

**DRAFT  
ENVIRONMENTAL ASSESSMENT**

**FENDER PILE REMOVAL AND REPLACEMENT AT PIER 4  
NAVAL BASE KITSAP, BREMERTON, WASHINGTON**



**DEPARTMENT OF THE NAVY**

**April 2015**

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**FENDER PILE REMOVAL AND REPLACEMENT AT  
PIER 4, NAVAL BASE KITSAP, BREMERTON,  
WASHINGTON**

**APRIL 2015**

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Department of the Navy

Action Proponent:  
Naval Base Kitsap

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**ABSTRACT:**

This environmental assessment (EA) evaluates the potential environmental impacts associated with the United States Department of the Navy's proposed action to remove and replace fender piles at Pier 4 at Naval Base Kitsap Bremerton. The piles to be replaced occur along the perimeter of Pier 4. The Proposed Action is planned to begin in 2016 and will take approximately four weeks to complete. The Proposed Action would remove approximately 80 creosote-treated timber piles, and replace them with approximately 80 hollow steel piles. As part of the Navy's mission, maintaining facilities and readiness is a priority. Since the action is to replace existing piles, the only alternative would be to not replace the piles; therefore, no practical or feasible action alternatives were identified. This EA analyzes the Proposed Action and the No-Action alternative. The analysis addresses potential direct and indirect impacts on sediments, water quality, noise, threatened and endangered species, essential fish habitat, marine mammals, cultural resources, American Indian traditional resources and cumulative impacts. There is no cooperating agency for this document.

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## **EXECUTIVE SUMMARY**

### **Proposed Action**

The United State (U.S.) Navy (Navy) is proposing to remove and replace approximately 80 deteriorated fender piles on Pier 4 in Sinclair Inlet at Naval Base (NAVBASE) Kitsap Bremerton beginning in 2016. The Proposed Action would include removing approximately 80 creosote treated timber piles by vibratory extraction, and installing approximately 80 hollow steel piles with a vibratory pile driver. In addition to replacing piles, the project would replace damaged wood chocks and other topside hardware associated with the fender system.

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

The purpose of the Proposed Action is to maintain the existing Pier 4 in working condition and to ensure structural integrity. The need for the Proposed Action is to ensure that Pier 4 continues to fulfill shore infrastructure needs and meets assigned operational mission requirements.

### **Alternatives Considered**

Since the action is to maintain the existing Pier 4 in working condition and to ensure structural integrity, the only alternative would be to not repair Pier 4; therefore, no practical or feasible action alternatives were identified. This EA analyzes the Proposed Action and the No-Action alternative. Under the No Action Alternative, existing piles at Pier 4 at NAVBASE Kitsap Bremerton would not be replaced to maintain pier integrity and mission readiness. The No Action Alternative does not meet the purpose of and need for the Proposed Action, but represents the baseline condition against which potential consequences of the Proposed Action can be compared.

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

The following resources have been analyzed in this EA for potential environmental consequences of the Preferred Alternative (Proposed Action):

**Sediments.** Some degree of localized changes in sediment composition would occur during construction. Impacts from sediment resuspension would be minor and localized in the area of pile removal and pile installation due to weak, stable tide currents in the project area, which would allow sediments disturbed during construction to resettle in the general area of pile removal/installation. The Navy has completed cleanup actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and continues to monitor the site. Project-related construction activities would not create sediment contamination concentrations or physical changes that violate state standards or interfere with beneficial uses of Sinclair Inlet because the Navy will coordinate with the EPA before construction to confirm conformance with CERCLA requirements for these locations. Therefore, there would be no significant impact to sediments.

**Water Quality.** Direct discharges of waste would not occur. Construction-related impacts would be limited to short-term and localized changes associated with re-suspension of bottom sediments. These changes would be spatially limited to the construction site and areas immediately adjacent that may be impacted by plumes of re-

suspended bottom sediments. Temporary impacts would not violate applicable state or federal water quality standards because the Navy would implement Best Management Practices and minimization measures to prevent accidental losses or spills of construction debris. Therefore, no significant impacts to water quality are expected.

Noise. Bremerton, Port Orchard, and Washington State exempt temporary construction noise from 7:00 a.m. to 10:00 p.m. (7:00 a.m. to 9:00 p.m. for Port Orchard) from exceeding maximum permissible noise levels. Based on construction timing (not occurring between 9:00 p.m. and 7:00 a.m.), the limited duration of impact pile driving and the distance between the noise source and sensitive receptors, sound pressure levels are expected to attenuate to the residential thresholds, or be within the allowable exceedances of temporary daytime construction. Therefore, no significant impacts to the existing sound environment would result from the Proposed Action.

Threatened, Endangered, and Sensitive Species. Individual Endangered Species Act (ESA)-listed fish may be exposed to impacts from pile replacement including underwater sound pressure levels which may result in injury or behavioral disturbance depending on the distance of the fish to sound source. Impacts to ESA-listed fish from changes in water quality as a result of vibratory pile driving operations are expected to be minor and temporary. Dissolved oxygen levels are not expected to drop to levels that would result in harm to fish species. Some degree of localized, short-term increase in turbidity is expected to occur during installation and removal of the piles, but would not affect overall conditions in the area. With implementation of protection measures including limiting work to the in-water work window, the Navy has determined that the Proposed Action 'may affect, not likely to adversely affect' Chinook salmon, steelhead, yelloweye rockfish, canary rockfish, bull trout, and bocaccio, and therefore would not result in significant impacts to ESA-listed fish species.

ESA-listed marine mammals (humpback whales, and killer whales) are not frequent visitors to Sinclair Inlet and even less likely to occur within the industrial confines of the project area. The high level of existing background noise (underwater and airborne) combined with the high level of marine activity limits the attractiveness of NAVBASE Kitsap Bremerton for marine mammals. To minimize impacts to marine mammals, including ESA-listed marine mammals, the Navy would develop and implement a Marine Mammal Monitoring Plan, which will include monitoring and potential shut down within a 10-meter zone around pile driving activities for purposes of avoiding injurious effects. Additionally, a soft-start procedure will be implemented at the beginning each of vibratory pile driving session. The soft-start procedure provides a warning and/or gives animals in close proximity to pile driving a chance to leave the area prior to operating at full capacity thereby, exposing fewer animals to loud underwater and airborne sounds. With implementation of the Marine Mammal Monitoring Plan and other avoidance measures, the Navy has determined that the Proposed Action 'may affect, but is not likely to adversely affect' killer whales and have no effect on humpback whales, and therefore would not result in significant impacts to ESA-listed marine mammals.

