

**FINAL**

**ENVIRONMENTAL ASSESSMENT**  
**For**  
**REVISED INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN**  
**NAVAL BASE KITSAP MANCHESTER**  
**KITSAP COUNTY, WASHINGTON**

**September 2024**



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## Abstract

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| <b>Designation:</b>              | Environmental Assessment   |
| <b>Title of Proposed Action:</b> | Revised Integrated Natural Resources Management Plan, Naval Base Kitsap Manchester, Manchester, WA   |
| <b>Project Location:</b>         | Manchester, Kitsap County, WA  |
| <b>Lead Agency for the EA:</b>   | Department of the Navy   |
| <b>Action Proponent:</b>         | Naval Base Kitsap  |
| <b>Point of Contact:</b>         | NEPA Planner, Naval Base Kitsap Manchester Revised INRMP EA<br>Naval Facilities Engineering Systems Command Northwest<br>1101 Tautog Circle<br>Silverdale, WA 98315-1101 |
| <b>Date:</b>                     | September 2024   |

Naval Base Kitsap, a Command of the United States Navy (hereinafter, referred to as the Navy), has prepared this Environmental Assessment in accordance with the National Environmental Policy Act, as implemented by the Council on Environmental Quality regulations and Navy regulations for implementing the National Environmental Policy Act. The Proposed Action is to adopt and implement a revised Integrated Natural Resources Management Plan (INRMP) for Naval Base Kitsap Manchester, Manchester, WA that is consistent with the military use of the property and the Sikes Act Improvement Act. This programmatic Environmental Assessment (EA) analyzes one Action Alternative (Preferred Alternative) and a No Action Alternative. The Preferred Alternative will implement the objectives and project recommendations of the INRMP in the following natural resource categories: water resources; terrestrial and marine biology; and threatened, endangered, and sensitive species and essential fish habitat. The purpose of and need for the Proposed Action is to comply with the Sikes Act, provide management requirements for species listed under the Endangered Species Act, and meet the requirements of the U.S. Department of Defense and U.S. Department of Navy Instructions. The Proposed Action will provide a programmatic approach to managing natural resources including procedures for reviewing projects, conducting species surveys, and implementing habitat enhancement projects. This EA evaluated the potential environmental impacts associated with the Proposed Action and the No Action Alternative to Water Resources and Biological Resources.

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## EXECUTIVE SUMMARY

### Proposed Action

The Proposed Action is to adopt and implement a revised Integrated Natural Resources Management Plan (INRMP) for Naval Base Kitsap Manchester (NBK Manchester), Manchester, WA, which is consistent with the military use of the property and the Sikes Act Improvement Act, 16 United States Code (U.S.C.) section 670 et seq. (Sikes Act). The goal of the INRMP is to implement an ecosystem-based conservation program that provides for conservation and rehabilitation of natural resources in a manner that is consistent with the military mission. The revised INRMP was developed in cooperation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Washington Department of Fish and Wildlife (WDFW).

### Purpose of and Need for the Proposed Action

The purpose of and need for the Proposed Action is to meet statutory requirements under the Sikes Act, provide management requirements for species listed under the Endangered Species Act, and meet the requirements of Department of Defense and United States Navy (Navy) instructions. In November 1997, the Sikes Act was amended to require the Secretary of Defense to carry out a program to provide for the conservation and rehabilitation of natural resources on military installations. To facilitate this program, the amendments require the secretaries of the military departments to prepare and implement integrated natural resource management plans for each military installation in the United States unless the absence of significant natural resources on a particular installation makes preparation of the plan for that installation inappropriate. The conservation program must be consistent with the mission-essential use of the installation and its lands and not cause a net loss of military land use.

### Alternatives Considered

The Navy considered one action alternative (Preferred Alternative) that meets the purpose of and need for the Proposed Action, and a No Action Alternative. The Preferred Alternative will adopt and implement the revised INRMP. The revised INRMP for NBK Manchester implements natural resource management in a manner that is consistent with the land use needs of the military mission and that complies with the Sikes Act. Under the No Action Alternative the Navy would not implement this revised INRMP. The Navy would continue to implement the 2009 INRMP and on-going management practices for natural resources at NBK Manchester.

### Summary of Environmental Resources Evaluated in the Environmental Assessment

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

The following resource areas have been addressed in this EA: Water Resources and Biological Resources.

Because potential impacts were considered negligible or nonexistent, the following resources were not evaluated in this EA: Air Quality, Geological Resources, Cultural Resources, Land Use, Visual Resources, Noise, Transportation, Hazardous Materials and Wastes, Public Health and Safety, American Indian Traditional Resources, Socioeconomics, and Environmental Justice. In accordance with

COMNAVREGNWINST 11010.14A, the Suquamish Tribe will be consulted for proposed individual projects that may have the potential to impact treaty rights, sacred sites, burial sites, protected tribal resources, or other rights to natural resources.

### **Summary of Potential Environmental Consequences of the Action Alternatives**

**Water Resources.** Implementation of the Preferred Alternative will involve manual and/or mechanical removal of invasive species and re-vegetation and could result in short-term localized turbidity to all applicable water resources. NBK Manchester will continue to implement the Facility Oil Spill Prevention, Control, and Countermeasure Plan as well as comply with water resource laws and installation stormwater best management practices, therefore limiting direct adverse impacts on water resources. Under the No Action Alternative, there would be no change to baseline water resources.

Implementation of the Preferred Alternative and No Action Alternative will not result in a significant adverse impact to water resources.

**Biological Resources.** Under the Preferred Alternative, management of biological resources at NBK Manchester will be guided by the goals and objectives outlined in the revised INRMP to protect, conserve, and manage fish and wildlife including threatened, endangered, and sensitive species, as well as habitats. Federally listed species include marbled murrelet (*Brachyramphus marmoratus*), bull trout (*Salvelinus confluentus*), Chinook salmon (Puget Sound Evolutionary Significant Unit (ESU)) (*Oncorhynchus tshawytscha*), steelhead (Puget Sound Distinct Population Segment (DPS)) (*O. mykiss*), bocaccio rockfish (*Sebastes paucispinis*), yelloweye rockfish (*S. ruberrimus*), killer whale (Southern resident DPS) (*Orcinus orca*), and humpback whale (Mexico DPS/Central American DPS) (*Megaptera novaengliae*), as well as the federally proposed for listing sunflower sea star (*Pycnopodia helianthoides*). Natural resources management projects will benefit vegetation and species. NBK Manchester will continue to consult with U.S. Fish and Wildlife Service and National Marine Fisheries Service under section 7 of the Endangered Species Act. Consultation will occur with National Marine Fisheries Service for marine mammals under the protection of the Marine Mammal Protection Act, and for Essential Fish Habitat under the Magnuson-Stevens Fishery Conservation and Management Act for activity that may affect listed species, critical habitat, or Essential Fish Habitat. Under the No Action Alternative, there would be no change to baseline biological resources. Implementation of the Preferred Alternative and No Action Alternative will not result in a significant adverse impact to biological resources.

### **Public Involvement**

The Navy prepared a Draft EA to inform the public of the Proposed Action and to allow the opportunity for public review and comment. The Navy made the Draft EA available for public review and comment with a notice of availability published in the Kitsap Sun newspaper August 22, 24, and 27, 2023. The Draft EA was posted on a Navy website at <https://www.navfac.navy.mil/NWNEPA> for review and comment. No public comments were received during the public review period. The Final EA and decision document will be made available to the public by publishing a notice of availability in the Kitsap Sun and posting the documents on the Navy website.

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**Environmental Assessment**  
**Revised Integrated Natural Resources Management Plan**  
**For**  
**Naval Base Kitsap Manchester, Manchester, WA**  
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## Abbreviations and Acronyms

| <i>Acronym</i> | <i>Definition</i>  | <i>Acronym</i> | <i>Definition</i>                                   |
|----------------|--|----------------|---|
| BMP            | best management practice                                 | NEPA           | National Environmental Policy Act                   |
| CEQ            | Council on Environmental Quality                         | NHPA           | National Historic Preservation Act                  |
| CH             | Critical Habitat   | NMFS           | National Marine Fisheries Service                   |
| CFR            | Code of Federal Regulations                              | NPDES          | National Pollutant Discharge Elimination System     |
| CWA            | Clean Water Act  | NRM            | Natural Resources Manager                           |
| CZMA           | Coastal Zone Management Act                              | OPNAV          | Office of the Chief of Naval Operations             |
| DoD            | United States Department of Defense                      | OPNAVINST      | Office of the Chief of Naval Operations Instruction |
| DPS            | Distinct Population Segment                              | ROI            | Region of Influence                                 |
| EA             | Environmental Assessment                                 | SPCC           | Spill Prevention, Control, and Countermeasure       |
| EFH            | Essential Fish Habitat                                   | TMDLs          | Total Maximum Daily Loads                           |
| EIS            | Environmental Impact Statement                           | U.S.           | United States                                       |
| EO             | Executive Order  | U.S.C.         | United States Code                                  |
| ESA            | Endangered Species Act                                   | USACE          | U.S. Army Corps of Engineers                        |
| ESU            | Evolutionary Significant Unit                            | USEPA          | U.S. Environmental Protection Agency                |
| INRMP          | Integrated Natural Resources Management Plan             | USFWS          | U.S. Fish and Wildlife Service                      |
| MBTA           | Migratory Bird Treaty Act                                | WDFW           | Washington State Department of Fish and Wildlife    |
| MMPA           | Marine Mammal Protection Act                             |                |   |
| MSFCMA         | Magnuson-Stevens Fishery Conservation and Management Act |                |   |
| NBK Manchester | Naval Base Kitsap Manchester                             |                |   |

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# 1 Purpose of and Need for the Proposed Action

## 1.1 Introduction

Naval Base Kitsap (NBK), a Command of the United States (U.S.) Navy (hereinafter, referred to as Navy), proposes to adopt and implement a revised Integrated Natural Resources Management Plan (INRMP) for Naval Base Kitsap Manchester (NBK Manchester), Manchester, WA. The revised INRMP would be implemented once it is approved by the Navy and regulatory agencies and would be reviewed every five years for assessment of any new projects, resource information, and for installation changes. The INRMP is being developed in cooperation with the U.S. Fish and Wildlife Service (USFWS) and Washington State Department of Fish and Wildlife (WDFW).

The Navy has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), of 1969 (42 U.S. Code [USC] §4321-4370h), as implemented by the Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508); Navy regulations for implementing the NEPA (32 CFR Part 775); and OPNAV-M 5090.1, Environmental Readiness Program Manual.

## 1.2 Background

NBK Manchester is located in unincorporated Kitsap County on Puget Sound, approximately 7 miles west of Seattle, Washington (Figure 1-1). With a population of approximately 1,500, the unincorporated community of Manchester lies to the south and west. A National Marine Fisheries Service research facility, the U.S. Environmental Protection Agency (USEPA) Region 10 Manchester Environmental Laboratory, Washington Department of Ecology Manchester Laboratory, and Manchester State Park are all located to the north on property formerly owned by the Navy (Figure 1-2). Properties to the west and south support rural residential uses.

The Navy's 319-acre facility is located on approximately 2 miles of Puget Sound shoreline and is made up of two distinct areas separated by a 26-acre tidal lagoon, Little Clam Bay, and Beach Drive (Figure 1-2). Beach Drive is a county road located on Navy property for which Kitsap County holds an easement. Approximately 51 acres of land is developed and 194 acres remain undeveloped/forested. Developed facilities include buildings, underground and aboveground fuel storage tanks, and two piers.

Water features include a perennial stream, Beaver Creek, which runs through the north end of the facility, and several manmade spill containment ponds (Franco Pond, North Dike, and South Dike). Additionally, approximately 70 acres of intertidal and sub-tidal property is included within the Naval Restricted Area established in 2008 by the U. S. Army Corps of Engineers (USACE) (33 CFR 334.1244). This area is controlled by the Navy for safety and security purposes. The tidelands abutting NBK Manchester were acquired in 1899 by the United States via the condemnation proceedings of Civil Case No. 1348 in U.S. District Court for the District of Washington, Northern Division.

NBK Manchester is a Defense Fuel Support Point of the Defense Logistics Agency and reports to Naval Supply Systems Command, Fleet Logistics Center Puget Sound, which is a tenant command of NBK. The NBK Manchester mission is to receive, store and issue on-specification aviation and marine petroleum products in support of Department of Defense (DoD) missions and operations, with appropriate controls to ensure safety, quality, inventory control and environmental protection.

