement of forestlands.
- Unanticipated contingencies in the administration of forestlands and the production of forest products for which other funding sources are not available within an acceptable timeframe (e.g., actions necessary as a result of a storm or wildfire).
- Natural resources management that implements approved plans and agreements. To be eligible for funding, these project must (1) be specifically included in an approved management plan, such as an INRMP; and (2) provide for at least one of the following purposes: fish and wildlife habitat improvements or modifications; range rehabilitation where necessary for support of wildlife; control of off-road vehicle traffic; specific habitat improvement projects and related activities; and adequate protection for species of fish, wildlife, and plants considered threatened or endangered.
- Projects included in a) and b) are generally given preference in the allocation of these funds. The amount available through this account varies from year to year, but the amount remaining for natural resources management as described in c) is relatively small. The NAVFAC field offices usually solicit project proposals for the Forestry Reserve Account once there is an indication of the level of funding available (usually January or February). Installations need not harvest timber to be eligible for Reserve Account funds. Proposals are submitted to NAVFAC HQ via the field office where they are reviewed and forwarded to the DUSD (I&E) for final selection. The installation should contact a NAVFAC field office or consult reference (f) for more information on funding availability and timelines. It is important to note that these funds may not be used for "must fund" projects.

d. **Recycling Funds.** An installation with a Qualified Recycling Program (QRP) may use proceeds for some types of natural resource projects. Proceeds must first be used to cover QRP costs. Up to 50% of net proceeds may then be used for pollution abatement, pollution prevention, composting, alternative fueled vehicle infrastructure support, vehicle conversion, energy conversion, or occupational safety and health projects, with first consideration given to projects included in the installation's pollution-prevention plans. Remaining funds may be transferred to the non-appropriated MWR account for approved programs or retained to cover anticipated future program costs. Natural resource projects can be funded as pollution prevention/abatement (e.g., wetlands or riparian forest restoration) or MWR projects (e.g., trail construction and maintenance).

e. **Strategic Environmental Research and Development Program (SERDP) Funds:** SERDP is DOD's corporate environmental research and development program, planned

and executed in full partnership with the Department of Energy (DOE) and USEPA, with participation by numerous other federal and non-federal organizations. SERDP funds for environmental and conservation is allocated through a competitive process. Within its broad areas of interest, the SERDP focuses on Cleanup, Compliance, Conservation, and Pollution Preventions technologies. The purpose of the conservation technology program is to use research and development to provide improved inventory and monitoring capabilities; develop more effective impact and risk assessment techniques; and provide improved mitigation and rehabilitation capabilities. Recently, the program solicited Statements of Need for conservation technology proposals to research indicators of stress on threatened and endangered species and to develop techniques to inventory and monitor threatened and endangered species in accessible areas.

f. **Non-DOD Funds.** Many grant programs are available for natural resources management projects, such as watershed management and restoration, habitat restoration, and wetland and riparian area restoration. When federally funded, these programs typically require non-federal matching funds. However, installations may partner with other groups to propose eligible projects. Below is one example of a grant program:

   The Five-Star Restoration Challenge Grants Program is sponsored by the National Association of Counties, National Association of Service and Conservation Corps, National Fish and Wildlife Foundation, and Wildlife Habitat Council in cooperation with USEPA, NMFS, and other sponsors. This program provides modest financial assistance ($5,000 - $20,000) on a competitive basis to support community-based wetland and riparian restoration projects that build diverse partnerships and foster local natural resource stewardship. Installations would need to partner with other groups to be eligible for this type of program. Applications are due in March. Information is available on the Web at http://www.epa.gov/owow/wetlands/restore/5star/. INRMPs should include valid Class 2 and 3 projects and actions that would enhance an installation's natural resources. Nontraditional sources of funding for natural resources programs include non-appropriated reimbursable funds (i.e., agricultural outleasing, forestry, hunting and fishing fees) and appropriated reimbursable funds (e.g., DOD Legacy Program, USDA Pest Management Program). These accounts are sources of funds for Class 3 projects. Installations, however, should not depend on reimbursable programs to fund their natural resources management programs.

As discussed in Section 5.5.2 an additional funding source for natural resource projects is mitigation money set aside as needed from Navy construction projects. At NAVBASE Kitsap, construction projects that typically require mitigation include pier construction and repair, shoreline construction, and upland construction impacting forest resources, streams, or wetlands. As a general practice, NAVBASE Kitsap planners and NR staff will attempt to minimize construction impacts and the need for mitigation early in the design stage of projects; however, it will not be possible to avoid in all cases. This discussion is included here to explain that unfunded projects listed in Appendix D may be executed as mitigation for a construction projects if they adequately compensate for the construction impacts and is found acceptable to the permitting agencies. Execution of Appendix D projects as mitigation will be reflected in the next annual update of the INRMP.

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APPENDIX A: List of Acronyms and Abbreviations

ADA	Alaska Division of Agriculture
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
AK	Alaska
ANILCA	Alaska National Interest Lands Conservation Act
ANCSA	Alaska Native Claims Settlement Act
ANS	Aquatic Nuisance Species
BA	biological assessment
BCC	Birds of Conservation Concern
Bd	Batrachochytrium dendrobatidis
BMP	best management practices
BO	Biological Opinion
CAC	Common Access Card
CECOS	Civil Engineer Corps Officers School
CERP	Comprehensive Environmental Response Plan
CEQ	Council on Environmental Quality
CH	critical habitat
CNIC	Commander, Navy Installations Command
CNO	Chief, Naval Operations
CNRNW	Commander, Navy Region Northwest
CWA	Clean Water Act
DDT	dichloro-diphenyltrichloroethane
DOD	Department of Defense
DODI	Department of Defense Instruction
DOE	Department of Energy
DON	Department of the Navy
DOPAA	Development of Preferred Action and Alternatives
DPS	Distinct Population Segment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Unites States Environmental Protection Agency
EPR	Environmental Program Requirements
EPR-Web	Environmental Program Requirements Web Database
ERL	Environmental Readiness Level
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FGS	Final Governing Standards
GIS	Geospatial Information and Services
GRC	GeoReadiness Center
GRX	GeoReadiness Explorer
IDP	Individual Development Plan
IED	Installation Environmental Director
INRMP	Integrated Natural Resources Management
IPCC	Intergovernmental Panel on Climate Change
IWC	International Whaling Commission

LUD	Land Use Designation
MBTA	Migratory Bird Treaty Act
MHHW	mean higher high water mark
MILCON	Military Construction
MLLW	mean lower low water mark
MMPA	Marine Mammal Protection Act
MOA/MOU	Memorandum of Agreement/Understanding
NAAQS	National Ambient Air Quality Standards
NAVBASE Kitsap	Naval Base Kitsap
NAVFAC NW	Naval Facilities Engineering Command Northwest
NAVSEA	Naval Sea Systems Command
Navy	United States Department of Navy
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRC	Natural Resources Conservation
NRCS	Natural Resource Conservation Service (USDA)
NRM	Natural Resources Manager
NRNW	Navy Region Northwest
NSWCCD	Naval Surface Warfare Center, Carderock Division
O&MN	Operations and Maintenance, Navy
OCH	occupied critical habitat
OEBGD	Overseas Environmental Baseline Guidance Document
OEIS	Overseas Environmental Impact Statement
OMP	Operational Management Plan
OPNAV	Chief of Naval Operational Instructions
OSD	Office of the Secretary of Defense
PARC	Partners in Amphibian and Reptile Conservation
PIF	Partners in Flight
PMP	Pest Management Plan
QRP	Qualified Recycling Program
RCRA	Resource Conservation and Recovery Act
RDT&E	Research, Development, Testing, and Evaluation
RPM	Real Property Maintenance
SAIA	Sikes Act Improvement Act
SEAFAC	Southeast Alaska Acoustic Measurement Facility
SERDP	Strategic Environmental Research and Development Program
SGCN	Species of Greatest Conservation Need
SPCC	Spill Prevention, Control, and Countermeasures
T&E	threatened and endangered
TMDL	total maximum daily load
U.S.	United States
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USDA WS	U.S. Department of Agriculture Wildlife Services
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WCI	Western Climate Initiative

APPENDIX B: TERMS AND DEFINITIONS

Action. A program, activity, project, official policy (such as a rule or regulation), or formal plan directly carried out by a Federal agency (EO 13186.)

Agricultural outleasing. Agricultural outleasing is the use of non-excess DOD lands under a lease to an agency, organization, or person generally for growing crops or grazing domestic animals. The term "agriculture" includes activities related to producing, harvesting, processing, or marketing an agricultural, aquaculture, maricultural, or horticultural commodity, including the breeding, raising, shearing, feeding, caring for, training, and management of livestock, bees, poultry, fish, shellfish, and fur-bearing animals and wildlife, and the planting, cultivating for harvest, or processing short rotation (less than 15 years) forest products (OPNAV M-5090.1E, Chapter 12).