Underwater and airborne sound levels from vibratory pile driving have the potential to harass one ESA-listed avian species, marbled murrelet foraging and resting in the project area. Nearshore waters in the vicinity are highly industrial, but may provide foraging habitat and prey species. The presence of construction workers, cranes,

vessels (i.e. tugs, barges, small boats, etc.), pile equipment, and associated activities would create visual disturbances for marbled murrelets attempting to forage or rest in surrounding waters. Exposure to underwater sounds from pile replacement could cause behavioral disturbance, but would not be anticipated to result in injury or mortality. The Navy has determined the Proposed Action 'may affect, not likely to adversely affect' marbled murrelets, and therefore would not result in significant impacts to ESA-listed avian species.

The Navy completed informal consultations under the ESA with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). USFWS and NMFS concur with the Navy's findings of 'may effect, not likely to adversely affect' and 'no effect' for the species discussed above.

Essential Fish Habitat (EFH). The action area includes habitats for various life stages of groundfish, five coastal pelagic species, and three species of Pacific salmon. The Proposed Action would result in a short-term increase in underwater sound-pressure levels. The Proposed Action would not result in excessive levels of organic materials, inorganic nutrients or heat, would not alter physical conditions that could adversely affect water temperature or beach contours, would not remove large woody debris, or other natural beach complexity features, nor would it affect any vegetated shallows. The Navy determined that the Proposed Action would not affect EFH for Pacific salmon, groundfish, and coast pelagic species and NMFS determined that consultation under the Magnuson-Stevens Fisheries Conservation and Management Act is not required.

Marine Mammals. Individual marine mammals may be exposed to sound pressure levels during pile driving operations, which may result in Level B behavioral harassment (defined by the Marine Mammal Protection Act (MMPA) as potential behavioral disruption). Any marine mammals that are exposed (harassed) may change their normal behavior patterns (i.e., swimming speed, foraging habits, etc.) or be temporarily displaced from the area of construction. Any exposures will likely have only a minor effect on individuals and no effect on the population. As discussed above, the Navy would develop and implement avoidance measures to include limiting work to the in-water work window, equipment soft-starts and a Marine Mammal Monitoring Plan to avoid injurious exposures to marine mammals. In compliance with the MMPA, the Navy will receive an Incidental Harassment Authorization from NMFS Headquarters and comply with all conditions. Therefore, there would be no significant impact to marine mammals.

Cultural Resources. Pier 4 is a contributing element to the Puget Sound Naval Shipyard National Historic Landmark (NHL). The replacement of existing piles will have no impact to the characteristics that makes Pier 4, the NHL or nearby National Register of Historic Properties (NRHP) historic districts eligible for inclusion in the NRHP or affect any known NRHP-eligible archaeological sites. Construction activities would take place in previously disturbed areas along the industrial waterfront. The State Historic Preservation Officer concurred with the Navy's determination of no adverse effect to historic properties. The Proposed Action would have no adverse effect to cultural resources and therefore will result in no significant impact.

American Indian Traditional Resources. The Proposed Action would not alter access to, or use of, tribal traditional resources. Access for fishing is currently not allowed inside the Waterfront Restricted Area that surrounds Pier 4. This restriction would remain unchanged. The Proposed Action would not appreciably impact the quantities of fish available for harvest by the Suquamish Tribe in Sinclair Inlet, nor would it restrict access to existing traditional harvest areas in Sinclair Inlet. The Navy **initiated** Government to Government consultation with the Suquamish Tribe for the Proposed Action. No significant impacts to American Indian traditional resources would occur with implementation of the Proposed Action.

Under the No Action Alternative, no piles would be removed or driven, thus there would be no change to the natural and physical environment and no significant impacts.

### **Resources Eliminated From Further Study**

Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in this EA: Land Use, Air Quality, Visual Resources, Recreational and Commercial Fishing, Terrestrial Wildlife, Non ESA-Listed Avian Species, Socioeconomics and Environmental Justice, Bathymetry, Transportation, Marine Vegetation, Benthic Invertebrates, and Health and Safety.

### **Public Involvement**

Comments received during the public review period of this Draft EA will be considered in the preparation of the Final EA.

### **Conclusion**

Implementation of the Proposed Action would not result in significant impacts to any resource area when considered individually or cumulatively in the context of NEPA, including both direct and indirect impacts. Fender pile removal and replacement at Pier 4 as proposed would not constitute a “major Federal action significantly affecting the quality of the human environment.” Therefore, this EA supports a Finding of No Significant Impact for the Proposed Action and the preparation of an Environmental Impact Statement is not warranted or required.



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## ACRONYMS AND ABBREVIATIONS

ACQR	Puget Sound Interstate Air Quality Control Region
BE	Biological Evaluation
BMP	Best Management Practices
CAA	Clean Air Act
CCD	Coastal Consistency Determination
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIA	Controlled Industrial Area
CISS	Cast in Steel Shell
CZMA	Coastal Zone Management Act
DAHP	Department of Archaeological and Historic Preservation
dB	Decibel
dBA	Decibels Adjusted
DNR	Department of Natural Resources
DO	Dissolved Oxygen
DoD	Department of Defense
DON	Department of the Navy
DPS	Distinct Population Segment
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPP	Environmental Protection Plan
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FONSI	Finding of No Significant Impact
Hz	Hertz
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fisheries Conservation and Management Act
NAAQS	National Ambient Air Quality Standards
NAVBASE	Naval Base
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
OPNAVINST	Office of the Chief of Naval Operations Instruction
PCB	Polychlorinated Biphenyls
PSNS & IMF	Puget Sound Naval Shipyard and Intermediate Maintenance Facility
RCRA	Resource Conservation and Recovery Act
RMS	Root Mean Square
ROD	Record of Decision

ROI	Region of Influence
SECNAVINST	Secretary of the Navy Instruction
SHPO	State Historic Preservation Officer
STA	Sediment Trend Analysis
U&A	Usual and Accustomed
USACE	United States Army Corps of Engineers
U.S.	United States
USEPA	United States Environmental Protection Agency
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WAC	Washington Administrative Code
WDOE	Washington Department of Ecology
WQC	Water Quality Certification

# **1 PURPOSE OF AND NEED FOR PROPOSED ACTION**

## **1.1 INTRODUCTION**

The United States (U.S.) Department of the Navy (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 NEPA (32 CFR Part 775); and Chief of Naval Operations Instruction (OPNAVINST) 5090.1D, *Environmental Readiness Program*.

The Navy proposes to remove and replace fender piles on Pier 4 in Sinclair Inlet at Naval Base (NAVBASE) Kitsap Bremerton (Figure 1-1). Construction of Pier 4 was completed in 1922. The pier is approximately 1,300 feet in length and 100 feet wide and is a concrete deck supported by concrete pilings. The pier is surrounded by timber fender piles. In addition to replacing timber fender piles, the project would replace damaged wood chocks and other topside hardware associated with the fender system.

The Proposed Action is planned to begin in 2016 and will take four weeks of in-water work to complete. NAVBASE Kitsap, the Action Proponent, is the command that manages several properties in Kitsap County Washington, including NAVBASE Kitsap Bremerton.