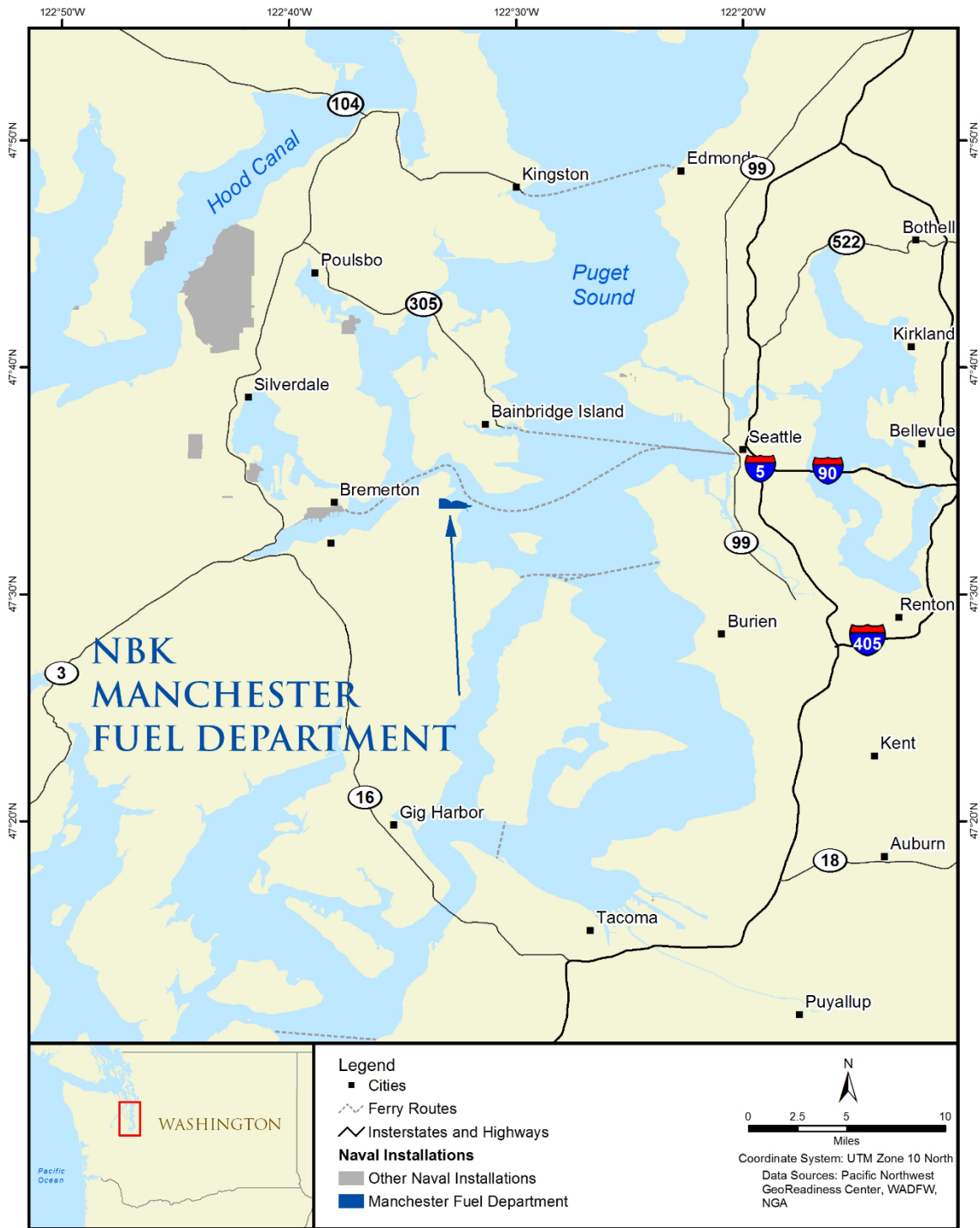


Figure 1-1. Location Map



Figure 1-2. Naval Base Kitsap Manchester

### 1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to meet statutory requirements under the Sikes Act Improvement Act (16 United States Code [U.S.C.] section 670 et seq.) (Sikes Act). The need of the Proposed Action is to provide management requirements for species listed under the Endangered Species Act and meet the requirements of the DoD and Navy instructions. In November 1997, the Sikes Act was amended to require the Secretary of Defense to carry out a program to provide for the conservation and rehabilitation of natural resources on military installations. To facilitate this program, the amendments require the secretaries of the military departments to prepare and implement INRMPs for each military installation in the United States unless the absence of significant natural resources on a particular installation makes preparation of the plan for that installation inappropriate.

The principal use of military installations is to ensure the preparedness of the Armed Forces. The Sikes Act requires each installation to prepare an INRMP that provides for the following management activities, to the extent that such activities are consistent with the use of the installation for military preparedness:

- The conservation and rehabilitation of natural resources on the installation;
- The sustainable multipurpose use of the resources, to include hunting, fishing, trapping, and non-consumer uses; and

- Public access to the installation to facilitate such uses, subject to safety requirements and military security.

As required by the Sikes Act, the plan must, to the extent appropriate and applicable, provide for:

- Fish and wildlife management, land management, forest management, and fish- and wildlife-oriented recreation;
- Fish and wildlife habitat enhancement or modification;
- Wetland protection, enhancement, and restoration, where necessary for support of fish, wildlife, or plants;
- Integration of, and consistency among, the various activities conducted under the plan;
- Establishment of specific, natural resource management goals, objectives, and time frames;
- Sustainable use by the public of natural resources to the extent that the use is not inconsistent with the needs of fish and wildlife resources;
- Public access to the military installation that is necessary or appropriate for the sustainable use of natural resources, subject to requirements necessary to ensure safety and military security;
- Enforcement of applicable natural resource laws (including regulations);
- No net loss in the capability of the installation's lands to support the military mission of the installation; and
- Other such activities as the Navy has determined appropriate.

#### **1.4 Scope of Environmental Analysis**

This EA includes an analysis of potential environmental impacts associated with developing and implementing a revised INRMP for NBK Manchester (Preferred Alternative) and the No Action Alternative. The environmental resource areas analyzed in this EA include Water Resources and Biological Resources.

#### **1.5 Key Documents**

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

- Navy 2009. Integrated Natural Resources Management Plan, Manchester Fuel Depot. This is the existing INRMP for NBK Manchester, which was signed in June 2009. It identifies the installation's ongoing natural resources program to provide management requirements for species listed under ESA, and complies with DoD and Navy instructions and regulations.

#### **1.6 Relevant Laws and Regulations**

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

- NEPA (42 U.S.C. sections 4321-4370h), which requires an environmental analysis for major federal actions that have the potential to significantly impact the quality of the human environment



- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500-1508)
- OPNAV M-5090.1 (25 June 2021)
- DoD Manual 4715.03 (08 November 2013)
- Sikes Act Improvement Act (16 U.S.C. section 670a-670o et seq.)
- Clean Water Act (33 U.S.C. section 1251 et seq.)
- Clean Air Act (42 U.S.C. section 7401 et seq.)
- Coastal Zone Management Act (16 U.S.C. section 1451 et seq.)
- Endangered Species Act (16 U.S.C. section 1531 et seq.)
- Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (16 U.S.C. section 1801 et seq.)
- Marine Mammal Protection Act (16 U.S.C. section 1361 et seq.)
- Migratory Bird Treaty Act (16 U.S.C. sections 703-712)
- Bald and Golden Eagle Protection Act (16 U.S.C. section 668-668d)
- Treaty of Point Elliot 12 Stat. 927
- Native American Graves Protection and Repatriation Act (25 U.S.C. section 3001 et seq.)
- Executive Order (EO) 11988, Floodplain Management
- EO 12088, Federal Compliance with Pollution Control Standards
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks
- EO 13175, Consultation and Coordination with Indian Tribal Governments
- EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management
- EO 13693, Planning for Federal Sustainability in the Next Decade

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

## **1.7 Public and Agency Participation and Intergovernmental Coordination**

Regulations from the CEQ direct agencies to involve the public in preparing and implementing their NEPA procedures. The Navy prepared a Draft EA to inform the public of the Proposed Action and to allow the opportunity for public review and comment. The Navy made the Draft EA available for public review and comment for 30 days with a Notice of Availability (NOA) published in the Kitsap Sun newspaper on August 22, 24, and 27, 2023. The Draft EA was posted on a Navy website at <https://www.navfac.navy.mil/NWNEPA> for review and comment. No public comments received during the public review period. The Final EA and decision document will be made available to the public by publishing a NOA in the Kitsap Sun and posting the documents on the Navy website.

The revised draft INRMP for NBK Manchester was developed in cooperation with USFWS, NMFS, and WDFW. In accordance with the Sikes Act, INRMPs undergo a review for operation and effect every 5 years, at a minimum. INRMPs are also reviewed annually in accordance with DoD and Navy policies.

The Navy provided the draft NBK Manchester INRMP EA to the Suquamish Tribe for review and comment. Comments received from the Suquamish Tribe were considered in drafting the Final EA.

## 2 Proposed Action and Alternatives

### 2.1 Proposed Action

The Proposed Action is to adopt and implement a revised INRMP for NBK Manchester consistent with the military use of the property and the Sikes Act Improvement Act (Sikes Act) while providing no net loss in the capability of installation lands to support the military mission of the installation. The revised INRMP would be implemented in fiscal year 2025. The revised INRMP would replace the 2009 INRMP (Navy 2009).

### 2.2 Alternatives Carried Forward for Analysis

The purpose of the revised INRMP for NBK Manchester is to meet statutory requirements under the Sikes Act, provide management requirements for species listed under Endangered Species Act (ESA), and comply with Department of Defense (DoD) and Navy instructions and regulations. This Environmental Assessment (EA) analyzes two alternatives: A No Action Alternative and the Preferred Alternative, which would adopt and implement the INRMP.

#### 2.2.1 No Action Alternative

The No Action Alternative would not meet the purpose and need of the Proposed Action. Under the No Action Alternative, NBK Manchester would continue to implement the goals and objectives outlined in the 2009 INRMP. To fulfill these goals and objectives, the 2009 INRMP contains specific project recommendations, listed below by type, including vegetation management, fish and wildlife, threatened and endangered species, outdoor recreation, and forest management.

Vegetation Management Recommendations:

- Vegetative planting and reforestation
- Monitor and control invasive, non-native plants
- Conduct eelgrass surveys

Fish and Wildlife and Threatened and Endangered Species Recommendations:

- Natural resources staff training including, but not limited to, marine mammal identification and stranding training
- Interpretive displays
- Studies, data collection, monitoring, and information gathering including surveys for endangered fish, forage fish, juvenile salmonids, rockfish, and marbled murrelet; inventory of the deer population; and participation in the Christmas bird count program
- Beaver Creek restoration
- Outdoor Recreation and Forest Management Recommendations
- Re-establish hiking trail
- Forest tree planting
- Fire and safety patrol road clearing and maintenance

### 2.2.2 Adopt and Implement Revised INRMP (Preferred Alternative)

The Preferred Alternative is to adopt and implement a revised INRMP for NBK Manchester consistent with the military use of the property and the Sikes Act. Substantive changes from the 2009 INRMP include:

- Revised goals and objectives
- Updated species listings
- New information on species of concern and state-listed species
- Updated information about riparian management
- New information about pollinators
- Additional information about the Beaver Creek, Clean Water Act (CWA) 303(d) listing
- New information about bull frog management
- A new list of recommendations for natural resources actions and projects

The revised INRMP describes elements of the installation's natural resource program including management of threatened and endangered species, wetlands, fish and wildlife, forestry, vegetation, migratory birds, invasive species, pests, and coastal and marine habitats. Goals, objectives and strategies contained in the revised Draft INRMP are listed below. Specific projects to implement these strategies and objectives are listed in Appendix A of this EA.

Goal 1: Implement best management practices (BMPs) and early evaluation of proposed activities to prevent impacts to NBK – Manchester natural resources.

Objective 1: Identify impacts to natural resources of proposed and ongoing activities, avoid and/or mitigate negative impacts where possible, and initiate early government to government consultation when there are potential impacts to protected tribal resources.

Strategy 1: Through project review and oversight, ensure compliance with the federal Endangered Species Act, the Migratory Bird Treaty Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the Marine Mammal Protection Act in all construction, operations, and maintenance activities at NBK Manchester (See Appendix J in the revised INRMP for a summary of best management practices under these acts).

Strategy 2: Protect shoreline and upland soil resources from erosion through prevention and control practices.

Strategy 3: Minimize the amounts of fertilizers, nutrients, and pesticides applied on NBK – Manchester.

Strategy 4: Conduct annual INRMP metrics meetings with USFWS and WDFW. Discuss proposed activities for the upcoming year, including potential impacts to natural resources and mitigation options.

Objective 2: Prevent fuel leaks and spills, or in the case of a spill incident, minimize impacts to the environment.

Strategy 1: Continually maintain, repair and upgrade NBK Manchester fuel infrastructure to prevent fuel releases to the environment.

Strategy 2: Maintain a highly skilled, appropriately trained workforce to prevent fuel releases to the environment.

Strategy 3: Maintain a robust fuel spill response program at NBK Manchester to include a trained workforce with adequately stocked and well maintained equipment. Perform multiple equipment deployment and tabletop drills each year with the goal to minimize damage to the environment in the event of a fuel release.

Goal 2: Enhance NBK Manchester's natural resources within the limitations of funding and ensuring no net loss to mission.

Objective 1: Enhance ecological systems which provide ecosystem services and habitat for federally and state protected species on NBK Manchester, while protecting the mission of ongoing training and operations.

Strategy 1: Assess and enhance the biological conditions of aquatic and terrestrial ecosystems where feasible.

Strategy 2: Monitor fish and wildlife occurrence and health on Manchester and in surrounding waters. Notify appropriate regulatory agency and the Suquamish Tribe if signs of disease are observed in NBK Manchester's fish and wildlife, e.g. hair loss, mass die-off, odd behavior.

Strategy 3: Sustain and enhance healthy forest, wetland, riparian, and shoreline areas and buffers.

Strategy 4: Prioritize areas with invasive species for eradication and subsequent restoration with native plants.

Strategy 5: Redesign existing landscaped areas so they are low-maintenance. Incorporate native trees, shrubs, and herbaceous plants where appropriate.