Alien species (see also Exotic species). With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem (EO 13112). With respect to a particular ecosystem, an organism, including its seeds, eggs, sports, or other biological material capable of propagating that species, that occurs outside of its natural range (EO 13751). According to USDA, an alien species is “a species introduced and occurring in locations beyond its known historical range. Synonyms for alien species include exotic, non-native, non-indigenous, and introduced species. Of the thousands of plants that have been introduced to the United States intentionally for cultivation or by accident, approximately 4,000 of these alien plant species now occur outside of cultivation 400 of these are considered problematic with respect to adverse effects on agricultural or our native biota.” (*Example:* Saltmarsh Cordgrass, native to eastern North American estuaries, has been introduced to western North American shoreline habitats and is considered an alien in these western habitats, where it adversely impacts native habitats and displaces native plant species.)

Annual increment. An INRMP addendum addressed annually, to facilitate implementation of the INRMP. Each installation must establish and maintain regular communications with the appropriate U.S. Fish and Wildlife Service (USFWS) and state fish and wildlife agency offices to address issues concerning natural resources management that are not addressed in the INRMP. At a minimum, this includes annual coordination with all cooperating offices. In addition, each installation will invite annual feedback from the appropriate USFWS and state fish and wildlife agency offices on the effectiveness of the INRMP (Per Deputy Under Secretary of Defense (I&E) Memorandum, 10 October 2002, Implementation of Sikes Act Improvement Act: Updated Guidance).

Best management practices (BMPs). BMPs are resources management decisions based on the latest professional and technical standards for the protection, enhancement, and rehabilitation of natural resources. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, treatment requirements, operating procedures, control practices, and other management practices to prevent or reduce pollution (OPNAV M-5090.1E).

Biodiversity. Biodiversity is the variety of life forms and the ecological processes that sustain it, including living organisms; the genetic differences among them; the communities and ecosystems

in which they occur; and the ecological and evolutionary processes which keep them functioning, yet ever changing and adapting, for a given geographic area (OPNAV M-5090.1E).

Biological Assessment (BA). Per reference (t), section 402.12, BA "refers to the information prepared by or under the direction of the Federal agency concerning federally listed and proposed species and designated and proposed critical habitat that may be present in the action area and the evaluation of potential effect of the action on such species and habitat." A BE is often prepared for actions not considered major construction activities. (OPNAVINST M-5090.1E)

Candidate species. Plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA (16 U. S. C. 1531 *et seq.*), but for which development of a listing regulation is precluded by other higher-priority listing activities. The most current list of candidate species can be found at http://endangered.fws.gov/candidates/index.html (Section 4 of the ESA (16 U. S. C. 1531 *et seq*)).

Coastal zone. The coastal zone is the coastal waters (including lands lying in coastal waters and submerged there under and adjacent shore lands) within the meaning of reference (a), section 304(1), and as more fully defined and described in each coastal state's federally approved CMP. Excluded from the coastal zone is any Navy facility or real estate owned, held in trust, or used by Navy in performance of its mission (OPNAVINST M-5090.1E).

Conservation. Conservation is the planned management, use, and protection of natural resources that best reflect sustainable use and continued benefit for present and future generations, and the prevention of exploitation, destruction, waste, and neglect (OPNAVINST M-5090.1E).

Consultation under Section 7 of the Endangered Species Act (16 U. S. C. 1531 *et seq.*).

a) *Formal*. Formal consultation is a process between the USFWS or NMFS and the Federal agency that commences with the Federal agency's written request for consultation under Section 7(a) (2) of the ESA and concludes with the USFWS or NMFS issuance of a Biological Opinion under Section 7(b) (3) of the ESA (50 CFR Part 402).
b) *Informal*. Informal consultation is an optional process that includes all discussions, correspondence, etc., between the USFWS or NMFS and the Federal agency or the designated non-Federal representative prior to formal consultation, if required (Per 50 CFR Part 402).

Control. Eradicating, suppressing, reducing, or managing invasive species populations, preventing the spread of invasive species from areas where they are present, and taking steps, such as restoration of native species and habitats, to reduce the effects of invasive species and to prevent further invasions (EO 13112, as appropriate).

Cooperative agreement. A cooperative agreement is an assistance vehicle used to acquire goods or services or stimulate an activity undertaken for the public good. Cooperative agreements assume substantial involvement between the Federal agency and recipient during performance of the activity. They may be used to accomplish work identified in the INRMP, and may be entered into with states, local governments, non-governmental organizations, and individuals to provide for the maintenance and improvement of natural resources, or to benefit natural resources research on DOD installations (OPNAVINST M-5090.1E).

Critical habitat (CH). These are the "(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of Section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species. (B) Critical habitat may be established for those species now listed as threatened or endangered species for which no critical habitat has heretofore been established as set forth in subparagraph (A) of this paragraph. (C) Except in those circumstances determined by the Secretary, critical habitat must not include the entire geographical area that can be occupied by the threatened or endangered species." (Per ESA (16 U. S. C. 1531 *et seq.*)

DOD Partners in Flight (PIF). DOD lands represent a critical network of habitats for neotropical migratory birds, offering these birds migratory stopover areas for resting and feeding, and suitable sites for nesting and rearing their young. DOD has, developed a policy to promote and support a partnership role in the protection and conservation of resident and migratory birds by protecting vital habitats, enhancing biodiversity, and maintaining healthy and productive natural systems on our lands consistent with the military mission. See the DOD PIF Strategic Plan at http://www.dodpif.org/strategic_plan/index.htm.

Ecological risk assessment (ERA). Ecological Risk Assessment evaluates the likelihood that adverse ecological effects could result from exposure to one or more stressors. (OPNAVINST M-5090.1E).

Ecosystem. An ecosystem is a dynamic and natural complex of living organisms interacting with each other and their associated physical environment (OPNAVINST M-5090.1E).

Endangered species. Any species in danger of extinction throughout all or a significant portion of its range, other than a species of the Class Insecta determined by the Secretary of the Interior to constitute a pest whose protection under ESA provisions would present an overwhelming and overriding risk to man (ESA (16 U. S. C. 1531 *et seq.*)).

Endangered or Threatened species. A species of fauna or flora that has been listed by USFWS or NMFS for special protection and management under the ESA (16 U. S. C. 1531 *et seq.*).

Environmentally and economically beneficial landscaping. Landscaping, construction, and design practices that support EO 13148, Greening the Government through Leadership in Environmental Management.

Essential fish habitat (EFH). The water and substrates necessary to fish for spawning, feeding, or growth to maturity. (Per the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801-1883)

Exotic species (see also Alien species). All species of plants and animals not naturally occurring, either now or historically, in any ecosystem of the United States. (EO 11987) Those species occurring outside their native ranges in a given place as a result of actions by humans. (USDA) "Exotic," "alien," "introduced," "non-indigenous," and "non-native" are all synonyms for species that humans intentionally or unintentionally introduced into an area outside of a species' natural range.

Facility. Any building, installation, structure, land, and other property owned or operated by, or constructed or manufactured and leased to, the Federal Government, where the Federal Government is formally accountable for compliance under environmental regulation (e.g., permits, reports/records and/or planning requirements) with requirements pertaining to discharge, emission, release, spill, or management of any waste, contaminant, hazardous chemical, or pollutant. This includes a group of facilities at a single location managed as an integrated operation, as well as Government-owned contractor-operated facilities (EO 13148).

Federal agency. An executive department or agency that does not include independent establishments, as defined by 5 U.S.C. § 104.

Feral: Animals that have escaped from domestication and become wild". Introduced or non-native animals are those that have becomes established outside their natural range.

Fish and wildlife. Any member of the animal kingdom, including without limitation any mammal, fish, bird (including migratory, non-migratory, or endangered bird for which protection is also afforded by treaty or other international agreement), amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate, and any part, product, egg, or offspring, thereof, or the dead body or parts thereof (ESA (16 U. S. C. 1531 *et seq.*).

Floodplain. The lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a 1 - percent or greater chance of flooding in any given year. (EO 11988) (NOTE: This is the 100-year floodplain reference, not the 500-year floodplain.) Adverse impacts on floodplains are avoided when possible. The direct or indirect support of floodplain development must be avoided where there is a practicable alternative (DOD Instruction 4715.03).

Forest products. Forest products are those items produced from a forest such as sawtimber, veneer logs, poles, piles, posts, pulpwood, pine straw, stumpwood, bark and other mulch, cones, seeds, mistletoe, firewood, and wood chips (OPNAVINST M-5090.1E).

Geographic information system (GIS). GISs are an organized collection of computer hardware, software, and geographic data designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced data (OPNAVINST M-5090.1E).

Grounds. Grounds are all land areas not occupied by buildings, structures, pavements, and other facilities. Depending on the intensity of management, grounds may be classified as improved (as those near buildings), semi-improved, or unimproved (OPNAVINST M-5090.1E).

Habitat. Habitat is an area where a plant or animal species lives, grows, and reproduces, and the environment that satisfies its life requirements (OPNAVINST M-5090.1E).