## **1.2 LOCATION**

NAVBASE Kitsap Bremerton is located on the north side of Sinclair Inlet within the city of Bremerton in Kitsap County (Figure 1-2). The NAVBASE Kitsap Bremerton waterfront, including Pier 4, is restricted from public access. The location of Pier 4 is within the Sinclair Inlet Naval Restricted Area Number 2 (CFR Title 33, 2008), and is delineated by a floating Port Security Barrier shown on Figure 1-2. Per 33 CFR 334.1240 “this area is for the exclusive use of the United States Navy. No person, vessel, craft, article or thing, except those under supervision of military or naval authority shall enter this area without permission from the enforcing agency.”

Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF) is the major tenant command of NAVBASE Kitsap Bremerton and possesses the capabilities to overhaul and repair all types and sizes of ships while also serving as homeport for a nuclear aircraft carrier and other Navy vessels. Other significant capabilities include alteration, construction, deactivation, and dry-docking of all types of naval vessels.

## **1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

The purpose of the Proposed Action is to maintain the existing Pier 4 in working condition and to ensure structural integrity. The need for the Proposed Action is to ensure that Pier 4 continues to fulfill shore infrastructure needs and meets assigned operational mission requirements.

## 1.4 SCOPE OF ENVIRONMENTAL ANALYSIS

This EA includes an analysis of potential environmental impacts associated with the Proposed Action. The environmental resource areas analyzed in this EA include: sediments, water quality, noise, Endangered Species Act (ESA)-listed species, essential fish habitat (EFH), marine mammals, cultural resources, and American Indian traditional resources.

Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in this EA:

**Land Use.** Implementation of the Proposed Action would not alter existing land use on- or off-base. The Proposed Action would have no impact on local or regional development patterns. Therefore, there would be no impact on land use from the Proposed Action.

**Air Quality.** As described in 40 CFR Part 51, Determining Conformity of General Federal Actions to State or Federal Implementation Plans (the "General Conformity Rule"), all federal actions occurring in air basins designated in nonattainment or in a maintenance area must conform to an applicable implementation plan. Since Kitsap County is designated an attainment area for all criteria pollutants, the General Conformity Rule does not apply. The activities associated with the Proposed Action are limited to mobile sources and sources excluded from Notice of Construction requirements per Puget Sound Clean Air Agency Regulation I Article 6.03; therefore, New Source Review and Prevention of Significant Deterioration requirements do not apply. The Proposed Action, particularly with respect to pile driving, will not impact PSNS & IMF's Title V air permit since the contractors shall operate equipment in a manner that is in compliance with Puget Sound Clean Air Agency Regulations I, II, and III. Therefore, effects on air quality from the implementation of the Proposed Action would be negligible.

**Visual Resources.** The Proposed Action would not change the appearance of Pier 4 or the waterfront area as it is limited to repair and replacement of piles at existing structures, which are part of the installation's waterfront. Therefore, no impacts to visual resources would occur.

**Recreational and Commercial Fishing.** Recreational and commercial fishing does not occur near the project sites as this area is within the Sinclair Inlet Naval Restricted Area Number 2 which restricts access by the general public. Fish could flee the immediate construction areas as a result of the Proposed Action, but would be expected to return to the area after the pile driving activities were concluded. The project site occurs in a dredged area where no geoduck or other intact shellfish beds occur. The closest shellfish bed is over 1 mile from the project site. Additionally Sinclair Inlet is closed to shellfish harvesting due to pollution (WA Department of Health 2013). Therefore, the Proposed Action would not impact recreational and commercial fishing.

**Terrestrial Wildlife.** The Proposed Action would occur entirely within and over the water and does not have a terrestrial component. Construction activities would not adversely impact terrestrial habitats and airborne sound associated with construction would not harm native terrestrial wildlife. Any land-based construction equipment and

material staging or support activities, if required, would take place in the already heavily-industrialized portions of NAVBASE Kitsap Bremerton. No clearing or excavation would be required. Therefore, the Proposed Action would not impact terrestrial wildlife.

**Non ESA-Listed Avian Species.** Proposed pile driving activities and associated boat movements could cause avian species to move from the immediate project area. Avian species, including migratory and resident species, in the project area would generally be species that have adjusted to the high noise and boat traffic associated with the shipyard. Avian species foraging in the area may be disturbed by boat movement or pile installation, but are expected to continue foraging or temporarily leave the area. This behavior is consistent with day to day operations at the shipyard with boat movements, drydock operations, and vessel repair activities. A bald eagle nest exists on NAVBASE Kitsap Bremerton, but all work is to be conducted outside the associated buffer zones. The Proposed Action is limited to work at Pier 4 and will not impact undisturbed areas. Given the industrial nature and existing elevated ambient noise levels in the project area and the temporary nature of the work, the Proposed Action would have negligible impacts on non ESA-listed avian species.

**Socioeconomics and Environmental Justice.** The Proposed Action would be located entirely within NAVBASE Kitsap Bremerton. Implementation of the Proposed Action would be limited to repairs at Pier 4 and would not result in displacement of people or businesses and would not change the economic character or stability of the installation or surrounding area. Pile driving activities would be conducted by contractors. The socioeconomic impacts related to temporary construction employment would occur intermittently over a short period of time. The Proposed Action may create a small number of temporary jobs and contribute minimally to local earnings spending. Any additional population associated with this temporary employment would not create undue demand on housing, schools, or other social services. As such, negligible socioeconomic impacts are anticipated as a result of the Proposed Action.

Environmental justice concerns related to construction activity typically include: exposure to noise, safety hazards, pollutants, and other hazardous materials. Although low income and minority populations reside in the surrounding area, no adverse impacts to any residential areas are anticipated. Therefore, there would be no disproportionately high and adverse environmental, human health, and socioeconomic affects to minority populations and low-income populations.

**Traffic and Transportation.** The volume of vehicle and marine traffic would temporarily increase during pile replacement activities with the presence of marine vessels and contractor vehicles arriving and working on-site. Marine vessel traffic would include a barge mounted crane for pile installation and removal, a barge to deliver new piles and remove extracted piles (anticipated frequency of one barge delivery every one to three weeks), and tugs to assist barge movement. Marine vessels would operate and stage in the Waterfront Restricted Area. The addition of marine vessels and vehicles to implement the Proposed Action would be negligible when compared to existing marine and vehicle traffic at NAVBASE Kitsap Bremerton. Therefore, there would be negligible impact to traffic and transportation.

**Bathymetry.** The Proposed Action would occur entirely within an industrial shipyard with bathymetry that has been altered over the past 100 years due to periodic dredging, pier construction, and shoreline armoring. Changes to bathymetry would not occur as the Proposed Action is replacing existing piles in a highly localized and disturbed area. Therefore, the Proposed Action would not impact bathymetry.