Strategy 6: Promote management practices to control the damage caused by feral animals and nuisance wildlife, both to NBK Manchester facilities and to sensitive wildlife populations.

Strategy 7: Partner with state and federal agencies; local city, county, and tribal governments; and with non-governmental organizations for natural resource enhancement projects in accordance with applicable law and regulation and subject to appropriations.

### **2.3 Alternatives Considered but Not Carried Forward for Detailed Analysis**

Additional alternatives were not considered or carried forward for detailed analysis in this EA as they did not meet the purpose and need.

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### 3 Affected Environment and Environmental Consequences

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

All potentially relevant environmental resource areas were initially considered for analysis in this EA. In compliance with NEPA, CEQ, and 32 Code of Federal Regulations (CFR) part 775 guidelines, the discussion of the affected environment (i.e., existing conditions) focuses only on those resource areas potentially subject to impacts. Additionally, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact.

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

This section includes Water Resources and Biological Resources.

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

**Air Quality:** According to the United States Environmental Protection Agency (USEPA), Kitsap County is in attainment status for all criteria pollutants (<https://ecology.wa.gov/Regulations-Permits/Plans-policies/Areas-meeting-and-not-meeting-air-standards>). The USEPA recommends that agencies consider 25,000 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) emissions on an annual basis as a reference point below which a quantitative analysis of greenhouse gas is not recommended unless it is easily accomplished based on available tools and data. Minimal or no greenhouse gas (GHG) increase would result from the Preferred or No Action Alternatives. Therefore, air quality and GHG require no further analysis. A federal conformity determination would not be required to implement the Preferred Action or No Action Alternative.

**Geological Resources:** Proposed ground-disturbing projects include logging, manual and/or mechanical removal of invasive, non-native plant species and replacement with native plants, installation or replacement of signage, and wetland delineation. Ground disturbance from these activities would be minimal, and negligible impacts to geologic resources, including soils, would occur as the result of implementing the Preferred Alternative or No Action Alternative. Therefore, no further analysis is required.

**Cultural Resources:** For both alternatives, activities would avoid known cultural resources. The Navy would continue to consult under Section 106 of the National Historic Preservation Act (NHPA) when appropriate on individual natural resource management actions that could have potential to effect cultural resources (e.g. vegetation and forestry projects that disturb land and in water and intertidal projects). Therefore, no further analysis is required.

**Land Use:** The Preferred Alternative and No Action Alternative would have no effect on land use. The recommendations in the INRMP would be consistent with current land use management processes and would not change current land use designations. Therefore, no further analysis is required.

**Visual Resources:** Projects implemented under the Preferred Alternative or No Action Alternative would not change the current visual landscape of Manchester Fuel Department (NBK Manchester). Therefore, no further analysis is required.

**Noise:** Under either alternative, noise would be generated from equipment and vehicles during resource management surveys and projects. Noise would be minimal and short-term and would result in negligible impacts to nearby sensitive receptors. Therefore, no further analysis is required.

**Transportation:** Implementing either alternative has the potential to generate some traffic (e.g., survey and field crews) during the performance of management actions. Selective tree cutting during pre-commercial and commercial thinning, or for removal of diseased or damaged trees may require the use of an occasional logging truck for timber transport. However, these activities under the Proposed Action or No Action alternative would generate short-term, minimal vehicular traffic. Therefore, traffic impacts would be negligible. Therefore, no further analysis is required.

**Hazardous Materials and Wastes:** Herbicides and pesticides may be used on the installation in accordance with the West Puget Sound Navy Installation, Naval Base Kitsap Integrated Pest Management Plan (Navy 2018). If and when pesticides are used, they would be applied by trained and certified personnel in accordance with DoD, USEPA and installation rules and regulations. Use of herbicides and pesticides would have minimal potential to affect human health or the environment under the Preferred Alternative or No Action Alternative. No generation of hazardous wastes or disturbance of Environmental Restoration sites is anticipated under the Preferred Alternative or No Action Alternative. Therefore, no further analysis is required.

**Public Health and Safety:** Implementation of either alternative would have no effect on public or children's health and safety. No family housing or schools are located on NBK Manchester. Children could accompany authorized users for recreational uses on trails or the beach. Trail maintenance and signage would be implemented to ensure safety of recreational users. Resource conservation work would be conducted in accordance with safety regulations. Herbicide usage would have minimal potential to affect human health. No public health and safety concerns are expected from the implementation of the Preferred Alternative or No Action Alternative. Therefore, no further analysis is required.

**American Indian Traditional Resources:** In accordance with COMNAVREGNWINST 11010.14A, the Suquamish Tribe will be consulted for proposed individual projects that may have the potential to impact treaty rights, sacred sites, burial sites, protected tribal resources, or other rights to natural resources. Therefore, no further analysis is required.

**Socioeconomics:** The Preferred Alternative and No Action Alternative would have no effect on local populations or employment, as no increase or decrease in NBK Manchester personnel is expected. Many of the management activities proposed in the INRMP would be implemented by Navy civilian employees. Contractors may perform some of the projects, but the number of contract employees would be small and the impact to the local economy would be negligible. There would be no change from current socioeconomic conditions. Based on the scope and duration of the project recommendations, there would be negligible effects to the local economy. Therefore, no further analysis is required.



**Environmental Justice:** The Preferred Alternative and No Action Alternative would have no adverse human health or environmental effects, and therefore would have no disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. Therefore, no further analysis is required.

### 3.1 Water Resources

This discussion of water resources includes marine waters, freshwater, groundwater, surface water, and wetlands. Water resources are important for their contribution to the economic, ecological, recreational, and human health of a community or locale. This section discusses the physical characteristics of water resources. Wildlife and vegetation are addressed in Section 3.2, Biological Resources.

#### 3.1.1 Regulatory Setting

The Clean Water Act (CWA) defines and provides protections to Waters of the United States. The United States Army Corp of Engineers and United States Environmental Protection Agency finalized a rule defining waters of the United States which was published in the Federal Register (88 FR 3004) on 18 January 2023, effective September 8, 2023. The final rule defines waters of the United States as: (1) traditional navigable waters, the territorial seas, and interstate waters; (2) impoundments of waters of the United States; (3) tributaries to traditional navigable waters, the territorial seas, interstate waters, or impoundments when the tributaries meet either the relatively permanent standard or the significant nexus standard; (4) wetlands adjacent to (1) above; wetlands adjacent to and with a continuous surface connection to relatively permanent impoundments or to jurisdictional tributaries when the jurisdictional tributaries meet the relatively permanent standard, and wetlands adjacent to impoundments or jurisdictional tributaries when the wetlands meet the significant nexus standard; and (5) intrastate lakes and ponds, streams, or wetlands that meet either the relatively permanent standard or the significant nexus standard. Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredge or fill into wetlands and other Waters of the United States.

Section 303(d) of the CWA requires each state to establish a list of waters that exceed water quality standards and establish Total Maximum Daily Loads (TMDLs), which is the maximum amounts of substances that can be assimilated by a water body without causing impairment. The Washington State Department of Ecology compiles water quality data within the State of Washington, and the assessed waters are placed in categories that describe the status of water quality, shown in Table 3-1.

**Table 3-1 Water Quality Categories**

| <b>Category</b>    | <b>Description</b>  |
|--------------------|---|
| <i>Category 1</i>  | <i>Meets tested standards for parameter(s) for which it has been tested</i>                                       |
| <i>Category 2</i>  | <i>Waters of concern</i>  |
| <i>Category 3</i>  | <i>Waters with no data or insufficient data available to assign a category</i>                                    |
| <i>Category 4</i>  | <i>Polluted waters that do not require a TMDL because:</i>  |
| <i>Category 4A</i> | <i>Has an approved TMDL being implemented</i>   |
| <i>Category 4B</i> | <i>Has a pollution control program being implemented</i>  |
| <i>Category 4C</i> | <i>Are impaired by a non-pollutant such as low water flow, dams, or culverts</i>                                  |
| <i>Category 5</i>  | <i>Polluted waters that require the State to develop a TMDL. Waters in this category make up the 303(d) list.</i> |

Source: (Washington Department of Ecology, 2017)

The CWA establishes federal limits, through the National Pollutant Discharge Elimination System (NPDES) program, on the amounts of specific pollutants that can be discharged into surface waters to restore and maintain the chemical, physical, and biological integrity of the water. The NPDES program regulates the discharge from point sources (e.g. end of pipe) and nonpoint sources (e.g. stormwater runoff from a parking lot) of water pollution. Industrial stormwater discharges from NBK Manchester are managed under NPDES Permit WA000278.

In the State of Washington, the USEPA's NPDES stormwater program requires construction site operators engaged in clearing, grading, and excavating activities that disturb one acre or more to obtain coverage under the state's NPDES Construction Stormwater General Permit. Applicants seeking coverage under this permit must submit a Notice of Intent to discharge stormwater and a Stormwater Pollution Prevention Plan must be prepared and implemented during construction. As part of the 2010 Final Rule for the CWA, titled *Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category*, activities covered by this permit must implement non-numeric erosion and sediment controls and pollution prevention measures.

Executive Order 11990, *Protection of Wetlands*, requires that federal agencies adopt a policy to avoid, to the extent possible, long- and short-term adverse impacts associated with destruction and modification of wetlands and to avoid the direct and indirect support of new construction in wetlands whenever there is a practicable alternative.

### 3.1.2 Affected Environment

The following discussions provide a description of the existing conditions for each of the categories under water quality resources at NBK Manchester.

#### Marine Waters

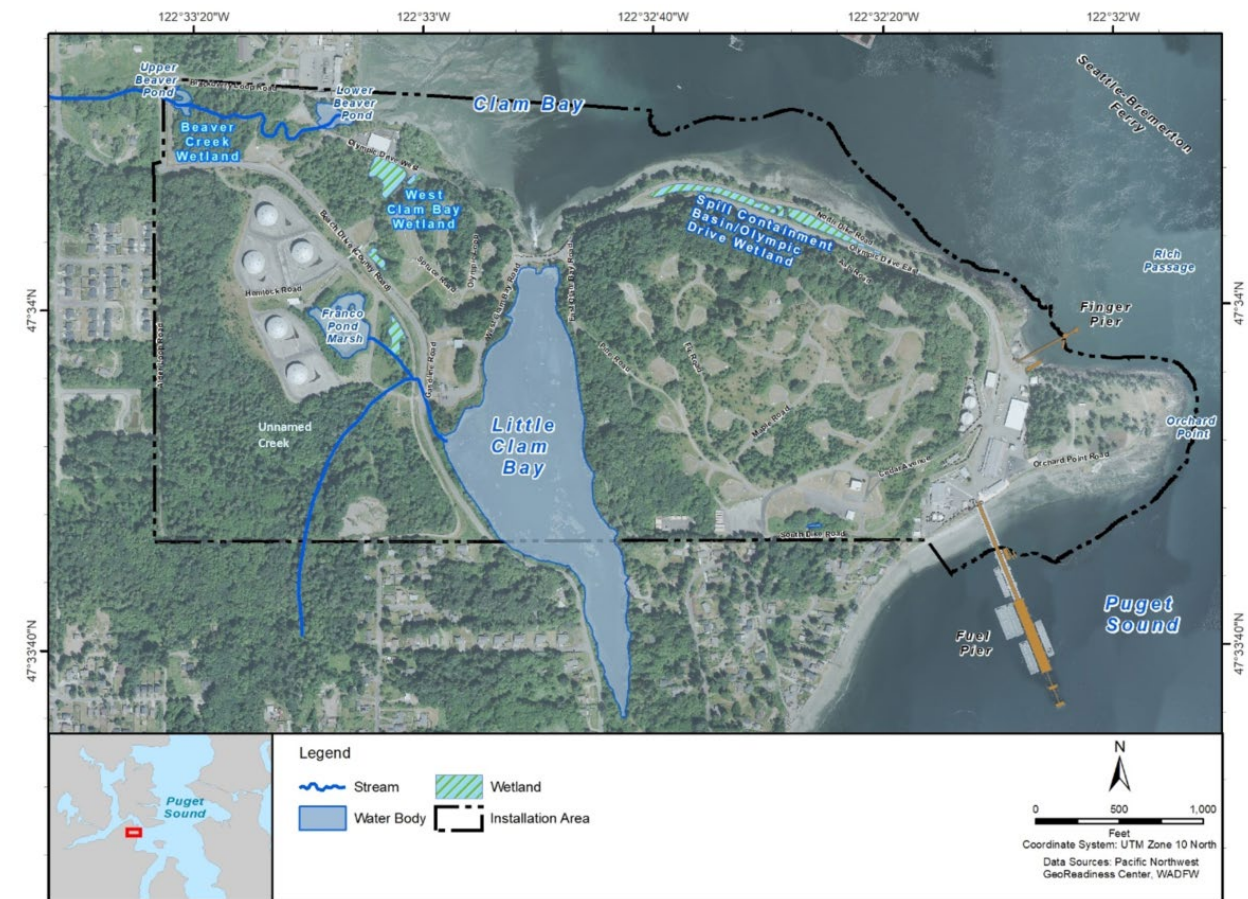
NBK Manchester includes approximately two miles of saltwater shoreline. The northern portion of NBK Manchester shoreline lies along Clam Bay, a small, protected estuary at the mouth of Beaver Creek (Figure 3-1). The Clam Bay shoreline consists of sand and cobble beaches with stable sediments and riprap structures. The tidal flats of Clam Bay are exposed during tidal cycles but sheltered from normal wind-generated surf. The shoreline to the south and east of Clam Bay is more exposed to wind and surf influences, and the habitat transitions towards pocket beaches and exposed rocky shores.