Introduction. The intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity (EO 13112).

Invasive species. An alien (exotic, non-native, non-indigenous, or introduced) species whose introduction does or is likely to cause economic or environmental harm or harm to human health (EO 13112). With regard to a particular ecosystem, a non-native organism who introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health (EO 13751).

Jeopardize the continued existence (or Jeopardy). To engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR Part 402).

Land management. Land management are programs and techniques to manage lands, wetlands, and water quality, including soil conservation; erosion control and non-point source pollution; surface and subsurface waters; habitat restoration; control of noxious weed and poisonous plants; agricultural outleasing; range management; identification and protection of wetlands, watersheds, floodplains management, landscaping, and grounds maintenance (OPNAVINST M-5090.1E).

Listed species. Any species of a fish, wildlife, or plant that has been determined to be endangered or threatened under Section 4 of the ESA (16 U. S. C. 1531 *et seq.*) (50 FR Prt 402) Listed species are found in 50 CFR 17.11-17.12.

Marine environment. Areas of coastal and ocean waters, the Great Lakes, and their connecting waters, and submerged lands there under, over which the United States exercises jurisdiction, consistent with international law (EO 13158).

Migratory bird. A bird with a seasonal and somewhat predictable pattern of movement. (A general definition.) Any bird, whatever its origin and whether or not raised in captivity, which belongs to a species listed in 50 CFR 10.13, or which is a mutation or a hybrid of any such species, including any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof. (The Migratory Bird Treaty Act (16 U. S. C. 703 *et seq.*) Any of the over 800 species listed in 50 CFR 10.13, including many common ones like Canada geese, barn swallows, and two kinds of starling (EO 13186).

Migratory bird resources. Migratory birds and the habitats upon which they depend (EO 13186).

Mitigation. Lessening the adverse effects an undertaking may cause relative to natural or cultural resources. Mitigation can include limiting the magnitude of the action; repairing, rehabilitating, or restoring the affected resource; avoiding the effect altogether; reducing or eliminating the effect over time by preservation and maintenance operations during the life of the action; and/or compensating for the effect by providing substitute resources or environments (DOD Instruction 4715.03).

Mitigation banking, Actions taken to compensate for future adverse effects of undertakings by providing substitute resources or environments in advance of any specific undertaking (DOD Instruction 4715.03).

Native species. All species of plants and animals naturally occurring, either currently or historically, in any U.S. ecosystem (EO 11987). With respect to a particular ecosystem, species that other than as a result of an introduction historically occurred or currently occurs in that ecosystem (EO 13112).

Natural resources. Natural resources are all elements of nature and their environments of soils, sediments, air, and water. They consist of earth resources (nonliving resources such as minerals and soil components) and biological resources (living resources such as plants and animals) (OPNAVINST M-5090.1E).

Natural Resources Manager. A natural resources manager is an individual assigned the responsibility of managing installation natural resources on a regular basis and who keeps the chain of command informed of natural resources issues (OPNAVINST M-5090.1E).

Near Shore Areas. Waters and submerged lands adjoining the installation from the mean high water mark (i.e., the line on the shore established by the average of all high tides) to the boundaries of installation waterfront activities where Navy controls access, and that are subject to the immediate authority of the installation CO or tenant command. (OPNAVINST M-5090.1E)

No net loss of military mission. Each INRMP must; to the extent appropriate, applicable, and consistent with the use of the installation to ensure the preparedness of the Armed Forces; provide for "no net loss in the capability of military installation lands to support the military mission of the installation." (Per Section 101(b)(1)(I) of the SAIA). INRMPs are intended principally to help installation commanders manage natural resources more effectively to ensure that installation lands remain available and in good condition to support the installation's military mission, i.e., ensure "no net loss in the capability of military installation lands to support the military mission of the installation." Furthermore, appropriate management objectives to protect mission capabilities of installation lands should be clearly articulated in the planning process and should be high in INRMP resourcing priorities. Mission requirements and priorities identified in the INRMP will be integrated, where applicable, in other environmental programs and policies. It is not the intent that natural resources are to be consumed by mission requirements, but sustained for the use of mission requirements. To achieve this, environmental programs and policies must have the goal of preserving the environment for the purpose of the mission (Deputy Under Secretary of Defense (I&E) Memorandum, 10 October 2002, Implementation of Sikes Act Improvement Act: Updated Guidance).

Noxious weeds. Noxious weeds are plant species identified by Federal or state agencies as requiring control or eradication (OPNAVINST M-5090.1E).

Outdoor recreation. Outdoor recreation is a program, activity, or opportunity dependent on the natural environment, including picnicking, bird-watching, hiking, wild and scenic river use, hunting, fishing, and primitive camping that will not impair or degrade natural resources (OPNAVINST M-5090.1E).

Plant. Any member of the plant kingdom, including seeds, roots, and other parts thereof (ESA (16 U. S. C. 1531 *et seq.*).

Proposed species. Any species of fish, wildlife, or plant proposed in the Federal Register to be listed under Section 4 of the ESA (16 U. S. C. 1531 *et seq.*).

Recovery of a listed species. The improvement in the status of a listed species to the point at which listing is no longer appropriate under the criteria set out in Section 4(a)(1) of the ESA (16 U. S. C. 1531 *et seq.*) (50 CFR Part 402).

Soil. A natural body comprised of solids (minerals and organic matter), liquid, and gases that occurs on the land surface, occupies space, and is characterized by one or both of the following; horizons, or layers, that are distinguishable from the initial material as a result of additions, losses, transfers, and transformations of energy and matter or the ability to support rooted plants in the natural environment (As defined in *Soil Taxonomy, A Basic System of Soil Classification for Making and Interpreting Soil Surveys* (USDA, Natural Resources Conservation Service, 1999

Species. A group of organisms, all of which have a high degree of physical and genetic similarity, generally interbreed only among themselves, and show persistent differences from members of allied groups of organisms (EO 13112).

Species of concern. Species listed in the periodic report, "Migratory Nongame Birds of Management Concern in the United States," priority migratory bird species as documented by established plans (such as Bird Conservation Regions in the North American Bird Conservation Initiative or Partners in Flight physiographic areas), and those species listed in 50 C.F.R. 17.11 (EO 13186). Technically is an informal term, not defined in the federal Endangered Species Act. Commonly refers to species that are declining or appear to be in need of concentrated conservation actions.

State or Territory-Listed Species. A state or territory listed species is any species of fish, wildlife, or plant protected by an appropriate state agency as issued in a State's or U.S. territory's endangered species law and other pertinent regulations (OPNAVINST M-5090.1E).

Stewardship. Stewardship is the responsibility to inventory, manage, conserve, protect, and enhance the natural resources entrusted to one's care in a way that enhances the resources and their benefits for present and future generations (OPNAVINST M-5090.1E).

Submerged Aquatic Vegetation Areas. "Rooted, vascular, flowering plants that, except for some flowering structures, which live and grow below the water surface. Because of their requirements for sufficient sunlight, seagrasses are found in coastal areas of all Atlantic coast states, with the exception of Georgia and South Carolina, where freshwater inflow, high turbidity, and tidal amplitude combine to inhibit their growth." (The Atlantic States Marine Fisheries Commission, *Submerged Aquatic Vegetation Policy,* June 1997).

Sustainable yield. Sustainable yield is managing renewable natural resources to provide an annual or periodic yield of goods, services, and direct and indirect benefits into perpetuity. This may include, but is not limited to, maintaining economic benefits, ecological processes and functions, and biodiversity. (OPNAVINST M-5090.1E).

Synoptic. The synoptic scale (also known as large scale or cyclonic scale) in meteorology is a horizontal length scale on the order of 1000 kilometers (620 miles) or more.

Take of listed species. To harass, hunt, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct, per the ESA (16 U. S. C. 1531 *et seq.*), of which Section 9 prohibits "take."

a) *Harass*, in the definition of "take," means an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering.
b) *Harm*, in the definition of "take," means an act that actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering.

Taking, killing, or possessing migratory birds. It is unlawful to pursue, hunt, take, capture, kill; attempt to take, capture, or kill; possess, offer for sale, sell offer to barter, barter offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported;

deliver for transportation, transport, or cause to be transported; carry or cause to be carried; or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird or any part, nest or egg, thereof. To "take" is to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound kill, trap, capture, or collect (Migratory Bird Treaty Act (16 U.S.C. § 706 et seq.). Furthermore, both "intentional" and "unintentional" take are defined in 50 CFR 10.12:

> *Intentional take.* Take that is the purpose of the activity in question. (As defined in EO 13186.)
>
> *Unintentional take.* Take that results from, but is not the purpose of, the activity in question (As defined in EO 13186). The list of migratory birds protected under the Migratory Bird Treaty Act can be found in 50 CFR Section 10.13. Violations can result in a misdemeanor conviction and a fine up to $15,000.

Threatened species. Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (Per the ESA (16 U. S. C. 1531 *et seq*).