**Marine Vegetation.** The Proposed Action would replace piles at or adjacent to existing piles along a heavily modified industrial waterfront. The impacts related to construction would be limited to the footprint of the new piles. Underwater surveys conducted in 2012 show that marine vegetation is sparse throughout the NAVBASE Kitsap Bremerton waterfront and does not exist along Pier 4 (Navy 2012). Therefore, the Proposed Action would have negligible or no impact to marine vegetation.

**Benthic Invertebrates.** The Proposed Action include would include temporary disruption of the benthic community (marine worms, snails and bivalves, crustaceans, and sea stars) in a limited area where pile replacement occurs. However, benthic organisms are very resilient to habitat disturbance and would quickly recover to pre-disturbance levels. Therefore the localized and temporary nature of the Proposed Action would have a negligible impact to benthic invertebrates.

**Health and Safety.** The waterfront area of NAVBASE Kitsap Bremerton is restricted from public access by a Port Security Barrier and upland fencing which prevent recreational and commercial boater access to the waterfront areas. The Proposed Action would not differ significantly from normal day-to-day activities that occur at NAVBASE Kitsap Bremerton. Construction contractors and Navy employees would adhere to all applicable environmental and safety regulations and no impacts to health and safety are anticipated.

There are no residences, schools, or other facilities used by children within the Controlled Industrial Area (CIA) at the NBK Bremerton waterfront, and access is restricted. Therefore, the removal and replacement of piles at Pier 4 would not cause environmental health risks and safety risks to children.

## **1.5 RELEVANT LAWS AND REGULATIONS**

In addition to NEPA, CEQ, and Navy regulations, the Navy has prepared this EA integrating other federal and state laws, statutes, regulations, and policies that are relevant to the implementation of the Proposed Action including, but not limited to:

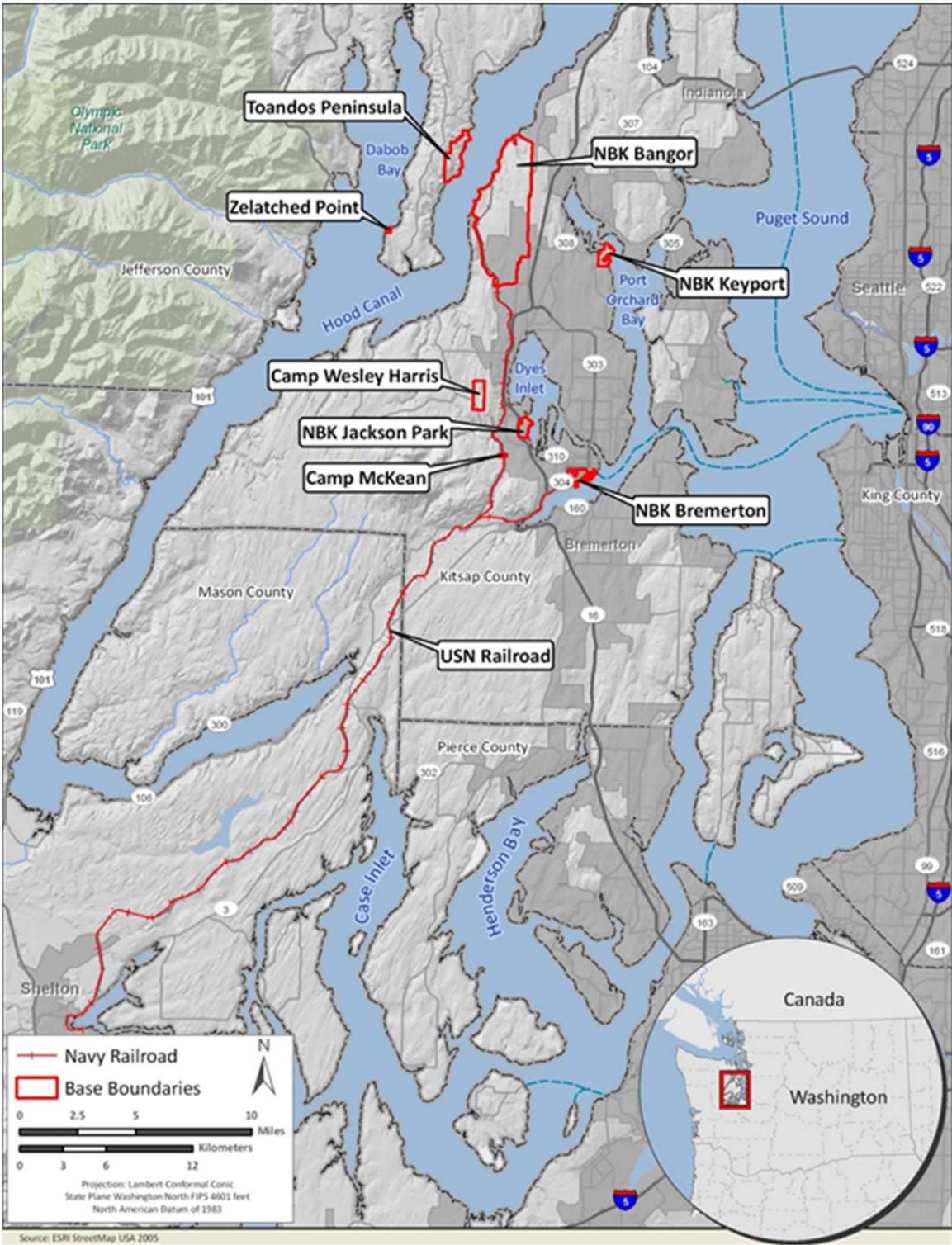
- Clean Air Act (CAA) (42 USC 7401 *et seq.*);
- Clean Water Act (CWA) (33 USC 1251 *et seq.*);
- Coastal Zone Management Act (CZMA) (16 USC 1451 *et seq.*);
- National Historic Preservation Act (NHPA) ((54 USC 306108 *et seq.*);
- Endangered Species Act (ESA) (16 USC 1531 *et seq.*);
- Magnuson–Stevens Fishery Conservation and Management Act (16 U.S.C. 1800)
- Marine Mammal Protection Act (MMPA) (16 USC 1361 *et seq.*)

- Migratory Bird Treaty Act (MBTA) (16 USC 703-712);
- Bald and Golden Eagle Protection Act (16 USC 668-668d);
- Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-income Populations*;
- EO 13175, *Consultation and Coordination with Indian Tribal Governments*; and
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

A description of the Proposed Action's consistency with these policies and regulations is presented in Section 5 (Table 5-1).

## **1.6 PUBLIC INVOLVEMENT**

The Navy has made this Draft EA available for public review and comment. Comments received during the public review period will be considered in the preparation of the Final EA. The Final EA and decision document will be made available to the public. The Notice of Availability (NOA) will be posted in the local newspaper and the Final EA and decision document will be posted on the internet.