Little Clam Bay, connected to Clam Bay, (Figure 3-1) was historically a tidally influenced mudflat. In the 1960s, the Washington State Department of Fisheries installed a weir at the mouth of the estuary for propagation of anadromous fish, creating a brackish 26-acre water impoundment, 20.4 acres of which lies within the installation boundaries. Little Clam Bay receives limited freshwater inflow from a small, unnamed tributary stream, freshwater seeps, and high saltwater inflow through a 48-inch culvert at high tide from Clam Bay. Due to high summer water temperatures, Little Clam Bay is no longer used for fish propagation.

In the vicinity of NBK Manchester, two marine areas are on the Washington State 303(d) list (Figure 3-2). Approximately 2,500 feet east of the installation, marine waters are listed as Category 5 for dissolved oxygen. Approximately 1,000 feet south of the installation, marine waters are listed as Category 5 for dissolved oxygen. The State has not developed TMDLs for these two marine areas.

**Freshwater Streams**

The installation’s largest stream is Beaver Creek, which originates approximately 4.5 miles upstream of the installation and flows through the northwest corner of NBK Manchester to Clam Bay (Figure 3-1). Beaver Creek is included on the Washington Department of Ecology’s 2016 final Section 303(d) list due to dissolved oxygen (Category 5) and fecal coliform (Category 4a) levels that exceed Washington water quality standards (Washington Department of Ecology 2016). The Navy has conducted several habitat restoration projects in Beaver Creek, which are summarized in Section 3.3.2.1. A small, unnamed stream originates south of NBK Manchester and flows northerly into the installation. This stream connects to an outfall from Franco Pond and flows through a culvert under Beach Drive into Little Clam Bay.



**Figure 3-1. Surface Waters at Manchester Fuel Department**

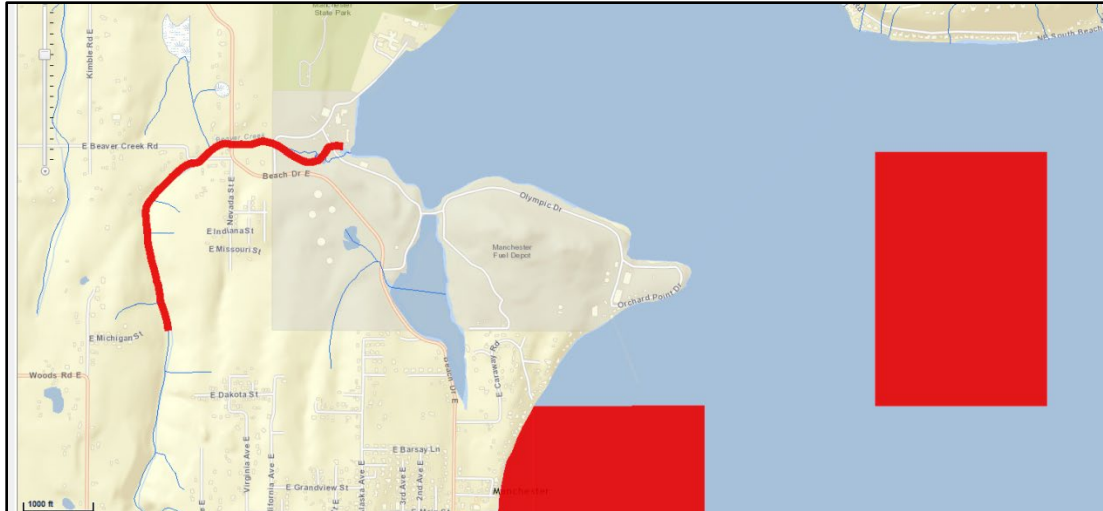


Figure 3-2. Washington Department of Ecology 303(d) Waters (Washington Department of Ecology, 2016)

### Wetlands

The wetlands of NBK Manchester are mostly artificial, created by captured water drainage from constructed sites and roads. Natural wetland sites are affected by controlled flows from upstream or installation activities (Grassley & Grue 1999). Wetlands at NBK Manchester are shown on Figure 3-1 and include:

- Beaver Creek wetland is a marsh of approximately one to two acres located along the restored Beaver Creek floodplain, near the northwestern NBK Manchester property boundary (GeoEngineers, Inc., 2004).
- Olympic Drive West wetland/spill containment basin is a manmade marsh of approximately 1.5 acres located east of Little Clam Bay, between Olympic Drive East and the North Dike Road, running parallel to the coastline.
- West Clam Bay Road wetland is a marsh of approximately 0.5 acres on the west side of Little Clam Bay, just south of Olympic Dive West.
- Franco Pond is an isolated manmade pond in the western portion of the facility. The pond lies in a depression downslope from aboveground storage tanks and is fed by small surface drainages and subsurface flow. The pond is approximately 1.5 acres and is surrounded by open grassland. Approximately one acre of freshwater marsh wetland vegetation is located on the pond's southwest shoreline. In 1987, two islands were constructed in the center to create additional habitat for ducks and Canada geese.

#### 3.1.3 Environmental Consequences

The analysis of effects to water resources considers whether the Proposed Action would increase the potential for flooding or erosion, affect quality or quantity of surface waters, or affect quality or quantity of groundwater.

#### No Action Alternative

Under the No Action Alternative, management of water resources at NBK Manchester would continue under the objectives and management guidelines outlined in the 2009 INRMP. Under the 2009 INRMP,

the Navy protects, conserves, and manages watersheds and wetlands; conducts advanced planning to avoid impacts to and destruction of wetlands in accordance with Executive Order 11990; maintains wetland buffers; plans and controls stormwater runoff; controls the use of pesticides; inspects beaches and shorelines; and coordinates shoreline debris removal. Under the No Action Alternative, NBK Manchester would continue to comply with NPDES Permit WA-000278, implement the Facility Oil Spill Prevention, Control, and Countermeasure (SPCC) Plan (Navy, 2019), and comply with water resource laws; which would limit direct adverse impacts on water resources (e.g., wetlands and waters of the United States, floodplains, coastal zones, and marine protected areas). There would be no increase in flooding potential, erosion, or pollutants entering water bodies. No significant impacts to water resources would occur with implementation of the No Action Alternative.

### **Adopt and Implement Revised INRMP (Preferred Alternative)**

Implementation of the revised INRMP would result in long-term beneficial effects to water resources at NBK Manchester. Under the revised INRMP, proactive enhancement of the functions, values, and vegetation along waterways and wetlands would occur. Manual and/or mechanical removal of invasive species and re-vegetation could result in short-term localized turbidity, which would be a negligible impact. Long-term, beneficial effects on water resources and biota is expected from maintenance and enhancement of forested buffers along water bodies, and reductions in the use of pesticides, herbicides, and fertilizers on the installation. NBK Manchester would continue to implement the SPCC Plan (Navy 2019), which includes training, coordination, inspections, spill exercises, and response actions that would reduce impacts to water resources in the event of a spill. There would be no increase in flooding potential, erosion, or pollutants entering water bodies. Therefore, no significant impacts to water resources would occur.

## **3.2 Biological Resources**

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

Within this EA, biological resources are divided into four major categories: (1) terrestrial vegetation, (2) terrestrial wildlife, (3) marine vegetation, and (4) marine wildlife. Threatened, endangered, and other special-status species are discussed in their respective categories. Table 3-2 lists all special-status species potentially present and any associated critical habitat.

### **3.2.1 Regulatory Setting**

Special-status species for the purposes of this EA, are those species listed as threatened or endangered under the Endangered Species Act (ESA) and those species afforded federal protection under the Marine Mammal Protection Act (MMPA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act. Critical habitats are protected under the ESA, while conservation and management of fisheries habitat occurs under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA).

The purpose of the ESA is to conserve the ecosystems upon which threatened and endangered species depend and to conserve and recover listed species. Section 7 of the ESA requires action proponents to consult with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) to

ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species or to result in the destruction or adverse modification of designated critical habitat. Critical habitat cannot be designated on any areas owned, controlled, or designated for use by the Department of Defense (DoD) where an INRMP has been developed that, as determined by the Department of Interior or Department of Commerce Secretary, provides a benefit to the species subject to critical habitat designation.

Several species of federal concern are listed on the USFWS or NMFS websites as “potentially occurring” within Kitsap County (Table 4-3). However, the Navy determines on a project-by-project basis which species it will consult on with the Services under ESA Section 7, and this list is reviewed and updated continuously to ensure new information available for the species has not changed our understanding of the species occurrence and potential to be within the project area. Additionally, these species are indirectly benefitted by ongoing management at NBK Manchester, as summarized in Table 4-3, either through protection and enhancement of potential habitat or increasing prey availability.

All marine mammals are protected under the provisions of the MMPA. The MMPA prohibits any person or vessel from “taking” marine mammals in the United States or the high seas without authorization. The MMPA defines “take” to mean “to harass, hunt, capture, or kill or attempt to harass, hunt, capture, or kill any marine mammal.”

The MSFCMA provides for the conservation and management of fisheries. Under the MSFCMA, essential fish habitat (EFH) consists of the waters and substrate needed by fish to spawn, breed, feed, or grow to maturity.

Birds, both migratory and most native-resident bird species, are protected under the MBTA, and their conservation by federal agencies is mandated by EO 13186 (Migratory Bird Conservation). Under the MBTA, it is unlawful, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, [or] possess migratory birds or their nests or eggs at any time, unless permitted by regulation.

Bald and golden eagles are protected by the Bald and Golden Eagle Protection Act. This act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb."

### **3.2.2 Affected Environment**

The following discussions provide a brief description of the existing conditions for each of the categories under biological resources at NBK Manchester. A complete species list can be found in Appendix G of the INRMP.

#### **Terrestrial Species**

##### **Terrestrial Vegetation**

NBK Manchester is dominated by coniferous forest, which is consistent with its classification within the North American Maritime ecological division. Surveys of NBK Manchester have shown that the installation supports 12 different classification types, but is dominated by the North Pacific Red Alder-Bigleaf Maple, South Vancouverian Shrub and Herbaceous Bald and Bluff, and the North Pacific Maritime Western Red Cedar-Western Hemlock vegetation classifications (Navy, 2014a). The most

common forest tree species at NBK Manchester are bigleaf maple (*Acer macrophyllum*), coast Douglas fir (*Pseudotsuga menziesii menziesii*), red alder (*Alnus rubra*), Western red cedar (*Thuja plicata*), and Pacific madrone (*Arbutus menziesii*) (Grassley & Grue 1999) (Navy 2014a). Four species of plants that currently receive no special protection status but are relatively uncommon within Washington state have been observed on NBK – Manchester: Maidenhair fern (*Adiantum aleuticum*), muskflower (*Mimulus moschatus*), shiny chickweed (*Stellaria nitens*), and trillium (*Trillium ovatum*) (Grassley & Grue 1999). No plant species federally listed by the USFWS or the Washington Natural Heritage Program are known to occur at NBK Manchester.

NBK Manchester consists of approximately 116 acres of managed forest land; with approximately 93 acres of established forest and approximately 23 acres of 10-year-old to 18-year-old plantation trees. The majority of existing trees are 50 to 80 years old and consist primarily of Douglas fir, western hemlock, western red cedar, Sitka spruce (*Picea sitchensis*), red alder, and bigleaf maple. Non-native plant species currently inhabiting NBK Manchester include bentgrass (*Agrostis sp.*), European mountain-ash (*Sorbus aucuparia*), hairy vetch (*Vicia villosa*), foxglove (*Digitalis purpurea*), Himalayan blackberry (*Rubus bifrons*), holly (*Ilex aquifolium*), orchard grass (*Dactylis glomerata*), pig weed (*Amaranthus sp.*), pond water-starwort (*Callitriche stagnalis*), reed canary grass (*Phalaris arundinacea*), Scotch broom (*Cytisus scoparius*) and watercress (*Nasturtium officinale*) (Grassley and Grue 1999).

In November 2001, the Navy conducted a restoration project in Beaver Creek. The project was initially designed as off-site mitigation for impacts to approximately 0.7 acres of forested wetland and vernal pools near the former landfill site. In 2004, the restoration project was expanded into downstream areas. The Navy further expanded its restoration efforts downstream to the Beaver Creek outflow in subsequent years: planning began in 2003; construction took place in stages between 2006 and 2012. Restoration efforts resulted in a one-acre estuary on Clam Bay and the enhancement of an additional 3.5 acres of estuarine and riparian habitat. An additional restoration action occurred in 2020 with the replacement of two undersized culverts on a tributary to Beaver Creek.

### Terrestrial Species

Terrestrial wildlife species found at NBK Manchester are typical for the North American Maritime ecological division. A complete list of documented and potentially present wildlife species at NBK Manchester is located in Appendix G of the INRMP. The only large game species that occurs within NBK Manchester is the Columbian black-tailed deer (*Odocoileus hemionus columbianus*). There is no current population estimate. Although there is no planned hunting at NBK Manchester, the INRMP allows for deer harvest to control populations. Deer management remains under the jurisdiction of Washington State Department of Fish and Wildlife (WDFW). Four species of bats were positively identified during the 1997 survey (Grassley and Grue 1999), while an additional five species are predicted to occur within the installation area. There are no terrestrial mammals at NBK Manchester that have any state or federal protected status.