Watershed. A watershed is a geographic area of land, water, and biota within the confines of a drainage divide (OPNAVINST M-5090.1E).

Wetlands. Wetlands are those areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, such as swamps, marshes, and bogs. Jurisdictional wetlands are those that meet criteria established by the U.S. Environmental Protection Agency regulations and U.S. EPA and Department of the Army guidance (OPNAVINST M-5090.1E).

Wildlife Management Actions. Wildlife management actions fall into two categories: population management and habitat management. Fish and wildlife population management is accomplished through actions directly affecting wildlife species. Setting population goals and managing harvests are the primary actions used in population management.

APPENDIX C: RELEVANT LAWS, REGULATIONS, POLICIES, GUIDANCE, INSTRUCTIONS, AND ORDERS

Federal Laws, Regulations, and Executive Orders

Alaska National Interest Conservation Lands Act (16 U.S.C. 51 et seq.)
American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996)
Anadromous Fish Conservation Act (16 U.S.C. 757)
Animal Damage Control Act (7 U.S.C. 426 et seq.)
Anti-Deficiency Act (31 U.S.C. 1341 et seq.)
Antiquities Act of 1906 (16 U.S.C. 431 et seq.)
Archaeological Resource Protection Act Regulations (18 CFR 1312)
Archeological and Historical Preservation Act of 1974 (16 U.S.C. 469 et seq.)
Archeological Resources Protection Act of 1979 (16 U.S.C. 470 et seq.)
Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.)
Base Closure and Realignment Act (Part A of title XXIX of Public Law 101-510; 10 U.S.C. 2687)
Clean Air Act, as amended (42 U.S.C. 7401 et seq.)
Clean Water Act (33 U.S.C. 1251 et seq.)
Coastal Barrier Resources (16 CFR 3501)
Coastal Barriers Resources Act (16 U.S.C. 1451 et seq.)
Coastal Zone Act Reauthorization Amendments (16 U.S.C. 1451 et seq.)
Coastal Zone Management Act of 1972 (16 U.S.C. 1451-1456)
Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. 9601 et seq.)
Conservation and Rehabilitation Program on Military and Public Lands (16 U.S.C. 670 et seq.)
Conservation and Rehabilitation Programs on Military and Public Lands (Public Law 93-452)

- Cooperative Conservation (Executive Order 13352)
- Council on Environmental Quality Regulations on Implementing NEPA Procedures (40 CFR 1500-1508)

Curation of Federally Owned and Administered Archaeological Collections (36 CFR 79)
Defense Environmental Restoration Program (10 U.S.C. 2701)
Department of Defense Appropriation Act of 1991 (PL 102-393)
Determination of Eligibility for Inclusion in the National Register of Historic Places (36 CFR 63)
Dredge and Fill Nationwide Permit Program (33 CFR 330)
Endangered and Threatened Wildlife and Plants (50 CFR 17)

Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)
Entering Military, Naval, or Coast Guard Property (18 U.S.C. 1382)
Environmental Effects in the United States of Department of Defense Actions (32 CFR 188)
EPA Guidelines for Resource Recovery Facilities (40 CFR 245)
EPA National Drinking Water Regulations (40 CFR 141-143)
EPA National Pollutant Discharge Elimination System Permit Regulations (40 CFR 122)
EPA Regulations Designating Areas for Air Quality Planning (40 CFR 81)
EPA Regulations for Ambient Air Monitoring Reference and Equivalent Methods (40 CFR 53)
EPA Regulations for Pesticide Programs (40 CFR 150-186)
EPA Regulations Implementing the Resource Conservation and Recovery Act (40 CFR 260-270)
EPA Regulations on Criteria and Standards for the National Pollutant Discharge Elimination System (40 CFR 125)
EPA Regulations on Discharge of Oil (40 CFR 110)
EPA Regulations on Disposal Site Determination under the CWA (40 CFR 231)
EPA Regulations on Implementation of NEPA Procedures (40 CFR 6)
EPA Regulations on Insecticide, Fungicide, and Rodenticide Use (40 CFR 162)
EPA Regulations on Land Disposal Restrictions (40 CFR 268)
EPA Regulations on National Primary and Secondary Ambient Air Quality Standards (40 CFR 50)
EPA Regulations on Regional Consistency under the Clean Air Act (40 CFR 56)
EPA Requirements for Preparation, Adoption, Submittal, Approval, and Promulgation of Implementation Plans (40 CFR 51-52)
EPA Requirements for Water Quality Planning and Management (40 CFR 130)
EPA Special Exemptions from Requirements of the Clean Air Act (40 CFR 69)
Erosion Protection Act (33 U.S.C. 426)
Estuary Protection Act (16 U.S.C. 1221)
Farmland Protection Act (7 U.S.C. 4201 et seq.)
Federal Compliance with Pollution Control Standards (42 U.S.C. 4321)
Federal Consistency with Approved Coastal Management Programs (15 CFR 930)
Federal Facilities Compliance Act of 1992 (42 U.S.C. 6961)
Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136 et seq.)
Federal Land Policy and Management Act (43 U.S.C. 1701)
Federal Noxious Weed Act (7 U.S.C. 2801 et seq.)
Federal Plant Pest Act (7 U.S.C. 150aa et seq.)
Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. 1251 et seq.)
Fish and Wildlife Conservation Act (16 U.S.C. 2901 et seq.)
Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.)

Fish and Wildlife Service List of Endangered and Threatened Wildlife (50 CFR 17)
Fishery Conservation and Management Act of 1976 (16 U.S.C. 1801 et seq.)
Floodplain Management (Executive Order 11988, as amended by Executive Order 12148 and 13286)
Forest Resources Conservation and Shortage Relief Act (16 U.S.C. 620 et seq.)
Historic Sites Act of 1935 (16 U.S.C. 461 et seq.)
Hunting and Fishing on Federal Lands (10 U.S.C. 2671 et seq.)
Implementation of Section 311 of the Federal Water Pollution Control Act of 18 October, 1972, as amended, and the Oil Pollution Act of 1990 (Executive Order 12777, as amended by Executive Order 13286)
Interagency Cooperation Endangered Species Act of 1973(50 CFR 402)
Invasive Species (Executive Order 13112)
Lacey Act (16 U.S.C. 701) and Lacey Act Amendments of 1981 (16 U.S.C. 3371–3378)
Land and Water Conservation Act of 1965 (16 U.S.C. 4601 et seq.)
Legacy Resource Protection Program Act (PL 101–511)
Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801)
Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.)
Marine Protected Areas (Executive Order 13158)
Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401 et seq.)
Migratory Bird Conservation Act (16 U.S.C. 715 et seq.)
Migratory Bird Treaty Act (16 U.S.C. 703–711)
Migratory Birds List (50 CFR 10.13)
Military Construction Authorization Act of 1956 - Leases; non-excess property (10 U.S.C. 2667)
Military Construction Authorization Act of 1956 - Sale of Certain Interests in Lands; Logs (10 U.S.C. 2665)
Military Construction Authorization Act of 1956- Military Reservations and Facilities: Hunting, Fishing, and Trapping (10 U.S.C. 2671)
Military Construction Authorization Act of 1975 (10 U.S.C. 2665)
Military Reservation and Facilities: Hunting, Fishing and Trapping (10 U.S.C. 2671)
Multiple-Use Sustained Yield Act (16 U.S.C. 528)
National Defense Authorization Act for Fiscal Year 1999 (PL 105-261)
National Defense Authorization Act for Fiscal Year 2003 (PL 107-314)
National Defense Authorization Act for Fiscal Year 2004 (PL 108-136)
National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.)
National Heritage Policy Act of 1979 (16 U.S.C. 470)
National Historic Landmarks Program (36 CFR 65)
National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.)
National Historic Preservation Act Regulations for the Protection of Historic Properties (36 CFR 800)
National Oceanic and Atmospheric Administration Coastal Zone