**Figure 1-1. Regional Map Showing NAVBASE Kitsap Bremerton**



Figure 1-2. NAVBASE Kitsap Bremerton

## **2 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 PROPOSED ACTION**

The Navy proposes to remove and replace approximately 80 deteriorated timber fender piles at Pier 4, located at NAVBASE Kitsap Bremerton over a several week period in 2016. Pier 4 is approximately 1,300 feet in length, 100 feet wide and consists of a concrete deck supported on concrete pilings and pile caps. The pier is surrounded by timber fender pile system. This pier was constructed in 1922. The Proposed Action would remove up to 80 creosote-treated timber fender piles, and replace them with up to 80 hollow steel piles (Figures 2-1 and 2-2). New piles would be placed in the same general location as the removed piles. In addition to replacing piles, the Proposed Action would also replace damaged wood chocks and other topside hardware associated with the fender system.

The overwater coverage (or footprint) of Pier 4 and associated fenders, dolphins, and structures would not change.

### **2.2 ALTERNATIVES**

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federally proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. . However, only those alternatives determined to be reasonable relative to their ability to fulfill the purpose and need for the Proposed Action require detailed analysis. Since the action is to maintain and repair Pier 4 through the replacement of deteriorated fender piles, the only alternative would be to not repair Pier 4; therefore, no practical or feasible action alternatives were identified. Consequently this EA will analyze the Proposed Action and the No-Action alternative.

Under the No Action Alternative, existing piles at Pier 4 at NAVBASE Kitsap Bremerton would not be replaced to maintain pier integrity and mission readiness. The No Action Alternative does not meet the purpose of and need for the Proposed Action, but represents the baseline condition against which potential impacts of the Proposed Action can be compared. As required by CEQ guidelines, the No Action Alternative is carried forward for analysis in this EA.

### **2.3 COMPONENTS OF PROPOSED ACTION**

This section describes methods of pile removal and installation that are planned to be used to accomplish the work included as part of the Proposed Action. Removing and installing in-water piles are construction activities that have occurred regularly at NAVBASE Kitsap Bremerton as in-water structures have been built and maintained for more than 100 years.

Most in-water structures are pile-supported; therefore, repair of these structures typically involves removal of existing piles and installation of new piles. Fender piles (or guide piles) protect docks, wharves, and other structures from direct contact with vessels and consist of upright freestanding piles driven into the sea floor several feet from the pier.

The Proposed Action would include replacement of damaged wood chocks and other topside hardware associated with the fender system. No in-water dredging or placement of fill would occur under the Proposed Action.

### **2.3.1 Pile Removal**

Extraction with a vibratory driver would be the primary method for removing existing timber piles. A vibratory driver is a large mechanical device (5-16 tons) suspended from a crane by a cable and clamped onto a pile. The vibrations induced into the pile liquefy the surrounding sediments and allow removal with the aid of the crane. A barge-mounted crane would operate from the water adjacent to the pile during removal activities. The vibratory driver is shut off once the end of the pile reaches the mudline and the pile is pulled from the water and placed on a barge. Vibratory extraction would be expected to take approximately 5 to 10 minutes per pile. Sediments attached to the outside of the pile would fall back to the seafloor.

In some cases, complete removal with a vibratory driver is not possible. If piles break apart from the force of the clamp and the vibration or are damaged, a chain or clamshell bucket would be used, if practical, to remove the broken pile. If the entire pile cannot be removed, the pile would be cut at the mudline using a pneumatic underwater chainsaw to prevent disturbing contaminated sediment.

### **2.3.2 Pile Installation**

Hollow steel piles would be driven with a vibratory driver. To drive the pile, a pile is first moved into position and set into the proper location by placing a choker cable around a pile and lifting it into vertical position with the crane. Once the pile is properly positioned, the vibratory driver is clamped onto the pile and activated. Similar to pile removal, the vibratory driver liquefies the sediment around the pile and drives the pile into the substrate aided by the weight of the driver. Substrate in the project area consists of up to 40 feet of fine grained mud (silt and clay) which should facilitate quick installation (e.g. a few minutes/pile) of fender piles. New piles would be installed in the same general location as extracted piles. No impact hammer pile driving will occur with the Proposed Action.

### **2.3.3 Pile Disposal**

All materials and waste would be disposed of in accordance with federal and state requirements. Creosote-treated piles are not considered a hazardous waste (40 CFR 261.4(b)(9)) or a dangerous waste (Washington Administrative Code (WAC) 173-303-071); however, the disposal of creosote-treated wood, is subject to regulation under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). In accordance with FIFRA, all removed creosote piles would be disposed of in a Washington State approved non-hazardous waste landfill. Prior to disposal, the creosote-treated piles would be cut into smaller segments in a manner that precludes further use. Pile disposal would also be in accordance with the Washington State Department of Natural Resources (DNR) Best Management Practices (BMPs) for creosote pile removal and disposal.

## **2.4 BEST MANAGEMENT PRACTICES AND MINIMIZATION MEASURES**

The Proposed Action includes BMPs for construction and general minimization measures that will be implemented to minimize or avoid potential environmental

impacts. Mitigation measures, such as endangered species monitoring, are discussed in Section 3 of this EA.

#### **2.4.1 General**

The Navy will require the construction contractor to develop an Environmental Protection Plan (EPP) that will be implemented throughout the duration of in-water work. The EPP would be completed prior to the commencement of any construction activities. The EPP would identify construction planning elements and recognize spill sources at the site. The EPP would outline BMPs, responsive actions in the event of a spill or release, and notification and reporting procedures. The EPP would also outline contractor management elements such as personnel responsibilities, project site security, site inspections, and training.

Other general BMPs incorporated in the EPP and implemented during project construction would include:

- Washwater resulting from washing equipment or work areas will be contained for proper disposal, and shall not be discharged unless authorized.
- Equipment that enters surface water will be cleaned and maintained to prevent any visible sheen from petroleum products.
- There will be no discharge of oil, fuels, or chemicals to surface waters, or onto land where there is a potential for re-entry into surface waters. Fuel hoses, oil drums, oil or fuel transfer valves, fittings, etc. will be checked regularly for leaks. Materials shall be maintained and stored properly to prevent spills.
- No cleaning solvents or chemicals used for tools or equipment cleaning will be discharged to ground or surface waters.
- Oil-absorbent materials will be used in the event of a spill if any oil product is observed in the water.
- Waste materials will be disposed of in a state approved landfill or recycled. All creosote-treated material would be cut to prevent reuse and disposed of as discussed in Section 2.3.3.
- Removed piles and associated sediments (if any) will be contained on a barge or stored in a containment area on the pier until properly disposed.
- Construction materials will not be stored where high tides, wave action, or upland runoff could cause materials to enter surface waters.
- Any floating debris generated during construction will be retrieved. Any debris in the containment boom will be removed by the end of each work day or when the boom is removed, whichever occurs first.
- Whenever activities that generate sawdust, drill tailings, or wood chips from treated timbers are conducted, tarps or other containment material will be used to prevent debris from entering the water.