With the exception of non-native bird species such as European starling, house sparrow, and feral pigeon, all NBK Manchester bird species are migratory birds as defined by the MBTA. Eighty species of terrestrial birds have been recorded during surveys on NBK Manchester property. The southwest portion of the property is a relatively contiguous tract of forest, making this area valuable habitat on NBK Manchester. Many species of forest songbirds and woodpeckers breed in this area or utilize it during the winter months.

Forty-two different species of aquatic birds were observed at four tidal and freshwater wetlands surrounding NBK Manchester during spring, summer, and fall 1997 and winter 1998 (Grassley & Grue 1999). One federally listed bird species, the threatened marbled murrelet (*Brachyramphus marmoratus*), may occur in waters adjacent to the installation (Pearson et.al. 2024). Of the four tidal wetland areas adjacent to NBK Manchester (Clam Bay, Rich Passage, North Orchard Point, and South Orchard Point), Clam Bay was occupied by the greatest number and diversity of aquatic birds (Grassley & Grue 1999). A small stand of trees situated on the northern shoreline of Little Clam Bay is used as a communal site for roosting cormorants and great blue heron (*Ardea herodias*).

Bald eagles (*Haliaeetus leucocephalus*) are frequently observed feeding and roosting at and near NBK – Manchester. An eagle nest platform located on the north side of NBK Manchester is monitored for occupancy annually during the nesting season (Navy, 2016). The nest was recorded as productive in 1998, 2014, 2015, 2016, 2017, 2021, and 2022 (Grassley and Grue 1999; Maher 2015; Navy 2015; Navy 2018; NAVFAC 2023). Adult activity was seen around the nest in spring 2013, 2018, and 2019 but no young were observed (NAVFAC 2013; 2014b; 2015; 2018; Selbig 2020). A second nest was active in 2020 and 2021. This nest produced one chick in each of the two years. It collapsed after the 2021 nesting season and was not reconstructed.

The geophysical ranges of nine amphibian and six reptile species overlap the boundaries of NBK – Manchester of which seven amphibians and two reptiles were identified on NBK Manchester (Grassley & Grue 1999). The western pond turtle (*Acinemys marmorata*) is listed as a candidate species under the ESA, and USFWS is currently conducting a review to determine if listing is warranted (80 FR 19259). NBK Manchester does not currently support populations of western pond turtle. There are no known amphibians or reptiles at NBK Manchester that have any state or federal protected status.

## **Marine Species**

### **Marine Vegetation**

Marine vegetation includes plants occurring in marine or estuarine waters. There are approximately two miles of saltwater shoreline at NBK Manchester (Weitkamp 1993 and Sound Dive Center Scientific Research Division 2010). South and east of Clam Bay, the shoreline is more exposed to wind and surf influences and the habitat transitions toward pocket beaches and exposed rocky shores. The rocky substrate along Orchard Point provides suitable substrate for kelp beds. Between Orchard Point and the NBK Manchester industrial area, the shoreline habitat is similar to that of Clam Bay, with sand and cobble beaches interspersed with eelgrass (*Zostera marina*) beds. The WDNR Shorezone Inventory indicates surfgrass (*Phyllospadix* spp.), eelgrass, sea lettuce (*Ulva* spp.), Sargassum algae (*Sargassum muticum*) and red algae (*Phylum Rhodophyta*) occur along areas of the NBK Manchester shoreline (Washing Department of Natural Resources 2015).

### **Marine Mammals**

Weekly marine mammal monitoring has been occurring at the installation since 2013 (Navy 2016). Three federally listed marine mammal populations may occur in waters adjacent to the installation: the endangered Southern Resident killer whale (*Orcinus orca*), the threatened Mexico Distinct Population Segment (DPS) humpback whale (*Megaptera novaengliae*), and the endangered Central America DPS humpback whale. Harbor seals (*Phoca vitulina*), California sea lions (*Zalophus californianus*), and Steller sea lions (*Eumetopias jubatus*) are likely to occur near NBK Manchester. Harbor porpoises (*Phocoena phocoena*), gray whales (*Eschrichtius robustus*), Southern Resident killer whales, and humpback whales



have been spotted in or near Rich Passage and Yukon Harbor. California and Steller sea lions are present in higher numbers in the vicinity of NBK Manchester between October and May, with the highest populations occurring between November and January.

### Marine Fish

Marine waters at NBK Manchester are EFH for Pacific salmon, groundfish, and coastal pelagic species (National Oceanic and Atmospheric Administration 2019). Five federally-listed threatened or endangered fish species may occur in waters adjacent to the installation: the threatened Puget Sound Chinook Salmon Evolutionary Significant Unit (ESU) (*Oncorhynchus tshawytscha*), the threatened Puget Sound steelhead DPS (*O. mykiss*), the threatened Coastal-Puget Sound bull trout (*Salvelinus confluentus*), the endangered bocaccio rockfish (*S. paucispinis*), and the threatened yelloweye rockfish (*S. ruberrimus*). Recent surveys in 2015-2016 (Frierson et al. 2016) focused on evaluating both the seasonal and resident presence of federally-listed fish species, using a combination of beach seine and scuba diving survey methods. The only confirmed federal-listed species recorded was juvenile Chinook salmon, with peak catch rates occurring in June 2015 and March 2016. Forty-two finfish species were observed at the installation during monitoring in 1991, 1992, and 1993 (Weitkamp 1993). The most abundant species caught by beach seines were Pacific sand lance (*Ammodytes hexapterus*) and juvenile chum salmon (*O. keta*). In purse seines, the most abundant fishes were juvenile chum salmon and coho salmon (*O. kisutch*). Other salmonids captured included Puget Sound Chinook salmon, cutthroat trout (*O. clarki*), and Puget Sound steelhead. In 2019, the USFWS conducted a stream survey from the mouth of Beaver creek to 400 m upstream, where Navy property ends (USFWS, 2020). Sampling techniques included backpack electrofishing, nighttime snorkel, and beach seine near the creek mouth. Cutthroat (*O. clarkii*) and coho were the only salmonids identified in the surveys along with sculpin (*Cottus* spp.). Freshwater surveys at Manchester also occurred in 1997 (Grassley and Grue, 1999). Survey techniques included backpack electrofishing, dipnets, and beach seine surveys and were conducted at Franco Pond, North Dike Pond, and Beaver Creek. No fish were observed in North Dike or Franco Ponds, but a large number of cutthroat trout were present in Beaver Creek. No other fish were identified by Grassley and Grue (1999). Biological monitoring at Beaver Creek that occurred post floodplain and stream channel restoration determined the presence of chum, steelhead, coho, and cutthroat in upper Beaver Pond and Beaver Creek. Freshwater fish surveys found chum, steelhead, coho, and cutthroat trout in upper Beaver Pond and Beaver Creek. In 2004, NBK Manchester and the Suquamish Tribe partnered in a fish feeding program; the Suquamish Tribe conducted fish counts at the mouth of Beaver Creek and counted more than 1,600 coho salmon returning to Beaver Creek (Navy 2009). However, these returns are not representative of a typical year. Since stopping the feeding program, Beaver Creek coho returns have substantially decreased (Tailleur 2020). A yearling coho salmon-rearing program was operated by NBK – Manchester during 1986-1998 (except for 1992) and 2002-2005. From 2013 to 2022, the Navy partnered with the Port Orchard Rotary Club and South Kitsap Discovery Alternative High School to release chum and coho salmon fingerlings into Beaver Creek.

Pacific sand lance, and surf smelt (*Hypomesus pretiosus*) are considered forage fish, which are species that provide a food source for a wide array of other species. A WDFW survey in November 1996 documented Pacific sand lance spawning at NBK Manchester at the Beach 3A Fuel Pier site. WDFW also conducted forage fish surveys at and near NBK Manchester in 2013, resulting in a detection of surf smelt approximately 0.3 miles south of the Navy property line. NAVFAC NW surveys at NBK Manchester between April 1, 2013, and July 7, 2021 documented Pacific sand lance spawning along Beach 3A in March 2014 and December 2016. Additionally, NAVFAC NW detected Pacific sand lance spawning at

Small Boat Pier (Beach 3B) in January 2020, October 2020, and January 2021. Surf smelt eggs have not been detected at NBK Manchester (Navy 2022).

### Benthic Invertebrates

Animals that live on or under the sea floor are benthic organisms. A 1985 survey of the Clam Bay shoreline found several clam species, including horse clam (*Tresus capax*), butter clam (*Saxidomus gigantean*), manila clams (*Venerupis philippinarum*) and cockles (*Cerastoderma edule*), as well as Japanese oyster (*Magallana gigas*), Olympia oyster (*Ostrea lurida*), and bay mussel (*Mytilus trossulus*). Sea stars are commonly observed on and around the inlet of the culvert and tide gate inside of Little Clam Bay. Sea stars feed on Olympia oysters, which are artificially propagated in Little Clam Bay.

**Table 3-2 Threatened and Endangered Species Known to Occur or Potentially Occurring in the Region of Influence (ROI) and Critical Habitat Present in ROI**

| Common Name<br>(Scientific Name)   | WA State Status | ESA Status | Final Listing Rule(s)<br>(Publication Date and Effective Date)  | Final Critical Habitat Rule (Publication Date and Effective Date)   | Critical Habitat   |
|--|-----------------|------------|---|---|--|
| <b>BIRDS</b>   |                 |            |   |   |  |
| Marbled murrelet<br>( <i>Brachyramphus marmoratus</i> )  | E               | T          | 57 FR 45328 (October 1, 1992; September 28, 1992)<br>75 FR 3424 (January 21, 2010; confirmed 1992 rule)                                     | 61 FR 26256 (May 24, 1996; June 24, 1996)<br>76 FR 61599 (October 5, 2011; November 4, 2011)<br>81 FR 51348 (August 4, 2016; confirmed 2011 rule) | None designated in marine waters   |
| <b>FISH</b>  |                 |            |   |   |  |
| Bull trout<br>( <i>Salvelinus confluentus</i> )  | C               | T          | 64 FR 58910 (November 1, 1999; December 1, 1999)  | 70 FR 56212 (September 26, 2005; October 26, 2005)<br>75 FR 63897 (October 18, 2010; November 17, 2010)   | None designated in installation waters   |
| Chinook salmon<br>(Puget Sound ESU)<br>( <i>Oncorhynchus tshawytscha</i> )                                     | C               | T          | 64 FR 14308 (March 24, 1999; May 24, 1999);<br>70 FR 37159 (June 28, 2005; August 29, 2005)<br>79 FR 20802 (April 14, 2014; April 14, 2014) | 70 FR 52630 (September 2, 2005; January 2, 2006)  | <b>4(a)(3)(B) Exemption</b><br>Nearshore marine Critical Habitat designated from extreme high water to depth of 30 meters relative to mean lower low water |
| Steelhead<br>(Puget Sound DPS)<br>( <i>Oncorhynchus mykiss</i> )   | C               | T          | 72 FR 26722 (May 11, 2007; June 11, 2007)<br>79 FR 20802 (April 14, 2014; April 14, 2014)   | 81 FR 9251 (February 24, 2016; March 25, 2016)  | None designated in marine waters   |
| WA – Washington ESA – Endangered Species Act C – Candidate T – Threatened E – Endangered FR – Federal Register |                 |            |   |   |  |

**Table 3-2 Threatened and Endangered Species Known to Occur or Potentially Occurring in the Region of Influence (ROI) and Critical Habitat Present in ROI**

| <b>Common Name<br/>(Scientific Name)</b>   | <b>WA State Status</b> | <b>ESA Status</b>   | <b>Final Listing Rule(s)<br/>(Publication Date and Effective Date)</b>   | <b>Final Critical Habitat Rule (Publication Date and Effective Date)</b>                              | <b>Critical Habitat</b>  |
|--|------------------------|---------------------|--|---|--|
| <i>Bocaccio rockfish (Sebastes paucispinis)</i>  | C                      | E                   | 75 FR 22276 (April 28, 2010; July 27, 2010)<br>82 FR 7711 (January 23, 2017; March 24, 2017)   | 79 FR 68041 (November 13, 2014; February 11, 2015)  | <b>4(a)(3)(B) Exemption;</b> Nearshore Critical Habitat occurs from extreme high water to 30 meters depth relative to mean lower low water; Deepwater Critical Habitat occurs in depths greater than 30 meters |
| <i>Yelloweye rockfish (Sebastes ruberrimus)</i>  | C                      | T                   | 75 FR 22276 (April 28, 2010; July 27, 2010)<br>82 FR 7711 (January 23, 2017; March 24, 2017)   | 79 FR 68041 (November 13, 2014; February 11, 2015)  | <b>4(a)(3)(B) Exemption;</b> Deepwater Critical Habitat occurs in depths greater than 30 meters  |
| <b>MARINE MAMMALS</b>  |                        |                     |  |   |  |
| <i>Killer whale (Southern Resident DPS) (Orcinus orca)</i>   | E                      | E                   | 70 FR 69903 (November 18, 2005; February 16, 2006)<br>80 FR 7380 (February 10, 2015; May 11, 2015)   | 71 FR 69054 (November 29, 2006; December 29, 2006)<br>86 FR 41668 (August 2, 2021; September 1, 2021) | <b>4(b)(2) National Security Exclusion;</b> Marine waters in Puget Sound greater than 20 feet deep, relative to extreme high water.  |
| <i>Humpback whale (Mexico DPS/Central America DPS) (Megaptera novaengliae)</i>                                 | E                      | T/E                 | 35 FR 8491 (June 2, 1970; June 3, 1970)<br>35 FR 18319 (December 2, 1970; December 2, 1970)<br>81 FR 62260 (September 8, 2016; October 11, 2016) | 86 FR 21082 (April 21, 2021; May 21, 2021)  | None designated in installation waters   |
| <b>SPECIES PROPOSED FOR LISTING</b>  |                        |                     |  |   |  |
| <i>Sunflower Sea Star (Pycnopodia helianthoides)</i>   |                        | Proposed Threatened | Proposed Rule to list as threatened issued March 2023 (88 FR 16212).   | N/A   | No critical habitat has been proposed for this species because NMFS has concluded that it is not currently determinable (88 FR 16212)  |
| WA – Washington ESA – Endangered Species Act C – Candidate T – Threatened E – Endangered FR – Federal Register |                        |                     |  |   |  |

### 3.2.3 Environmental Consequences

This analysis focuses on vegetation and species that are important to the function of the ecosystem or are protected under federal or state law or statute.