Management Program Development and Approval Regulation (15 CFR 923)
National Register of Historic Places (36 CFR 60)
National Register of Historic Places, current edition (36 CFR 60 78, 79, 800, and 1228)
National Trails System Act of 1968 (16 U.S.C. 1271)
Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001-3013)
Natural Resources Management Program (32 CFR 190)
Neotropical Migratory Bird Conservation Act (16 U.S.C. 6101 et seq.)
Nonindigenous Aquatic Nuisance Prevention and Control Act as amended (16 U.S.C. 4701et seq.)
North American Wetlands Conservation Act (16 U.S.C. 4401 et seq.)
Noxious Plant Control Act (43 U.S.C. 1241.
Ocean Dumping Regulations and Criteria (40 CFR 220, 227)
Off-Road Vehicles Use on Public Lands (Executive Order 11989)
Oil Pollution Control Act of 1990 (33 U.S.C. 2701 et seq.)
Outdoor Recreation - Federal/State Program Act (16 U.S.C. 4601 et seq.)
Outer Continental Shelf Air Regulations (40 CFR 55)
Partners for Fish and Wildlife Act (16 U.S.C. 3771 et seq.)
Plant Quarantine Act (7 U.S.C. 151-167)
Pollution Prevention Act (42 U.S.C. 13101 et seq.)
Protection and Enhancement of Environmental Quality (Executive Order 11514, as amended by Executive Order 11541 and 11991)
Protection and Enhancement of the Cultural Environment (Executive Order 11593)
Protection of Wetlands (Executive Order 11990, amended by Executive Order 12608)
Recreational Fisheries (Executive Order 12962, as amended by Executive Order 13474)
Regulations Concerning Marine Mammals (50 CFR 10)
Regulations Concerning Marine Mammals (50 CFR 18, 216, 228)
Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.)
Responsibilities of Federal Agencies to Protect Migratory Birds (Executive Order 13186)
Rivers and Harbors Act of 1889 (33 U.S.C. 403 et seq.)
Safe Drinking Water Act (42 U.S.C. 300(f) et seq.)
Sales of Forest Products on Federal Lands (10 U.S.C. 2665 et seq.)
Salmon and Steelhead Conservation and Enhancement Act (16 U.S.C. 3301-3345)
Sikes Act Improvement Act of 1997 (16 U.S.C. 670a et seq.)
Soil and Water Conservation Act (16 U.S.C. 2001 et seq.)
Soil Conservation (16 U.S.C. 5901)
Strengthening Federal Environmental, Energy, and Transportation Management (Executive Order 13423)
Water Pollution Prevention and Control (33 U.S.C. 1251 et seq.)
Wetland Resources (16 U.S.C. 3901)
Wild and Scenic River Act (16 U.S.C. 1274)

Youth Conservation Corps Act of 1972 (16 U.S.C. 1701)

Federal Guidelines and Memorandums

Cooperative Agreement between the Department of Defense and The Nature Conservancy for Assistance in Natural Resources Inventory

Memorandum of Agreement for Federal Neotropical Migratory Bird Conservation Program and Addendum (Partners in Flight-Aves De Las Americas) among the Department of Defense, through Each of the Military Services, and Over 110 Other Federal and State Agencies and Nongovernmental Organizations

Memorandum of Agreement for Professional and Technical Assistance Conducting Biological Surveys, Research and Related Activities between the Department of Defense and the National Biological Service of the Department of the Interior

Memorandum of Understanding between Department of Defense, U.S. Fish and Wildlife Service, and the International Association of Fish and Wildlife Agencies for a Cooperative Integrated Natural Resources Management Program on Military Installations

Memorandum of Understanding between the Environmental Protection Agency and the Department of Defense with Respect to Integrated Pest Management

Memorandum of Understanding for Watchable Wildlife Programs

USACE *1987 Wetland Delineation Manual*

Department of Defense Policy, Regulations, and Guidance

Department of Navy Procedures for Implementing NEPA (32 CFR 775)
Deputy Under Secretary of Defense Memorandum, *Integrated Natural Resource Management Plan Template*
DOD Directive 3200.15, *Sustainment of Ranges and Operating Areas*
DOD Directive 4001.1, *Installation Management*
DOD Directive 4140.1, *Material Management Policy*
DOD Instruction 4150.7, *DOD Pest Management Program*
DOD Directive 4165.57, *Air Installations Compatible Use Zones*
DOD Directive 4165.59, *DOD Implementation of the Coastal Zone Management Act*
DOD Directive 4165.61, *Intergovernmental Coordination of DOD Federal Development Programs and Activities*
DOD Directive 4700.2, *Secretary of Defense Award for Natural Resources and Environmental Management*
DOD Directive 4700.4, *Natural Resources Management Program*
DOD Directive 4705.1, *Management of Land-Based Water Resources in Support of Joint Contingency Operations*
DOD Directive 4710.1, *Archaeological and Historic Resources Management*
DOD Directive 4715.1, *Environmental Security*
DOD Directive 4715.03, *Natural Resources Conservation Program*
DOD Directive 4715.4, *Pollution Prevention*
DOD Directive 4715.6, *Environmental Compliance*
DOD Directive 4715.7, *Environmental Restoration Program*
DOD Directive 4715.9, *Environmental Planning and Analysis*
DOD Directive 4751.DD-R, *Draft Integrated Natural Resources Management in the Department of Defense*
DOD Directive 5030.41, *Oil and Hazardous Substance Pollution Prevention and Contingency Program*
DOD Directive 6050.1, *Environmental Effects in the U.S. of DOD Actions*
DOD Directive 6050.15, *Prevention of Oil Pollution from Ships Owned or Operated by DOD*
DOD Directive 6050.2 (as amended), *Use of Off-Road Vehicles on DOD Lands*
DOD Directive 6050.4, *Marine Sanitation Devices for Vessels Owned or Operated by DOD*
DOD Directive 6050.5, *DOD Hazard Communication Program*
DOD Directive, 6050.2, *Use of Off-Road Vehicles on DOD Lands*
DOD Directive 4150.7, *DOD Pest Management Program*
DOD INRMP Handbook, *Resources for INRMP Implementation*
DOD Instruction 5000.13, *Natural Resources - The Secretary of Defense Natural Resource Conservation Award*
DOD Instruction 6055.6, *DOD Fire and Emergency Services Program*

DOD Memorandum on Implementation of Ecosystem Management in DOD
DOD Urban Forestry Manual
Emergency Consultations under the Endangered Species Act
NAVFAC P-73, *Real Estate Manual P-73*
NAVFACINST 11010.45, *Regional Shore Infrastructure Planning*
NAVFACINST 11012.111A, *Land Use Conservation Planning*
NAVFACINST 6250.3H, *Applied Biology Program Services, and Training*
OPNAVINST 11000.17, *National Preservation Act Consultations Related to Base Realignment and Closure Actions*
OPNAVINST 11010.20F, *Facilities Projects Manual*
OPNAV M-5090.1, *Environmental Readiness Program Manual*
OPNAVINST 5750.13, *Historical Properties of the Navy*
OPNAVINST 6250.4B, *Pest Management Program*
OPNAVINST 8000.16, *Environmental Security Management*
OPNAVINST 8026.2A, *Navy Munitions Disposition Policy*
SECNAVINST 4000.35, *Department of the Navy Cultural Resources Program*
SECNAVINST 5090.8, *Policy for Environmental Protection, Natural Resources, Cultural Resources Program*
SECNAVINST 6240.6E, *Implementation of DOD Directives under DOD Instruction 4700.4*

APPENDIX D: INRMP PROJECTS

NATURAL RESOURCES RESEARCH NEEDS

This INRMP will serve as a planning tool for Commander, Navy Region Northwest. As opportunities become available to seek funding for environmental projects or as mitigation for future activities, this Plan will serve as a priority list to better enable the SEAFAC designated Natural Resources Manager (NRM) to practice effective ecosystem management. This Plan is not meant as a definitive list of projects that will be automatically funded upon enactment. It provides guidance to the resource managers on strategies to employ for the next five years. The U.S. Navy, Navy Region Northwest, and NAVBASE Kitsap intend to implement recommendations in this INRMP within the framework of regulatory compliance, national U.S. Navy mission obligations, anti-terrorism and force protection limitations, and funding constraints. Any requirement for the obligation of funds for projects in this INRMP shall be subject to the availability of funds appropriated by Congress, and none of the proposed projects shall be interpreted to require obligation or payment of funds in violation of any applicable federal law, including the Anti-Deficiency Act, 31 U.S.C. § 1341, et seq.

Project/Research Recommendations	EPR Number	INRMP Section	ERL	Legal Drivers	Implementation Frequency	Year (FY)	Total Budgeted Amount (All FYs)	Natural Resources/INRMP Metrics Focus Area
VEGETATION								
Studies, data collection, monitoring, and information gathering. Surveys that involve little to no surface disturbance. Examples include planning level surveys, topographic surveys, wetland mapping, and other vegetation inventories.								
1) **Marine Vegetation Survey.** Nearshore survey to update baseline marine vegetation knowledge. In addition, documenting observations of other species encountered.	32416SEA02		4	• SIKES	As needed	26	$87,4576	6. Natural Resources Management
2) **Monitor and control invasive, non- native plants at SEAFAC.** Work with USFS to monitor and control non-native and invasive plants. If significant populations of invasive, non-native plant species are found, these undesirable species should be removed and controlled. Primary efforts of control should	In-House		4	• EO 13112 • FNWA 2801 • EO 13751	As needed			6. Natural Resources Management

Project/Research Recommendations	EPR Number	INRMP Section	ERL	Legal Drivers	Implementation Frequency	Year (FY)	Total Budgeted Amount (All FYs)	Natural Resources/INRMP Metrics Focus Area
1) **Vegetation Surveys at Undeveloped Sites**	In-House		4	• SIKES • 50901D	As Needed			6. Natural Resources Management
3) **Survey and delineate site Wetlands and Muskegs.** Manage site through the survey of wetlands and muskegs on Back Island that may affect the site.	32416SEA01		4	• EO 11990 • CWA • Section 10 RHA	Every 5 Years	23	$33,832	Natural Resources Management
FISH AND WILDLIFE								
Studies, data collection, monitoring, and information gathering. Surveys that involve little to no wildlife disturbance or harm. Examples include fish seining, surveys, bird counts, tagging, capture and release, and other resources inventories								