#### **2.4.2 Timing Restrictions**

- To minimize the number of fish exposed to underwater noise and other construction disturbance, in-water work would be performed between July 16 and February 15, when juvenile salmon and bull trout are less likely to be migrating through the construction area.
- To minimize noise impacts to surrounding residents, noise generating construction activities would not occur between the hours of 9:00 p.m. and 7:00 a.m.

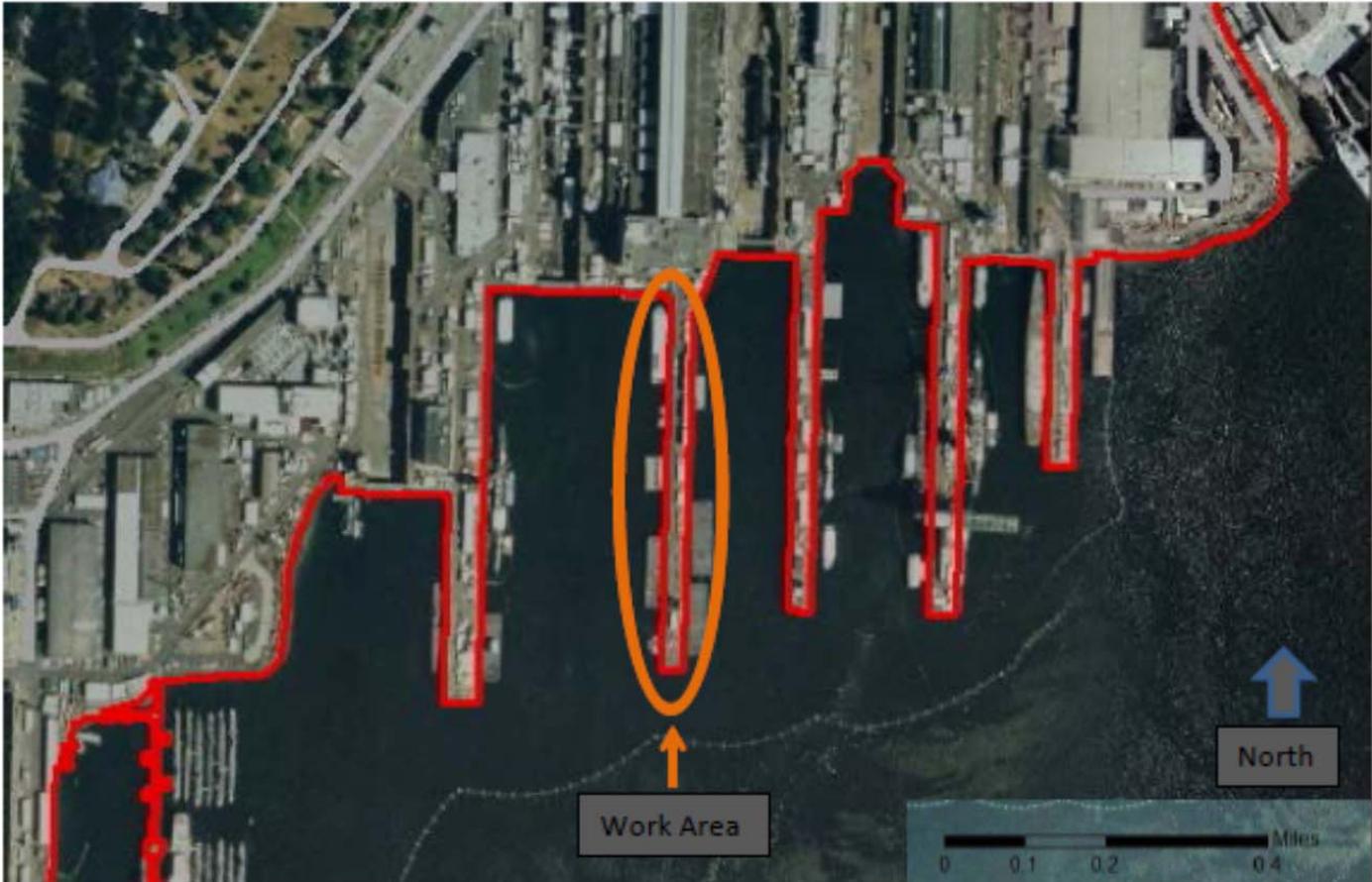
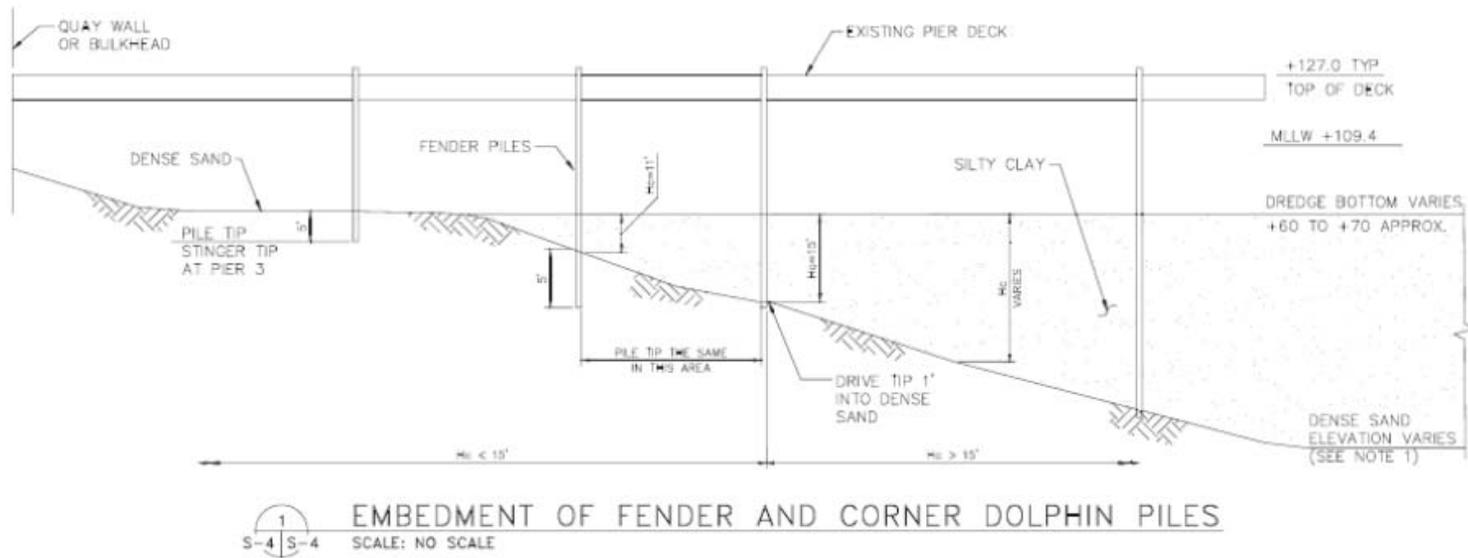