#### No Action Alternative

Under the No Action Alternative, management of biological resources at NBK Manchester would continue under the goals and objectives outlined in the 2009 INRMP to protect, conserve, and manage fish and wildlife including threatened, endangered, and sensitive species, as well as critical habitats. The installation Environmental Director, Natural Resources Manager (NRM), or designated staff reviews proposed projects, operations, and training plans for possible impacts to vegetation and species. This review process allows installation environmental staff to identify environmental concerns and suggest best management practices to minimize or eliminate potential impacts to biological resources. Natural resources projects in the 2009 INRMP include monitoring and controlling invasive non-native plants; surveying for eelgrass, endangered fish, marbled murrelet, forage fish, juvenile salmon, and rockfish; attending annual marine mammal training; performing annual bird counts; conducting a deer population inventory; and planting native forest tree species.

NBK Manchester would continue to consult with USFWS and NMFS, under section 7 of the ESA, and for EFH under the MSFCMA for any activity that may affect listed species, designated critical habitat, or EFH. The Navy would implement terms and conditions required by the agencies to minimize impacts of incidental take, when applicable. No significant impacts to biological resources would occur with implementation of the No Action Alternative.

#### Adopt and Implement Revised INRMP (Preferred Alternative)

The revised INRMP would guide the installation's natural resource program including management of threatened and endangered species, EFH, wetlands, fish and wildlife, forestry, vegetation, migratory birds, invasive species, pests, and coastal and marine habitats. Appendix B in the revised INRMP contains specific recommendations for conservation and protection of vegetation and species on NBK Manchester.

#### Terrestrial and Marine Vegetation

Implementation of the revised INRMP would have beneficial impacts on vegetation. Implementation of a program to monitor and control invasive, non-native plants on the installation would benefit all habitat types and prevent degradation due to invasive species. Habitat restoration actions and vegetation planting and reforestation would benefit both habitats and species using them. Select harvest of timber would occur. Although select forest resources would be removed during these activities, management of forest resources would be coordinated to provide soil and watershed protection and enhance wildlife habitat. No significant impacts to vegetation are anticipated.

#### Terrestrial and Marine Wildlife

The following actions implemented under the revised INRMP could result in short-term disturbance to terrestrial and marine wildlife: habitat restoration actions, species surveys, and forest management activities. However, these activities would not result in significant impacts to species due to their limited scope and duration.

Implementation of the revised INRMP would have beneficial impacts on terrestrial and marine wildlife. The Navy would conduct species surveys and studies, which would inform future management actions

and species-specific management plans. No significant impacts to terrestrial and marine wildlife are anticipated.

**Threatened and Endangered Species**

As shown in Table 3-2, nine threatened or endangered species, ESU, or DPS could occur on or adjacent to NBK Manchester. An objective of the revised INRMP is to protect threatened, endangered, and sensitive species, along with critical habitats, regulated by the ESA. The INRMP would be used as a tool to identify at an early stage the potential impacts of planned Navy actions on these species and to provide a basis for altering the action to prevent or minimize impacts. Some activities implemented under the Revised INRMP could cause short-term disturbance to species, as discussed above. However, implementation of the INRMP would have overall beneficial impacts on vegetation and species through Navy efforts to collect information on species and habitats, plan and implement restoration actions, manage forest resources, and enhance populations of species that occur on NBK Manchester.

Consultation under section 7(a)(2) of the ESA is not required to implement the INRMP. However, project-specific consultations may be required to implement resource management activities. When planned actions may affect federally listed threatened and endangered species or critical habitat, NBK Manchester would continue to consult with the USFWS and NMFS in accordance with section 7(a)(2) of the ESA. When planned actions may affect EFH, NBK Manchester would continue to consult with the NMFS in accordance with the MSFCMA. No significant impacts to threatened and endangered species are anticipated.

**Conclusion**

No significant impacts to vegetation, terrestrial and marine wildlife, and threatened and endangered species are anticipated. Therefore, implementation of the Preferred Alternative would not result in significant impacts to biological resources.

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

A summary of the potential impacts associated with the Preferred Alternative and the No Action Alternative and impact avoidance and minimization measures are presented in Table 3-3.

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

| <i>Resource Area</i>   | <i>No Action Alternative</i>   | <i>Adopt and Implement Revised INRMP (Preferred Alternative)</i>  |
|------------------------|--|---|
| <i>Water Resources</i> | <i>No significant impacts to water resources would occur. Management of water resources at NBK – Manchester would continue under the objectives and management guidelines outlined in the 2009 INRMP. NBK Manchester would continue to implement the SPCC Plan as well as to comply with water resource laws, therefore limiting direct adverse impacts on water resources. No increase in flooding potential, erosion, or pollutants entering water bodies would occur.</i> | <i>No significant impacts to water resources are anticipated. Short-term localized turbidity would occur from manual and/or mechanical removal of invasive species and re-vegetation. NBK Manchester would continue to implement the SPCC Plan and comply with water resource laws, therefore limiting direct adverse impacts on water resources.</i> |

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

| <i>Resource Area</i>        | <i>No Action Alternative</i>  | <i>Adopt and Implement Revised INRMP (Preferred Alternative)</i>   |
|-----------------------------|---|--|
| <i>Biological Resources</i> | <i>No significant impacts to biological resources would occur. Management of biological resources at NBK Manchester would continue under the goals and objectives outlined in the 2009 INRMP to protect, conserve, and manage fish and wildlife including threatened, endangered, and sensitive species and critical habitats. Natural resources projects would benefit vegetation and species. NBK Manchester would continue to consult with USFWS and NMFS, under section 7 of the ESA, and for EFH under the MSFCMA for any activity that may affect listed species, critical habitat, or EFH.</i> | <i>No significant impacts to biological resources would occur. Management of biological resources at NBK Manchester would be guided by the goals and objectives outlined in the revised INRMP to protect, conserve, and manage fish and wildlife including threatened, endangered, and sensitive species and critical habitats. Natural resources projects would benefit vegetation and species. NBK Manchester would continue to consult with USFWS and NMFS, under section 7 of the ESA, and for EFH under the MSFCMA for any activity that may affect listed species, critical habitat, or EFH.</i> |

## 4 Cumulative Impacts

This section 1) defines cumulative impacts, 2) describes past, present, and reasonably foreseeable future actions relevant to cumulative impacts, 3) analyzes the incremental interaction the Proposed Action may have with other actions, and 4) evaluates cumulative impacts potentially resulting from these interactions.

### 4.1 Definition of Cumulative Impacts

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

To determine the scope of environmental impact analysis, agencies are required to consider cumulative actions, which when viewed with other proposed actions, have cumulatively significant impacts and should therefore be discussed in the same environmental analysis (40 CFR 1508.25).

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

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

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

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

### 4.2 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects, known as Region of Influence (ROI) and the time frame in which the effects could be expected to occur. For this

EA, the study area delimits the geographic extent of the cumulative impacts analysis. In general, the study area will include those areas previously identified in Chapter 3 for the respective resource areas. The time frame for cumulative impacts centers on the timing of the proposed action.

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

### 4.3 Past, Present, and Reasonably Foreseeable Actions

This section focuses on past, present, and reasonably foreseeable future actions within the ROI, which is defined as NBK Manchester and adjacent properties. In determining which actions to include in the cumulative impacts analysis, a preliminary determination was made regarding the past, present, or reasonably foreseeable action. Past actions are limited to those implemented in the last 5 years or those with ongoing contributions to environmental effects. Using the first fundamental question included in Section 4.1, it was determined if a relationship exists such that the affected resource areas of the proposed action might interact with the affected resource area of a past, present, or reasonably foreseeable action. If no such potential relationship exists, the action was not carried forward into the cumulative impacts analysis. In accordance with CEQ guidance (CEQ, 2005), actions considered but excluded from further cumulative effects analysis are not catalogued here as the intent is to focus the analysis on the meaningful actions relevant to inform decision-making. Actions included in this cumulative impacts analysis are listed and briefly described in Table 4-1.

**Table 4-1 Cumulative Action Evaluation**

| <i>Action</i>                            | <i>Description</i>  | <i>Past</i> | <i>Present</i> | <i>Future</i> |
|--|---|-------------|----------------|---------------|
| <i>Fuel Pier Fender Pile Replacement</i> | <i>The Navy would replace 22 plastic fender piles with 22 new plastic piles; inspected, cleaned, and painted the steel fender pile framing; and completed minor concrete repairs to the pier.</i>   |             |                | X             |
| <i>Barge Mooring Pier Repairs</i>        | <i>The Navy demolished portions of the Barge Mooring Pier, replaced creosote-treated timber support piles with new concrete or plastic piles; replaced decking, walkways, and handrails; replaced the shoreline abutment; repaired existing platforms and piles; and replaced lighting. This action increased habitat and improved water quality by removing creosote pilings, reducing the number of in-water pilings, reducing the width of the gangway, and installing grated decking.</i> | X           |                |               |
| <i>Blackberry Loop Culvert Repair</i>    | <i>Stream ecosystem restoration project to allow unrestricted fish passage in a tributary to Beaver Creek. Project is located primarily on NBK Manchester but also extends onto property owned by National Oceanic and Atmospheric Administration. Project will replace two undersized and corroded culverts. Completed in 2020.</i>  | X           |                |               |



**Table 4-1 Cumulative Action Evaluation**

| <b>Action</b>  | <b>Description</b>   | <b>Past</b> | <b>Present</b> | <b>Future</b> |
|--|--|-------------|----------------|---------------|
| <i>Kitsap County Public Works Stormwater Improvement Projects</i>  | <i>Beach Drive Stormwater Water Quality Treatment Project: This project would utilize Green Stormwater Solutions to treat runoff from this shoreline road with the goal of reducing pollution to Sinclair Inlet and Puget Sound (Kitsap County Public Works, 2018).</i>  |             |                | X             |
| <i>Installation of Waterfront Platform</i>   | <i>The Navy plans to install a new security platform on pre-cast concrete blocks along the waterfront above the Mean Higher High Water line.</i>   |             |                | X             |
| <i>New easement for Cascade Natural Gas to run a pipe through Navy property to the USEPA's Manchester Facility</i> | <i>Cascade Natural Gas would install a natural gas line to the USEPA's Manchester facility by horizontal boring under Beaver Creek. The contractor will follow Best Management Practices (BMPs) to prevent impacts to stormwater and receiving waters. The Navy has determined the project will have no effect on threatened and endangered species.</i> |             |                | X             |
| <i>Inventory and removal of noxious, non-native invasive weeds</i>   | <i>The Navy would identify, map, and apply treatment to areas of noxious invasive weeds. The primary removal method will be mechanical methods (i.e., mowing and hand-pulling); approved herbicides would be used if mechanical methods are not feasible.</i>  | X           | X              | X             |
| <i>Manchester Fuel Tank Replacement Project</i>  | <i>Construct above-ground fuel storage tanks to replace existing underground storage tanks.</i>  |             | X              | X             |
| <i>Naval Special Operations Training in Western Washington State</i>   | <i>The Navy plans to conduct small-unit, intermediate and advanced land and cold-water maritime training activities for naval special operations personnel at selected nearshore lands and inland waters of Puget Sound, Hood Canal, southwestern Washington Coast and NBK Manchester.</i>   |             |                | X             |
| <i>Future Underground Storage Tank Closures at NBK Manchester</i>  | <i>The Navy has identified a need to ultimately close-in-place all remaining USTs under a future action at NBK Manchester.</i>   |             |                | X             |

**Table 4-1 Cumulative Action Evaluation**

| <b>Action</b>   | <b>Description</b>   | <b>Past</b> | <b>Present</b> | <b>Future</b> |
|---|--|-------------|----------------|---------------|
| <i>Marine Structure Maintenance and Pile Replacement (MPR) Activities</i> | <i>The Navy completed a Phase I Marine Structure Maintenance and Pile Replacement Programmatic EA in 2019 to address a 5-year plan from 2019 – 2024 for marine structure maintenance and pile replacement throughout the Region. Resources potentially affected by the project include marine water and sediments, benthic communities, marine fish, marine mammals, and marine birds. There are two pile-supported structures located at NBK – Manchester: the 1,280-ft. fuel pier and the finger pier with a barge mooring platform and a small boat float. Repair/replacement of up to 50 total concrete, timber, or HDPE plastic piles at the fuel pier or finger pier is anticipated during the 5 years of planned repair work. The Navy is in preliminary planning for Phase 2 of the Marine Structure Maintenance and Pile Replacement Program, which will cover 2026–2030.</i> |             | X              | X             |

#### 4.4 Cumulative Impact Analysis

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

##### 4.4.1 Water Resources

###### Description of Geographic Study Area

The geographic study area includes streams, wetlands, and marine shorelines at NBK – Manchester, USEPA Region 10 Laboratory, WA Department of Ecology Laboratory, NMFS Research Facility, and privately-owned lands surrounding the federal properties. As discussed in Section 3.1.2, Beaver Creek and two marine areas in the vicinity of NBK Manchester are on the Washington State 303(d) list of waters that exceed the State’s water quality standards.