Project/Research Recommendations	EPR Number	INRMP Section	ERL	Legal Drivers	Implementation Frequency	Year (FY)	Total Budgeted Amount (All FYs)	Natural Resources/INRMP Metrics Focus Area
2) **Marine Mammal Monitoring and Orca Network.** Baseline surveys for pinniped haulout at SEAFAC. Baseline data should also include use of SEAFAC for pupping. Surveys to document seasonal occurrence and density information within	68742MMS01			• ESA • SIKES	Recurring	20-25	$40,298	6. Natural Resources Management
3) **Bat Surveys & Monitoring.**	68742BAT01		4	• SIKES • ESA • FWCA2901	As needed	20-25	$14,129	6. Natural Resources Management
4) **Bald eagle nest occupancy survey.** Update baseline data for bald eagle nesting	32416SEA03		3	• BGEPA	As needed	25	$40,755	6. Natural Resources Management
5) **Puget Sound & Alaska INRMP Conservation Mapping**	68742NRMAP		4	• ESA • 50901D • NEPA	Recurring	20-25	$73,813	6. Natural Resources Management

Project/Research Recommendations	EPR Number	INRMP Section	ERL	Legal Drivers	Implementation Frequency	Year (FY)	Total Budgeted Amount (All FYs)	Natural Resources/INRMP Metrics Focus Area
6) **Provide training to NR staff.** Provide training to natural resources staff on latest survey techniques (GIS) and	In-House		4	• SIKES	As needed			5. Team Adequacy
OTHER								
	EO 12580- Executive Order 12580 ESA- Endangered Species Management Act (16 U.S.C. 1531 et seq) FNWA 2801- Federal Noxious Weed Act of 1974, 7 U.S.C. 2801 MBTA- Migratory Bird Treaty Act (16 U.S.C. 1361 et seq) MMPA- Marine Mammal Protection Act MSFCM- Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq) SIKES- Sikes Act							

APPENDIX E: SPECIES LIST

No current wildlife surveys have been conducted at SEAFAC. Reconnaissance surveys were conducted prior to building SEAFAC in 1987, and encountered fauna were noted. Contact with USFS has provided a list in 2016 (Hyde and Cummings, 2016) that is included in the data below of potential species. The following species listed have the potential, or have been documented, to occur at Back Island (column below) and within Behm Canal based on available information (ADF&G email, USFS email, ECOS, WoRMS, etc.).

Common name	Scientific Name	Back Island	Strand, 1987 Surveys	Western Behm Canal, Alaska
Benthic Invertebrates				
Acorn barnacle	*Semibalanus balanoides*			X
Baltic macoma clam	*Macoma balthica*	X		
Black katy chiton (WDFW)	*Katharina tunicate*	X		
Blue mussel	*Mytilus edulis*	X	X	X
Bryozoans	*Heteropora sp.*	X	X	X
Burrowing anemone	*Pachycerianthus fimbriatus*	X	X	X
Calcareous tube worm	*Serpula vermicularis*	X	X	X
California sidegill	*Berthella californica*	X	X	X
Coonstripe shrimp	*Pandalus hypsinotis*			X
Dock shrimp	*Pandalus danae*	X		X
Dungeness crab	*Cancer magister*			X
Encrusting sponge	*Myxilla incrustans*	X	X	X
Geoduck clam	*Panopea generosa*	X		
Giant California sea cucumber	*Parastichopus californicus*	X	X	X
Giant rock scallop	*Hinnites multirugosus*	X	X	X
Golden king crab	*Lithodes aequispinus*			X
Green sea urchin	*Strongylocentrotus droebachiensis*	X	X	X
Gumboot chiton (WDFW)	*Cryptochiton stelleri*		X	
Hermit crab	*Pagurus sp.*	X	X	X
Hooded nudibranch	*Melibe leonina*	X	X	X
Leafy hornmouth	*Ceratostoma foliatum*		X	
Leather sea star	*Dermasterias imbricata*	X	X	X
Lined chiton	*Tonicella lineata*	X	X	X
Littleneck clam	*Leukoma staminea*	X		
Moon snail	*Neverita lewisii*	X	X	X
Newcomb's littorine snail	*Algamorda subrotundata*			X
Northern shrimp	*Pandalus eous*			X
Ochre sea	*Pisaster ochraceus*	X	X	X
Olympia oyster	*Ostreola conchaphila*			X
Oregon hairy triton	*Fusitriton oregonensis*	X	X	X
Pacific pink scallop	*Chlamys hastate hericia*	X	X	X
Pinto abalone (WDFW)	*Haliotis kamtschatkana*			X
Red-eye jellyfish	*Polyorchis penicellata*			X
Red king crab	*Paralithodes camtschaticus*			X
Red sea cucumber	*Apostichopus californicus*	X		X
Red sea urchin	*Strongylocentrotus fransiscanus*		X	X

Rock jingle	*Pododesmus cepio*	**X**	**X**	**X**
Sea peach	*Halocynthia aurantium*	**X**	**X**	**X**
Shiny red sea squirt	*Cnemidocarpa finmarkiensis*	**X**	**X**	**X**
Sidestriped shrimp	*Pandalopsis dispar*			**X**
Sitka periwinkle snail	*Littorina sitkana*	**X**	**X**	**X**
Spindle whelk	*Searlesia dira*	**X**	**X**	**X**
Spot shrimp	*Pandalus platyceros*			**X**
Spotted red anemone	*Tealia lofotensis*	**X**	**X**	**X**
Sunflower sea star	*Pycnopodia helianthoides*	**X**	**X**	**X**
Tanner crab	*Chionoeceter bairdi*			**X**
Weathervane scallop	*Patinopecten caurinus*			**X**
Forage Fish				
Bristlemouths, lightfishes, and anglemouths	*Gonostomatidae sp.*			**X**
Deep-sea smelts	*Bathylagidae sp.*			**X**
Capelin, and other smelts	*Osmeridae sp.*			**X**
Eulachon	*Thaleichthys pacificus*			**X**
Giant grenadier	*Albatrossia pectoralis*			
Gunnels	*Pholidae sp.*			
Lanternfishes	*Myctophidae sp.*			**X**
Longfin smelt	*Spirinchus thaleichthys*			**X**
Night smelts	*Spirinchus starksi*			**X**
Pacific grenadier	*Coryphaenoides acrolepis*			
Pacific herring	*Clupea pallasii*	**X**		**X**
Pacific sand fish	*Trichodontidae sp.*			
Pacific sand lance	*Ammodytidae sp.*	**X**		**X**
Pacific sardine	*Sardinops sagax*	**X**		**X**
Popeye grenadier	*Coryphaenoides cinereus*			**X**
Pricklebacks, warbonnets, eel blennys, cockscomb, and shannys	*Stichaeidae sp.*			**X**
Fish				
Arrowtooth Flounder	*Atheresthes stomias*	**X**		**X**
Atka mackerel	*Pleurogrammus monopterygius*			**X**
Barracudas	*Sphyraena barracuda*			**X**
Black rockfish	*Sebastes melonops*	**X**		**X**
Butter sole	*Isopsetta isolepis*	**X**		**X**
Chinook salmon	*Oncorhynchus tshawytscha*			**X**
Chum salmon	*Oncorhynchus keta*			**X**
Coho salmon	*Oncorhynchus kisutch*			**X**
C-O turbot	*Pleuronichthys coenosus*	**X**		**X**
Curlfin turbot	*Pleuronichthys decurrens*	**X**		**X**

Cutthroat trout	*Gasterosteus aculeatus*			**X**
Deepsea sole	*Embassichthys bathybius*	**X**		**X**
Dolly varden	*Salvelinus malma*			**X**
Dover sole	*Solea solea*	**X**		**X**
English Sole	*Parophrys vetulus*	**X**		**X**
Flathead sole	*Hippoglossus elassodon*	**X**		**X**
Kelp greenling	*Hexagrommos decagrammus*			**X**
Lanternfish	*Myctophidae sp.*			**X**
Lingcod	*Ophiodon elongatus*			**X**
Longnose lancetfish	*Alepisaurus*	**X**		**X**
Pacific cod	*Gadus macrocephalus*	**X**		**X**
Pacific flatnose	*Antimora microlepis*	**X**		**X**
Pacific hake	*Merluccius productus*	**X**		**X**
Pacific halibut	*Hippoglossus stenolepis*	**X**		**X**
Pacific tomcod	*Microgadusproimus*	**X**		
Petrale sole	*Eopsetta jordani*	**X**		**X**
Pink salmon	*Oncorhynchus gorbuscha*			**X**
Quillback rockfish	*Sebastodes malinger*			**X**
Rex sole	*Glyptocephalus zachirus*	**X**		**X**
Sablefish	*Anoplopoma fimbria*			**X**
Saffron cod	*Eleginus gracilis*			**X**
Salmon shark	*Lamna ditropis*			**X**
Sand Sole	*Psettichthys melanostictus*	**X**		**X**
Slender sole	*Lyopsetta exilis*	**X**		**X**
Snipe eel	*Nemichthyidae*	**X**		**X**
Sockeye salmon	*Oncorhynchus nerka*			**X**
Starry flounder	*Platichthys stellatus*	**X**		**X**
Steelhead trout	*Oncorhynchus clarkii*			**X**
Walleye pollock	*Theragra chalcogramma*	**X**		**X**
Yelloweye rockfish	*Sebastes ruberrimus*			**X**
Yellowfin sole	Limanda apera	**X**		**X**
Marine Mammals				
Baird's beaked whale	*Berardius bairdii*			**X**
California sea lion	*Zalophus californianus*			**X**
Cuvier's beaked whale	*Ziphius cavirostris*			**X**
Dall's porpoise	*Phocoenoides dalli*			**X**
Fin whale	*Balaenoptera physalus*			**X**
Gray whale	*Eschrichtius robustus*			**X**
Harbor porpoise	*Phocoena phocoena*			**X**
Harbor seal	*Phoca vitulina*	**X**		**X**
Humpback whale	*Megaptera novaeangliae*			**X**