Figure 2-1. Pier 4 Work Area



<p><b>PURPOSE: MAINTENANCE AND REPAIR</b></p> <p><b>DATUM: MLLW (109.4)</b></p> <p><b>ADJACENT PROPERTY OWNERS:</b>          1) CITY OF BREMERTON</p>	<p><b>NAME: US NAVY</b></p> <p><b>REFERENCE#:</b></p> <p><b>SITE LOCATION ADDRESS:</b>          NAVAL BASE KITSAP          BREMERTON, WA 98314</p>	<p><b>PROPOSED: PIER 4 FENDER SYSTEM REPAIR</b></p> <p><b>IN: SINCLAIR INLET</b></p> <p><b>COUNTY: KITSAP STATE: WA</b></p> <p><b>SHEET 3 OF 4 DATE: 2/4/15</b></p>
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**Figure 2-2. Site Plan**

### **3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This chapter presents baseline data for the affected environment and an assessment of the potential impacts, or environmental consequences that could result from implementation of the proposed action within the Region of Influence (ROI). The following resources are evaluated in this chapter: sediments, water quality, noise, ESA-listed species, EFH, marine mammals, cultural resources, and American Indian traditional resources.

#### **3.1 SEDIMENTS**

##### **3.1.1 Regulatory Setting**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) establishes a series of programs for the cleanup of hazardous waste disposal and spill sites nationwide. It requires protection of human health and the environment. Under CERCLA §121(c), a periodic review is required when hazardous substances, pollutants, or contaminants remain on-site above levels that allow for unlimited use and unrestricted exposure [40 CFR §300.430(f)(4)(ii)]. In response to CERCLA requirements, the DoD has established a Navy Installation Restoration Program that continues to monitor and conduct reviews every five years of the remedial action methods required at contaminated sites based on established Records of Decision (RODs).

The Washington State Sediment Management Standards (SMS) (WAC 173-204) provide the framework for the long-term management of marine sediment quality. The SMS establishes standards for the quality of sediments as the basis for management and reduction of pollutant discharges by providing a management and decision-making process for contaminated sediments.

##### **3.1.2 Affected Environment**

The waterfront area at Bremerton has been significantly altered by industrial development and dredging including the construction of 6 drydocks, 13 piers or wharves, and acres of former tidelands filled and paved to enlarge the installation. Sinclair Inlet exhibits a weak estuarine flushing (i.e. water and sediments stay within Sinclair Inlet instead of being flushed out quickly to other parts of the Puget Sound), clockwise current pattern and sediment deposition along the northern shoreline (URS and SAIC, 1999). Weak tide currents move water in and out of the inlet with a maximum velocity of 0.2 to 0.3 knots (URS and SAIC, 1999). This effect and the generally weak nature of these currents make the inlet more depositional than erosional for both mud (silt and clay) and sand-sized particles. Currents are generally not capable of re-suspending bottom sediments. Existing sedimentation rates at the project site are 0.2 to 0.8 in (0.5 to 2 cm) per year (URS and SAIC, 1999).

In 1998, a Sediment Trend Analysis (STA) was performed on samples taken from Sinclair Inlet and the adjacent Port Orchard waterway (McLaren, 1998). This study has been the basis for determination of areas of erosion, stability of sediments (dynamic equilibrium), and deposition of sediments in Sinclair Inlet. In general, muddy sediments show a dominant clockwise pattern with flood-directed transport on the south side of the

Inlet and ebb-directed transport on the north side of the Inlet (McLaren, 1998). The STA study demonstrates the sediments throughout Sinclair Inlet do not move with great speed, but do accumulate in certain areas. This is especially true on the northside of the inlet, near the project site, where the movement of sediments terminates inside the docks and piers of the shipyard (McLaren, 1998).

Sediment contamination within Sinclair Inlet, including the project area, has been well documented and includes a variety of metals and organic chemicals originating from human sources (USEPA, 2000). The marine sediments have been affected by past shipyard operations, leaching from creosote-treated piles, and other activities in Sinclair Inlet. A 2000 CERCLA Record of Decision (ROD) for Operable Unit (OU) B-Marine documents the Navy's decision to cleanup sediment contamination by a combination of sediment removal and disposal in a Confined Aquatic Disposal site located on Navy property, sediment capping, and natural attenuation. The ROD was developed in cooperation with the U.S. Environmental Protection Agency (USEPA) and Washington Department of Ecology (WDOE). The active cleanup actions are complete and monitoring of the site is ongoing (USEPA, 2000). Since the time the active cleanup was completed, the Navy has completed numerous fender pile replacement projects at NAVBASE Kitsap Bremerton. An EPA condition inserted to the U.S. Army Corps of Engineers (USACE) permits for pile driving in Bremerton requires the Navy to conduct pre-construction and post-construction sediment sampling to demonstrate that sediments are not negatively impacted by pile work. The pre- and post-construction sampling collected to date does not indicate that pile work is negatively impacting sediments or the OU B-Marine remedy at NAVBASE Kitsap Bremerton.

### **3.1.3 Environmental Consequences**

The evaluation of impacts to marine sediments considers whether project-related construction activities create conditions, such as sediment contamination or physical changes that violate state standards. Impacts would be considered significant if they violated state standards (Sediment Quality Standards, WAC 172-204-320). The ROI for analyzing potential impacts to sediments is the northern shoreline of Sinclair Inlet within the Naval Restricted Area.

#### **Proposed Action**

The Proposed Action would result in a slight disturbance of bottom sediments through pile removal (vibratory extraction or choke and pull) and installation (vibratory pile driving). Impacts from sediment resuspension would be minor and localized in the area of pile removal and pile installation due to weak, stable tide currents in the project area (URS and SAIC, 1999). These stable subsurface conditions would allow any disturbed sediments to resettle in the general area of pile removal/installation. Setting spuds and anchors for the barges used for pile removal and installation could also cause disturbance of bottom sediments. Impacts from sediment resuspension from these activities would be minor and localized in the area of the spud or anchor placements. Propeller wash could also disturb bottom sediments, but would not differ from day-to-day activities occurring in this industrial waterfront area. Impacts from sediment resuspension would be further reduced through the implementation of BMPs during construction. These measures would limit re-suspension of sediments by shutting down

the vibratory pile hammer when piles to be removed have broken free from the marine sediments. In the event that a pile breaks and cannot be removed, cutting existing piles at the mudline will minimize disturbance of bottom sediments.

Replacement of damaged wood chocks and other topside hardware would have no impact on sediments because these elements of the Proposed Action would not disturb bottom sediments.