###### Relevant Past, Present, and Future Actions

The following actions in Table 4-1 have the potential to contribute to cumulative impacts on water resources: Barge Mooring Pier Repairs, Private Development of Adjacent Lands, Operation and Maintenance Activities at NBK Manchester, Kitsap County Public Works Stormwater Improvement Projects, Installation of Waterfront Platform, Cascade Natural Gas pipeline, Manchester Fuel Tank Replacement Project, Naval Special Operations Training, Future Underground Storage Tank Closures at NBK Manchester, and Marine Structure Maintenance and Pile Replacement Activities.

### **Cumulative Impact Analysis**

All present and reasonably foreseeable future development projects would be subject to water quality controls. Any construction project disturbing greater than 1 acre is also required to comply with a NPDES permit. For the actions identified in the table, past replacement and repair activities at the Barge Mooring Pier resulted in an overall increase of aquatic habitat and improved water quality through the removal of creosote pilings. Similar improvements are anticipated as a result of future repair and replacement of concrete, timber, and plastic piles at the fuel pier and finger pier, which is addressed under the current MPR EA. Future private development of non-Navy lands adjacent to NBK Manchester would require compliance with Kitsap County's Critical Areas Ordinance and adherence to appropriate buffers and building setbacks in order to protect wetlands, streams, and shorelines. The Ordinance also prohibits certain land uses in critical aquifer recharge areas.

The Kitsap County Public Works' Beach Drive Stormwater Water Quality Treatment Project is designed to improve water quality using water treatment solutions to reduce the possibility of pollutants entering the regional waters. The proposed Waterfront Platform would be constructed above the Mean Higher High-Water line and would not affect marine waters. Cascade Natural Gas would install a natural gas line to the USEPA's Manchester facility using horizontal boring. The boring depth would be adjusted under Beaver Creek to avoid impacts to the creek, and the contractor would follow BMPs to prevent impacts to stormwater and receiving waters. As part of the rigorous training associated with Naval Special Operations, trainees would employ skills needed to avoid detection and leave no trace of their presence during or after training activities.

During operation and maintenance actions at NBK Manchester, the Navy would continue to implement the Facility Oil Spill Prevention, Control and Countermeasure Plan, which includes training, coordination, inspections, spill exercises, and response actions that would minimize impacts to water resources. The Manchester Fuel Tank Replacement Project would provide new above-ground storage tanks within a secondary containment system designed in accordance with current standards to avoid impacts to water resources. The project would result in an increase of approximately 5.02 acres of impervious surface. However, implementation and adherence to Stormwater Pollution Prevention Plan and associated best management practices would minimize the potential for pollutants to enter receiving waters. Any Future UST closures at NBK Manchester would be implemented in accordance with NPDES permit requirements.

Therefore, cumulative water resource impacts from past, present, and future actions within the ROI would be less than significant. The Revised INRMP would contribute long-term beneficial effects to water resources at NBK Manchester while ensuring no net loss in the capability of the lands to support the military mission. Implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects would not result in significant impacts within the ROI.

#### **4.4.2 Biological Resources**

##### **Description of Geographic Study Area**

The geographic study area includes plant and animal species and habitats at NBK Manchester, USEPA Region 10 Laboratory, NMFS Research Facility, and privately-owned lands surrounding the federal properties.

### Relevant Past, Present, and Future Actions

The following actions in Table 4-1 could contribute to cumulative impacts on biological resources: Barge Mooring Pier Repairs, Private Development of Adjacent Lands, Maintenance and Operation of NBK Manchester, Kitsap County Public Works Stormwater Improvement Projects, Installation of Waterfront Platform, Cascade Natural Gas Pipeline, Inventory and Removal of Noxious, Non-Native Invasive Weeds, Manchester Fuel Tank Replacement Project, Naval Special Operations Training, Future Underground Storage Tank Closures at NBK Manchester, and Marine Structure Maintenance and Pile Replacement Activities.

### Cumulative Impact Analysis

Past replacement and repair actions at the Barge Mooring Pier increased habitat and improved water quality by removing a source of contamination (creosote pilings), reducing the number of in-water pilings, reducing the width of the gangway, and installing grated decking. Future private development of non-Navy lands adjacent to NBK Manchester would require protection of water resources (wetlands, streams, and shorelines) and wildlife habitat conservation areas that support federal and/or state listed endangered, threatened, and sensitive species; provide fish and wildlife habitat benefits; and/or contain habitats and species of local importance.

The proposed Waterfront Platform would be constructed above the Mean Higher High-Water line and would not affect marine waters, habitats, or species. Cascade Natural Gas would install a natural gas line to the Environmental Protection Agency's Manchester facility using horizontal boring, which would avoid impacts to habitats and species within the creek. Inventory and removal of noxious, non-native invasive weeds would benefit biological resources through removal of species such as tansy ragwort (*Tanacetum vulgare*), scotch broom, thistle (*Asteraceae* spp.), and knotweed (*Polygonum* spp.).

During operation and maintenance actions at NBK Manchester, the Navy would continue to implement measures and actions to minimize indirect impacts to biological resources in the event of a spill. The proposed replacement fuel tanks, containment systems, and piping would be constructed primarily on previously disturbed ground, resulting in permanent loss of approximately 5.02 acres of vegetation, with some mature trees, and temporary impacts to 4.69 acres of vegetation. Additionally, all vegetation removal, trimming, and grading of vegetated areas would occur outside of the nesting season where feasible, in order to minimize potential impacts to migratory and nesting birds. Should Naval Special Operations Training activities occur at NBK – Manchester, there would be no live fire ammunition, explosives, air operations, off-road driving, vegetation removal or cutting, digging, tree climbing, construction, or building of campfires or infrastructure.

If future Navy actions may affect species listed under the Endangered Species Act, the Navy would incorporate measures to minimize effects and consult with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (NMFS). Any future actions that may affect marine mammals would require authorization from NMFS under the Marine Mammal Protection Act; future actions that may affect Essential Fish Habitat would require consultation with NMFS under the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act.

Therefore, cumulative biological resource impacts from past, present, and future actions within the ROI would be less than significant. The revised INRMP would result in long-term beneficial effects to biological resources at NBK Manchester while ensuring no net loss in the capability of the lands to support the military mission. Implementation of the Proposed Action combined with the past, present,

and reasonably foreseeable future projects would not result in significant impacts to biological resources, including special-status species, within the ROI.

## 5 Other Considerations Required by NEPA

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

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

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

| <i>Federal, State, Local, and Regional Land Use Plans, Policies, and Controls</i>   | <i>Status of Compliance</i>   |
|---|---|
| <i>NEPA (42 United States Code (U.S.C.) section 4321 et seq.); CEQ NEPA implementing regulations; Navy procedures for Implementing NEPA )</i> | <i>This EA has been prepared on a programmatic level in accordance with NEPA, CEQ regulations, and the Navy’s NEPA procedures to analyze the potential effects of the Proposed Action on the quality of the human environment. Public participation and review has been conducted in compliance with NEPA. As management decisions are made and project designs developed, further NEPA analysis or regulatory consultations may be required.</i>   |
| <i>Clean Air Act</i>  | <i>NBK Manchester) is in Kitsap County, Washington, which is in attainment for criteria pollutants. The Proposed Action would not change air quality attainment status or conflict with attainment and maintenance goals established in the state implementation plan. Therefore, a Clean Air Act conformity determination is not required.</i>   |
| <i>Clean Water Act (CWA)</i>  | <i>Adopting the revised INRMP as a management tool under the Proposed Action would not require permits/authorizations under the CWA. However, some future management actions may affect waters of the United States if they are implemented. Prior to implementing any management actions (e.g., maintenance of rainwater conveyance structures and roads) affecting these regulated water resources, the Navy would obtain any required CWA permits/authorizations.</i>  |
| <i>Coastal Zone Management Act</i>  | <i>A Coastal Consistency Determination would be prepared in compliance with the Coastal Zone Management Act if required by individual management recommendations.</i>   |
| <i>National Historic Preservation Act (NHPA)</i>  | <p><i>Adopting the revised INRMP would have no potential to effect historic properties since the revised INRMP does not designate any specific tasks at specific locations that can be evaluated or consulted for adverse effects. Consultation under the NHPA for the adoption of the revised INRMP is not required.</i></p> <p><i>However, some of the management actions may affect historic properties if they are implemented. Any management actions that disturb soils or may cause erosion (e.g., ditch and stream maintenance, construction of roads and trails) have the potential to adversely affect historic properties. If decisions are made to use these management actions and locations are defined, the Navy would consult with the State Historic Preservation Officer and interested parties, as appropriate, under Section 106 of the NHPA.</i></p> |

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

| <i>Federal, State, Local, and Regional Land Use Plans, Policies, and Controls</i>   | <i>Status of Compliance</i>   |
|---|---|
| <i>Endangered Species Act</i>   | <i>The Navy developed the revised INRMP cooperatively with United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service, and Washington Department of Fish and Wildlife and determined the Proposed Action would not adversely affect any federally listed threatened, sensitive, or endangered species. Some of the management actions may affect threatened or endangered species and critical habitat if they are implemented. If decisions are made to use these management actions, agency consultations may be required under the Endangered Species Act.</i> |
| <i>Marine Mammal Protection Act (MMPA)</i>  | <i>The Proposed Action would not take without authorization marine mammals under the MMPA. As management decisions are made and project designs developed, the Navy would conduct any required consultations and obtain any required authorizations under the MMPA.</i>   |
| <i>Migratory Bird Treaty Act (MBTA)</i>   | <i>The Proposed Action would not take without authorization birds under the MBTA. As management decisions are made and project designs developed, the Navy would obtain any required permits under the MBTA.</i>  |
| <i>Magnuson-Stevens Fishery Conservation and Management Reauthorization Act</i>   | <i>The Proposed Action would not adversely affect marine fisheries habitat under the Magnuson-Stevens Fishery Conservation and Management Act. As management decisions are made and project designs developed, the Navy would conduct any required consultations under this act.</i>  |
| <i>Bald and Golden Eagle Protection Act</i>   | <i>The Proposed Action would take without authorization bald and golden eagles under the Bald and Golden Eagle Protection Act. Consultation with USFWS is not required.</i>   |
| <i>Executive Order 11990, Floodplain Management</i>   | <i>No adverse impacts to wetlands, including destruction or modification, would be expected from implementation of the Proposed Action. Under the Proposed Action, wetland delineation would assist in avoiding new construction in wetlands whenever there is a practicable alternative.</i>   |
| <i>Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations</i> | <i>The Proposed Action would have no adverse human health or environmental effects and therefore would have no disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.</i>  |
| <i>Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks</i>                             | <i>No family housing or schools are located on NBK Manchester. Children could accompany authorized users for recreational uses on trails or the beach. Trail maintenance and signage would ensure these areas are safe for recreational uses by children.</i>   |
| <i>Executive Order 13175, Consultation and Coordination with Indian Tribal Governments</i>  | <i>NBK Manchester is located within the Usual and Accustomed Fishing Grounds and Stations of the Suquamish Tribe. In accordance with COMNAVREGNWINST 11010.14A, the Suquamish Tribe will be consulted for proposed individual projects that may have the potential to impact treaty rights, sacred sites, burial sites, protected tribal resources, or other rights to natural resources.</i>   |
| <i>Treaty of Point Elliott 12 Stat. 927 (Treaty with the Duwamish, Suquamish, Etc. 1855 (Treaty of Point Elliott) (1855)</i>      | <i>In accordance with COMNAVREGNWINST 11010.14A, the Suquamish Tribe will be consulted for proposed individual projects that may have the potential to impact treaty rights, sacred sites, burial sites, protected tribal resources, or other rights to natural resources.</i>  |

## 5.2 Irreversible or Irretrievable Commitments of Resources

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

Implementation of natural resources management projects associated with the Proposed Action would involve human labor and the consumption of fuel, oil, and lubricants for vehicles, but it would not result in significant irreversible or irretrievable commitment of resources.

## 5.3 Unavoidable Adverse Impacts

This EA has determined that the alternatives considered would not result in any adverse impacts. Under the No Action Alternative, management of natural resources at NBK Manchester would continue under the objectives and management guidelines outlined in the 2009 INRMP.

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

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

Implementation of natural resource management and improvement actions under the Proposed Action would have temporary impacts to water resources, soils, and vegetation at NBK Manchester. However, implementation of the Proposed Action would result in long-term benefits to the natural resources at NBK Manchester. The Proposed Action would not result in any impacts that would significantly reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.