Killer whale	*Orcinus orca*	**X**		**X**
Minke whale	*Balaenoptera acutorostrata*			**X**
Northern fur seal	*Callorhinus ursinus*	**X**		**X**
Northern sea otter	*Enhydra lutris kenyoni*			**X**
Pacific white-sided dolphin	*Lagenorhynchus obliquidens*			**X**
Sperm whale	*Physeter macrocephalus*			**X**
Steller sea lion	*Eumetopias jubatus*	**X**		**X**
Terrestrial Mammals				
Alexander Archipelago wolf	*Canis lupus ligoni*	**X**		
American beaver	*Castor canadensis*			
American black bear	*Ursus americanus*	**X**		**X**
American marten	*Martes americana*	**X**		**X**
Brown bear	*Ursus arctos*			
California myotis	*Myotis californicus*			
Gray wolf	*Canis lupus*			
Keen's myotis	*Myotis keenii*			
Little brown bat	*Myotis lucifugus*			
Long-legged myotis	*Myotis volans*			
Long-tailed vole	*Microtus longicaudus littoralis*			
Mink	*Mustela vison*	**X**		**X**
Muskrat	*Ondrata zibenthicus*			
North American/Prince of Wales river otter	*Lontra canadensis*	**X**		**X**
Northern flying squirrel	*Laucomys sabrinus*			
Norway rat	*Rattus norvegicus*	**X**		
Red squirrel	*Tamiasciurus hudsonicus*			
Silver-haired bat	*Lasionycteris noctivagans*			
Sitka deer	*Odocoileus hemionus sitkensis*	**X**		**X**
Southern red-backed vole	*Clethrionomys gapperi*			
Water shrew	*Sorex palustris*			
Western jumping mouse	*Zapus princeps*			
Birds				
Common name	**Scientific Name**	**Back Island**	**eBirds – Ketchikan Gateway****	**SEAFAC EA - Western Behm Canal, Alaska**
Aleutian tern	*Sterna aleutica*			**X**
American coot	*Fulica americana*		**X**	**X**
American robin	*Turdus migratorius*		**X**	
American wigeon	*Anas americana*		**X**	**X**
Ancient murrelet	*Synthliboramphus antiquus*		**X**	**X**
Bald eagle	*Haliaeetus leucocephalus*	**X**	**X**	**X**

Band-tailed Pigeon	*Patagioenas fasciata*		X	
Barrow's goldeneye	*Bucephala islandica*		X	X
Belted kingfisher	*Megaceryle alcyon*		X	
Black oystercatcher	*Haematopus bachmani*		X	X
Black scoter, common scoter	*Melanitta nigra*	X	X	X
Black swift	*Cypseloides niger*		X	
Black turnstone	*Arenaria melanocephala*		X	X
Black-bellied plover	*Pluvialus squatarola*		X	X
Black-legged kittiwake	*Rissa tridactyla*		X	X
Black-tailed gull	*Larus crassirostris*		X	
Blue-winged teal	*Anas discors*		X	X
Bohemian waxwing	*Bombycilla garrulus*		X	
Bonaparte's gull	*Larus philadelphia*		X	X
Brandt's cormorant	*Phalacrocorax penicillatus*		X	X
Brant	*Branta bernicla*		X	
Brown creeper	*Certhia americana*		X	
Bufflehead	*Bucephala albeola*	X	X	X
Cackling goose	*Branta hutchinsii*		X	
California gull	*Larus californicus*		X	X
Canada goose	*Branta canadensis*		X	X
Caspian tern	*Hydroprogne caspia*		X	X
Cassin’s auklet	*Ptychoramphus aleuticus*		X	X
Cinnamon teal	*Spatula cyanoptera*		X	
Common cormorant	*Phalacrocoracidae sp.*	X		X
Common goldeneye	*Bucephala clangula*	X	X	X
Common grebe	*Podicipedidae sp.*	X		X
Common loon	*Gavia immer*		X	X
Common merganser	*Mergus merganser*	X	X	X
Common murre	*Uria aalge*		X	X
Common nighthawk	*Chordeiles minor*		X	
Common raven	*Corvus corax*		X	
Common redpoll	*Acanthis flammea*		X	
Double-crested cormorant	*Phalacrocorax auritus*		X	X
Downy woodpecker	*Dryobates pubescens*		X	
Dunlin	*Calidris alpina*		X	X
Eurasian collared-dove	*Streptopelia decaocto*		X	
Eurasian wigeon	*Mareca penelope*		X	
Fork-tailed storm petrel	*Oceanodroma furcata*		X	X
Fox sparrow	*Passerella iliaca*		X	
Franklin’s gull	*Leucophaeus pipixcan*		X	

Gadwall	*Anas strepera*		X	X
Glaucous gull	*Larus hyperboreus*		X	
Glaucous-winged gull	*Larus glaucescens*	X	X	X
Golden-crowned kinglet	*Regulus satrapa*		X	
Gray-crowned rosy-finch	*Leucosticte tephrocotis*		X	
Great blue heron	*Ardea herodias*		X	X
Greater scaup	*Aythya marila*		X	X
Greater white-fronted goose	*Anser albifrons*		X	
Greater yellowlegs	*Tringa melanoleuca*		X	X
Green-winged teal	*Anas crecca*		X	X
Hairy woodpecker	*Dryobates villosus*		X	
Harlequin duck	*Histrionicus*	X	X	X
Heermann's gull	*Larus heermanni*		X	
Hermit thrush	*Catharus guttatus*		X	
Herring gull	*Larus argentatus*		X	X
Hooded merganser	*Lophodytes cucullatus*		X	X
Horned grebe	*Podiceps auritus*		X	X
Iceland gull	*Larus glaucoides*		X	
Killdeer	*Charadrius vociferus*		X	X
Kittlitz's murrelet	*Brachyramphus brevirostris*			X
Lesser scaup	*Aythya affinis*		X	X
Lesser yellowlegs	*Tringa flavipes*		X	X
Lincoln's sparrow	*Melospiza lincolnii*		X	
Long-billed dowitcher	*Limnodromus scolopaceus*			X
Long-tailed duck	*Clangula hyemalis*	X	X	X
Mallard	*Anas platyrhynchos*		X	X
Marbled godwit	*Limosa fedoa*		X	X
Marbled murrelet	*Brachyramphus marmoratus*		X	X
Mew gull	*Larus canus*		X	X
Mourning dove	*Zenaida macroura*		X	
Northern crow	*Corvus caurinus*			X
Northern flicker	*Colaptes auratus*		X	
Northern goshawk	*Accipiter gentilis*		X	
Northern harrier	*Circus hudsonius*		X	
Northern shoveler	*Anas clypeata*		X	X
Northern pintail	*Anas acuta*		X	X
Northwestern crow	*Corvus caurinus*		X	
Orange-crowned warbler	*Oreothlypis celata*		X	
Osprey	*Pandion haliaetus*		X	
Pacific golden plover	*Pluvialis fulva*		X	X

Pacific loon	*Gavia pacifica*		**X**	**X**
Parasitic jaeger	*Stercorarius parasiticus*		**X**	**X**
Pelagic cormorant	*Phalacrocorax pelagicus*		**X**	**X**
Peregrine falcon	*Falco peregrinus*		**X**	
Pied-billed grebe	*Podilymbus podiceps*		**X**	**X**
Pigeon guillemot	*Cepphus columba*		**X**	**X**
Pine siskin	*Spinus pinus*		**X**	
Red-breasted merganser	*Mergus serrator*		**X**	**X**
Red-breasted nuthatch	*Sitta canadensis*		**X**	
Red-breasted sapsucker	*Sphyrapicus ruber*		**X**	
Red crossbill	*Loxia curvirostra*		**X**	
Redhead	*Aythya americana*		**X**	
Red-necked grebe	*Podiceps grisegena*		**X**	**X**
Red-necked phalarope	Phalaropus lobatus		**X**	**X**
Red-tailed hawk	*Buteo jamaicensis*		**X**	
Red-throated loon	*Gavia stellata*		**X**	**X**
Rhinoceros auklet	*Cerorhinca monocerata*		**X**	**X**
Ring-billed gull	*Larus delawarensis*		**X**	**X**
Ring-necked duck	*Aythya collaris*		**X**	**X**
Rock pigeon	*Columba livia*		**X**	
Rock sandpiper	*Calidris ptilocnemis*		**X**	**X**
Ross's goose	*Anser rossii*		**X**	
Ruby-crowned kinglet	*Regulus calendula*		**X**	
Ruddy turnstone	*Arenaria interpres*		**X**	**X**
Rustic bunting	*Emberiza rustica*		**X**	
Sanderling	*Calidris alba*		**X**	**X**
Semipalmated plover	*Charadrius semipalmatus*		**X**	**X**
Sharp-shinned hawk	*Accipiter striatus*		**X**	
Short-billed dowitcher	*Limnodromus griseus*		**X**	**X**
Short-tailed albatross (USFWS, 2000)	*Phoebastria albatrus*			**X**
Slaty-backed gull	*Larus schistisagus*		**X**	
Snow goose	*Chen caerulescens*		**X**	**X**
Spotted sandpiper	*Actitis macularius*		**X**	
Steller's eider	*Polysticta stelleri*		**X**	
Steller's jay	*Cyanocitta stelleri*		**X**	
Surf scoter	*Melanitta perspicillata*		**X**	**X**
Surfbird	*Aphriza virgata*		**X**	**X**
Swainson's thrush	*Catharus ustulatus*		**X**	
Thayer's gull	*Larus thayeri*			**X**
Thick-billed murre	*Uria lomvia*			**X**

Townsend's warbler	*Setophaga townsendi*		**X**	
Tree swallow	*Tachycineta bicolor*		**X**	
Trumpeter swan	*Cygnus columbianus*		**X**	**X**
Tufted puffin	*Fratercula cirrhata*			**X**
Tundra Swan	*Cygnus columbianus*		**X**	
Vaux's swift	*Chaetura vauxi*		**X**	
Varied thrush	*Ixoreus naevius*		**X**	
Wandering tattler	*Tringa incana*		**X**	**X**
Western grebe	*Aechmophorus occidentalis*	**X**	**X**	**X**
Western sandpiper	*Calidris mauri*		**X**	**X**
Whimbrel	*Numenius phaeopus*		**X**	**X**
White-winged crossbill	*Loxia leucoptera*		**X**	
White-winged scoter	*Melanitta fusca*		**X**	**X**
Wilson's snipe	*Gallinago delicata*		**X**	**X**
Wood duck	*Aix sponsa*		**X**	
Yellow warbler	*Setophaga petechia*		**X**	
Yellow-billed loon	*Gavia adamsii*		**X**	**X**

**http://ebird.org/ebird/GuideMe?step=saveChoices&getLocations=counties&parentState=US-AK&bMonth=01&bYear=1900&eMonth=12&eYear=2016&reportType=location&counties=US-AK-130&continue.x=54&continue.y=16

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APPENDIX F: NATURAL RESOURCES METRICS AND DESIGNATION LETTERS

Participants and Attendees

Navy Lead	Last Name	First Name	Organization	Telephone	Email
	Faragalli	Jessica	NAVFACNW	360-396-0256	jessica.faragalli@navy.mil
	Kelso	Jennifer	SEAFAC	907-228-7055	Jennifer.l.kelso@navy.mil
	Kunz	Cindi	NAVFACNW	360-396-1860	cindi.kunz@navy.mil
	Levitt	Susan		360-315-0282	susan.levitt@navy.mil
	Nolan Wing	Jennifer	ADFG	907-267-2242	jennifer.nolanwing@alaska.gov
	SENNER	ROBERT		1-360-396-0289	robert.g.senner1@navy.mil
X	Stockton	Julia	NAVFACNW	360-476-6067	julia.stockton@navy.mil
	Whisennand	Kristin	US Forest Service	360	kristin.whisennand@usda.gov

Protected Species

- Proposed and Candidate Species - None.

- Threatened and Endangered Species
  - Finback whale - Balaenoptera physalus
  - Humpback whale - Megaptera novaeangliae
  - Sperm whale - Physeter catodon (=macrocephalus)

- State, Local, and other Species
  - Tufted Puffin - Fratercula cirrhata

INRMP Projects

FY19 Projects

68436SEA16 : CHS NW Back Island AK INRMP

Support of Installation Mission

7.0. Please identify the mission types related to your reporting unit/site. Select all that apply. Do not choose N/A.Please contact Admin to add a mission if it is not available on the list.

Communications (C4), Research & Development, Submarine Ops

7.0.a. Enter a 2-3 sentence summary of the mission description from your INRMP.

SEAFAC mission operations primarily consist of measuring the noise emissions of submarines and surface ships when a vessel is underway and is at rest and moored. SEAFAC maintains and operates permanently installed in-water infrastructure to support these capabilities including: a pair of barges permanently moored in the Static site; sensor arrays and auxiliary equipment in Areas 1 and 2 positioned on permanently anchored vertical cables; power and communications feeds from the shore facility to the equipment in the test sites (throughout Area 3) are deployed on the floor of Behm Canal. the instruments are arrays of hydrophones for passive sensing of surface vessel and submarine acoustic signatures.SEAFAC mission operations primarily consist of measuring the noise emissions of submarines and surface ships when a vessel is underway and is at rest and moored. SEAFAC maintains and operates permanently installed in-water infrastructure to support these capabilities including: a pair of barges permanently moored in the Static site; sensor arrays and auxiliary equipment in Areas 1 and 2 positioned on permanently anchored vertical cables; power and communications feeds from the shore facility to the equipment in the test sites (throughout Area 3) are deployed on the floor of Behm Canal. the instruments are arrays of hydrophones for passive sensing of surface vessel and submarine acoustic signatures.

7.1. To what extent has the Natural Resource program/INRMP supported the current PRIMARY MISSION and potential future mission(s)?

Mission well supported and fully capable

7.2. To what extent has the Natural Resource program/INRMP supported other mission areas (secondary missions)?

Mission well supported and fully capable

7.3. To what extent does the Natural Resources program affect mission-related operational/training activities?

Neutral

7.4. To what extent does the Natural Resources Program/INRMP minimize possible constraints imposed by natural resources regulatory requirements?

Partially minimizes

7.5. Please provide examples of how unresolved Natural Resources issues areresultinginmission impacts or work arounds.

This INRMP is currently in development.

7.6. Please provide examples of how the INRMP or Natural Resources program actions have resulted in mission benefits.

This INRMP is currently in development.

7.7. What is the level of coordination between natural resources staff and other installation/site(s) departments and military staff?

Effective coordination

7.8. Have stakeholders from every major tenant command participated in the INRMP preparation and review process?

Yes, they actively participate in revisions

2019 Natural Resources Annual Report: SEAFAC BACK ISLAND

Enter the name of your Regional Commander / Commanding Officer.

E. A. Schrader

Enter the rank of your Regional Commander / Commanding Officer.

Captain

Findings

N/A

Recommendations

N/A

Summary Score

Focus Area	Score
1 - Natural Resources Management	0.72
2 - Listed Species Critical Habitat	0.66
4 - Sikes Act Cooperation	0.62
5 - Team Adequacy	0.72
6 - INRMP Implementation	1.00
FY19 Projects	1.00
7 - Support of Installation Mission	0.68
SEAFAC BACK ISLAND - Overall Score	0.73

DEPARTMENT OF THE NAVY
NAVAL BASE KITSAP
120 SOUTH DEWEY ST
BREMERTON, WA 98314-5020

5090
Ser PRB4/00905
21 Apr 16

From: Commanding Officer, Naval Base Kitsap, Bremerton, WA
To: Ms. Julia Stockton, NAVFAC NW Environmental, Bremerton, WA

SUBJ: DESIGNATION AS NATURAL RESOURCE MANAGER/COORDINATOR FOR SOUTHEAST ALASKA ACOUSTIC MEASUREMENT FACILITY

Ref: (a) OPNAV M-5090.1

1. You are hereby designated as Installation Natural Resources Manager/Coordinator for Southeast Alaska Acoustic Measurement Facility (SEAFAC).

2. In accordance with reference (a), you shall oversee natural resources issues, conditions of natural resources, status of Integrated Natural Resource Management Plan objectives, and any potential or actual conflicts between mission requirements and natural resources mandates, ensuring that the Naval Base Kitsap Commanding Officer (CO) is informed. As installation Natural Resources Manager/Coordinator, you are responsible for the inherently governmental decisions made on behalf of the installation and CO with regard to Sikes Act compliance.

T. A. ZWOLFER