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## 6 References

- Council on Environmental Quality (CEQ). 2005. *Guidance on the Consideration of Past Actions in Cumulative Effects Analysis*. 24 June 2005.
- Council on Environmental Quality. 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. Washington, DC.
- Frierson, T., Dezan, W., Lowry, D., Pacunski, R., LeClair, L., Blaine, J., Campbell, P. 2016. *Final assessment of threatened and endangered marine and anadromous fish presence and their critical habitat occurrence adjacent to Manchester Fuel Department: 2015 Survey Results*. Olympia, WA: Washington Department of Fish and Wildlife.
- Fuest, A. 2014. *Inventory of Amphibian Species at Manchester Fuel Depot*.
- GeoEngineers, Inc. 2004. Design drawings and analysis: Beaver Creek stream restoration.
- Grassley, J., & Grue, C. 1999. *An inventory of flora and fauna on the U.S. Navy's Fleet and Industrial Supply Center, Puget Sound, Manchester Fuel Department, Manchester, Washington*. Seattle, WA: University of Washington.
- Kitsap County. 2012. *Kitsap County Comprehensive Plan*. Kitsap County Departments of Community Development and Public Works.
- Maher, S. 2015. *2015 Nest Monitoring Report: Investigating nest occupancy and productivity of bald eagle and osprey nests at Naval Base Kitsap Bangor, Manchester Fuel Department, Naval Undersea Warfare Center Keyport and Naval Base Kitsap Bremerton*. Naval Facilities Engineering Command.
- National Oceanic and Atmospheric Administration. 2019. Fisheries Western Division. Essential Fish Habitat in Washington. Retrived from website at:  
[https://www.westcoast.fisheries.noaa.gov/habitat/fish\\_habitat/efh\\_consultations\\_go.html](https://www.westcoast.fisheries.noaa.gov/habitat/fish_habitat/efh_consultations_go.html).
- NAVFAC 2023. 2022 Nest Monitoring Report: Occupancy and productivity of bald eagle and osprey nests at Naval Base Kitsap Bangor, Manchester Fuel Depot, Naval Base Kitsap Keyport, and Naval Base Kitsap Bremerton. NAVFAC NW, Silverdale, WA.
- Navy. 2022. Summary of 2013 – 2021 Surveys for Spawning Surf Smelt and Pacific Sand Lance at Manchester Fuel Depot. December 2022.
- Navy. 2021. OPNAV-M 5090.1E, Environmental Readiness Program Manual. Washington, DC: Secretary of the Navy.
- Navy. 2019. *Facility Oil Spill Prevention, Control and Countermeasure (SPCC) Plan*. Fleet Logistics Center Puget Sound Manchester Fuel Department. Signed 10 June 2019.
- Navy. 2018. 2017 Nest Monitoring Report: Investigating nest occupancy and productivity of bald eagle and osprey nests at Naval Base Kitsap Bangor, Manchester Fuel Depot, Naval Base Kitsap Keyport, Naval Hospital Bremerton, and Naval Base Kitsap Bremerton. NAVFAC NW, Silverdale, WA.
- Navy. 2017. *2016-2017 Surveys for Spawning Surf Smelt and Pacific Sand Lance at Naval Base Kitsap Bangor, Manchester Fuel Department and Naval Magazine Indian Island*. Silverdale, WA.
- Navy. 2016. Pinniped Surveys at Naval Base Kitsap Bangor, Manchester Fuel Department, and Naval Station Everett: Summary through June 2016.

- Navy. 2015. 2015 Nest Monitoring Report: Investigating nest occupancy and productivity of bald eagle and osprey nests at Naval Base Kitsap Bangor, Manchester Fuel Department, Naval Undersea Warfare Center Keyport and Naval Base Kitsap Bremerton. NAVFAC NW, Silverdale, WA.
- Navy. 2014a. *2013-2014 Manchester Fuel Department Baseline Vegetation Survey*. Naval Facilities Engineering Command Northwest.
- Navy. 2014b. *Navy Region Northwest 2013-2014 Surf Smelt and Pacific Sand Lance Spawning Inventory*. Silverdale, WA. : NAVFAC Northwest.
- Navy. 2013. 2013 Nest Monitoring Report: Investigating nest occupancy and productivity of bald eagle, peregrine falcon, and osprey nests at Naval Air Station Whidbey Island, Naval Magazine Indian Island, Naval Base Kitsap Bangor, Manchester Fuel Department, and Naval Undersea Warfare Center Keyport. NAVFAC NW, Silverdale, WA.
- Navy. 2011. Integrated Pest Management Plan. October 2011. West Puget Sound Navy Installations, Washington Naval Base Kitsap and Naval Magazine Indian Island. Prepared by NAVFAC SW. San Diego, CA.
- Navy. 2009. Integrated Natural Resources Management Plan, Manchester Fuel Depot. June 2009.
- Pearson, S.F., M.M. Lance, K. Beach, K. Saksa, S. Tanedo, and J. Winn. 2024. Fall-spring 2023-2024 Marbled Murrelet At-Sea Densities for Four Strata Associated with U.S. Navy Facilities in Washington State: Annual Research Progress Report 2024. Washington Department of Fish and Wildlife, Wildlife Science Division, Olympia, WA.
- Selbig, T. 2020. Personal Communication. Written communication by Tiffany Selbig, NAVFAC NW biologist, of opportunistic observations during site visits.
- Sound Dive Center Scientific Research Division. 2010. *Manchester Fuel Depot: 2010 Orchard Point Eelgrass Survey*. Bremerton, WA.
- Tailleur, D. 2020. Personal communication. Email from Doug Tailleur, NBK Manchester NRM, to Ben Keasler and Rebecca Johnson on history at NBK Manchester. January 6, 2020.
- Washington Department of Ecology. 2017, May 5. *Water Quality Assessment Categories*. Retrieved May 5, 2017 from Department of Ecology, State of Washington website: <http://www.ecy.wa.gov/programs/wq/303d/WQAssessmentCats.html>.
- Washington Department of Ecology 2016. Water Quality Atlas. Approved by USEPA on July 22, 2016. Retrieved from Department of Ecology, State of Washington website: <https://fortress.wa.gov/ecy/waterqualityatlas/map.aspx?CustomMap=y&RT=0&Layers=23,29&Filters=n,n,n,n>.
- Washington Department of Natural Resources. 2015., February 24 2015. *Washington State Department of Natural Resources*. Retrieved from Washington Marine Vegetation Atlas: <http://wa-dnr-env-mj9qijiduq.elasticbeanstalk.com/programs-and-services/aquatics/aquatic-science/washington-marine-vegetation-atlas>.
- WDFW. 2015. *PHS [Priority Habitat and Species] on the Web*. Retrieved from Washington Department of Fish & Wildlife: <http://apps.wdfw.wa.gov/phsontheweb>.

- Weitkamp, J. A. 1993. *Environmental Monitoring of the Manchester Naval Fuel Pier Replacement, Puget Sound, Washington*. Naval Facilities Engineering Command and National Marine Fisheries Service.
- U.S. Environmental Protection Agency. 1999. Consideration of Cumulative Impacts in USEPA Review of NEPA Documents. EPA 315-R-99-002. May 1999.

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### Appendix A. Integrated Natural Resources Management Plan (INRMP) Project Implementation

| <i>Project Description</i>  | <i>EPR Number</i> | <i>INRMP Section/Program Element Objective</i> | <i>Legal Driver</i>              | <i>ERL</i> | <i>Funding Source</i> | <i>Implementation Frequency</i> | <i>Year</i>      |
|---|-------------------|--|----------------------------------|------------|-----------------------|---------------------------------|------------------|
| <b>1 CP NW Forage Fish Surveys and Habitat Improvements – Climate</b> - conduct forage fish surveys and improve spawning beaches at NBK Manchester                      | 68742FF123        | 4.2, 4.14                                      | ESA, Sikes, DoDI 4715.03         | 4          | O&MN                  | Non-recurring                   | As needed*       |
| <b>1 CP NW Establishing, Sustaining &amp; Improving Threatened and Endangered Species Habitats - Climate</b> - Improving riparian and marine habitats at NBK Manchester | 68742NWTJ1        | 4.2, 4.9, 4.14                                 | ESA, Sikes, DoDI 4715.03         | 4          | O&MN                  | Non-recurring                   | As needed*       |
| <b>1 CP NW Nearshore Submerged Aquatic Vegetation Monitoring and Sediment Transport Modeling - Climate</b> - Marine submerged aquatic vegetation surveys and monitoring | 68742NSSAV        | 4.14   | ESA, MSFCMA, Sikes, DoDI 4715.03 | 4          | O&MN                  | Once every 5 years              | 2027             |
| <b>1 S NW Threatened and Endangered Fish Surveys and Habitat Assessments - Climate</b> - Fish surveys and habitat assessments at NBK Manchester                         | 68742CN002        | 4.2  | ESA, Sikes, DoDI 4715.03         | 4          | O&MN                  | Non-annual recurring            | 2026, 2028, 2029 |
| <b>1 S NW Bat Surveys and Monitoring</b> - Bat surveys to identify species and monitor bat presence at the installation   | 68742BAT01        | 4.4.1.4  | Sikes, DoDI 4715.03              | 4          | O&MN                  | Non-annual recurring            | As needed*       |

| <i>Project Description</i>  | <i>EPR Number</i> | <i>INRMP Section/Program Element Objective</i> | <i>Legal Driver</i>            | <i>ERL</i> | <i>Funding Source</i> | <i>Implementation Frequency</i> | <i>Year</i>                  |
|---|-------------------|--|--------------------------------|------------|-----------------------|---------------------------------|------------------------------|
| <b>1 S NW Marine Mammal Monitoring and Orca Network</b> - monitor marine mammal haulouts weekly in the NBK Manchester nearshore | 68742MMS01        | 4.2, 4.6.4                                     | ESA, MMPA, Sikes, DoDI 4715.03 | 4          | O&MN                  | Annual                          | 2025, 2026, 2027, 2028, 2029 |
| <b>2 CR NW Marbled Murrelet Density and Occupancy Surveys</b> - At-sea marbeled murrelet surveys in the nearshore environment   | 68742CN001        | 4.2.2  | ESA, Sikes, DoDI 4715.03       | 4          | O&MN                  | Annual                          | 2025, 2026, 2027, 2028, 2029 |
| <b>CHE/D NRNW INRMP Updates and Revisions (Regionalized)</b> - Update and revise future INRMPs                                  | 68742CN006        | Entire document                                | Sikes, DoDI 4715.03            | 4          | O&MN                  | Once every 5 years              | 2029                         |
| <b>EO 13751 NW NBK Invasive Species Treatment (Multiple Installations)</b> - Invasive species management at NBK Manchester      | 6874212345        | 4.9  | Sikes, DoDI 4715.03            | 4          | O&MN                  | Annual                          | 2025, 2026, 2027, 2028, 2029 |
| <b>SIKES NW Forest and Prairie Habitat Management - Climate</b> - Forest Management at NBK Manchester                           | 68742CN008        | 4.7  | Sikes, DoDI 4715.03            | 4          | O&MN                  | Non-annual recurring            | As needed*                   |
| <b>SIKES NW Forest Damage Assessment &amp; Prescription - Climate</b> - Assess and manage NBK Manchester forest stands          | 68742FOR17        | 4.7  | Sikes, DoDI 4715.03            | 4          | O&MN                  | Non-annual recurring            | As needed*                   |



| <i>Project Description</i>  | <i>EPR Number</i> | <i>INRMP Section/Program Element Objective</i> | <i>Legal Driver</i>        | <i>ERL</i> | <i>Funding Source</i> | <i>Implementation Frequency</i> | <i>Year</i>                  |
|---|-------------------|--|----------------------------|------------|-----------------------|---------------------------------|------------------------------|
| <b>SIKES NW Puget Sound &amp; Alaska INRMP Conservation Mapping</b> - monitor and map bald eagle nests at NBK Manchester  | 68742NRMAP        | 4.5.3  | BGEPA, Sikes, DoDI 4715.03 | 4          | O&MN                  | Annual                          | 2025, 2026, 2027, 2028, 2029 |
| <b>SIKES NW Region Climate Resilience and Adaptation - Climate</b> - assess impacts and threats of climate change to NBK Manchester natural resources and infrastructure. Implement projects identified to mitigate risks of climate change | 68742CN009        | 4.16   | Sikes, DoDI 4715.03        | 4          | O&MN                  | Non-annual recurring            | 2027, 2028, 2029             |
| <b>SIKES NW Shellfish Abundance Surveys</b> - Assess and monitor shellfish populations at NBK Manchester  | 68436SF016        | 4.6.3  | Sikes, DoDI 4715.03        | 4          | O&MN                  | Non-annual recurring            | As needed*                   |
| <b>SIKES NW Natural Resources Services NMFS</b> – Update and revise future INRMPs and species listings  | 68742NMFS1        | Entire Document                                | Sikes, DoDI 4715.03        | 4          | O&MN                  | Annual                          | 2025, 2026, 2027, 2028, 2029 |
| <b>SIKES and ESA NW Natural Resources Services USFWS</b> – Update and revise future INRMPs and species listings   | 68742FWS01        | Entire Documents                               | Sikes, DoDI 4715.03        | 4          | O&MN                  | Annual                          | 2025, 2026, 2027, 2028, 2029 |
| *Project covers entire region and funding will be directed to Manchester on an as needed basis  |                   |  |                            |            |                       |                                 |                              |