Impacts to sediment contaminant levels (WAC 173-204-320) would be negligible as no new sources of contaminants are proposed. Additionally, there would be no direct discharges of wastes or contaminants to the marine environment during construction. Long term minor beneficial impacts are possible from the removal of creosote-treated piles which are known to leach toxins (DNR, 2013). However, due to the age of the existing creosote piles, they are likely no longer leaching appreciable amounts of toxic materials.

Replacement piles would be located at, or adjacent to, the same location as the existing piles, immediately adjacent to other large industrial facilities, and in a low-energy depositional environment (McLaren, 1998). The Proposed Action would not substantially alter existing sediment re-suspension or deposition patterns near the project site. The Navy will coordinate with EPA's CERCLA program manager before construction to confirm conformance with CERCLA requirements for these locations. Pre-and post-construction sediment sampling is planned to ensure the Proposed Action does not adversely impact past cleanup actions. To date pre- and post-construction sediment sampling events for four recent projects has not shown any correlation between pile work and degradation of sediments or the OU-B Marine remedy at NAVBASE Kitsap Bremerton.

Implementation of the Proposed Action would result in minor and localized resuspension of sediments but would not result in the violation of Washington Sediment Quality Standards (WAC 173-204) or degrade the CERCLA OU-B Marine remedy. As such, no significant impacts to sediments would occur with implementation of the Proposed Action.

### **No Action Alternative**

Under the No Action Alternative, no piles would be removed or driven and disturbance to sediments would not occur. As such, no impacts to sediments would occur with implementation of the No Action Alternative.

## **3.2 WATER QUALITY**

### **3.2.1 Regulatory Setting**

Washington surface water quality standards contained in WAC-173-210A provide the basis for protecting and regulating the quality of surface waters in Washington State. The standards implement portions of the federal Clean Water Act (CWA) by specifying the designated and potential uses of waterbodies in the state. They set water quality criteria to protect those uses and acknowledge limitations. The standards also contain policies to protect high-quality waters (antidegradation) and specify how criteria are to be implemented.

The federal CWA requires that all states restore their waters to be “fishable and swimmable.” Section 303(d) of the Clean Water Act established a process to identify and clean up polluted waters. Every two years, all states are required to perform a water quality assessment of the quality of surface waters in the state, including all the rivers, lakes, and marine waters where data available. WDOE compiles its own water quality data, and invites other groups to submit water quality data they have collected.

Waters whose beneficial uses (such as for drinking, recreation, aquatic habitat, and industrial use) that are impaired by pollutants are placed in the “polluted water” category (Category 5) on the water quality assessment. Categories range from Category 1, waters that meet tested standards for clean waters, to Category 5, waters that fall short of state surface water quality standards and are not expected to improve within the next two years. The 303(d) list is comprised of those waters that have been designated as Category 5, impaired.

### **3.2.2 Affected Environment**

NAVBASE Kitsap Bremerton and Pier 4 are located within Sinclair Inlet, a 3.5-mile-long shallow, poorly flushing bay with freshwater inputs from Gorst, Blackjack, Ross, Anderson, Sacco, and Karcher Creeks. While water quality in Sinclair Inlet is considered high enough to support many different uses from sailing to fishing, it has been adversely affected by runoff and sediment contamination from the surrounding watersheds, including such land uses as forest land, highways, urban development, commercial development and industrial development.

WDOE has established the following uses for Sinclair Inlet: aquatic life, recreation, wildlife habitat, harvesting, commerce, navigation, boating, and aesthetics (WAC 173-201A-612). Sinclair Inlet is popular amongst private boaters, with several marinas in Port Orchard and Bremerton. While shellfish harvesting is prohibited due to pollutant levels, Sinclair Inlet remains an active water body for fishing.

Periodically, WDOE conducts an assessment of the water quality of the surface waters in the state (WDOE, 2012). The outcome of the assessment represents the Integrated Report for Sections 303(d) and 305(b) of the Clean Water Act. The Integrated Report identifies water bodies where water quality does not achieve standards. It also gives an overall indication of water quality of each water body. The most recent report is the 2012 Integrated Water Quality Assessment (citation year).

Waters in the western portions of the waterfront area are classified as Category 2 for fecal coliform, temperature, and DO. Category 2 waters are waters of concern where there is some evidence of a water quality problem, but usually not in violation of state water quality standards. Piers 4 and 5 are located within an area classified as Category 4B (waters that have pollution problems, but where a plan is in place that is expected to resolve the problem) for Polychlorinated Biphenyls (PCBs). Several areas within Sinclair Inlet outside of the immediate NAVBASE Kitsap Bremerton waterfront area are classified as Category 5 (the water quality standards have been violated and there is no plan to resolve the problem) for fecal coliform and DO and Category 2 for temperature.

Turbidity within Sinclair Inlet generally meets the state of Washington Class A (excellent) standards for marine waters (Gartner et al., 1998).

Sinclair Inlet experiences isolated events of low DO associated with elevated nutrient concentrations and phytoplankton blooms (URS and SAIC 1999). Low DO exceedances were recorded by Kitsap County during 1998, 2001, and 2003. Anthropogenic sources were identified as the major contributor to the low DO readings (WDOE, 2012). DO levels within Sinclair Inlet are seasonably variable; however, increasing development continues to contribute to low DO problems (WDOE, 2012).

While problems exist in Sinclair Inlet due to the surrounding land uses (highways, urban development, commercial development and industrial development), Sinclair Inlet retains a water quality standard that continues to support its designated uses from fishing and sailing to wildlife viewing (WAC 173-201A-612).

### **3.2.3 Environmental Consequences**

The ROI for analyzing potential impacts to water quality is the northern shoreline of Sinclair Inlet within the Sinclair Inlet Naval Restricted Area No. 2. The threshold of significance for adverse effects on water quality is defined by the Clean Water Act and Washington's Water Quality Standards for Surface Waters of the State of Washington (WAC 173-201A). Washington's Water Quality Assessment lists the water quality status for water bodies in the state including Sinclair Inlet. The water quality impacts from the proposed activity would be significant if they:

- Reduced the ability of Sinclair Inlet to support its designated uses (aquatic life, recreation, wildlife habitat, harvesting, etc.) (WAC 173-201A-612).
- Increased pollution levels (e.g., temperature, dissolved oxygen, and turbidity) to a point where Sinclair Inlet is placed in a reduced category in Washington's Water Quality Assessment Categories as described in Sections 303(d) and 305(b) of the Clean Water Act.

### **Proposed Action**

Direct discharges of waste to the marine environment would not occur with implementation of the Proposed Action. Impacts to water quality would be limited to short-term and localized changes associated with re-suspension of bottom sediments from pile removal and installation and barge and tug operations, such as anchoring and propeller wash. Because the project area is characterized as having weak and stable tide currents (URS and SAIC, 1999), these changes would be short term and spatially limited to the construction site and areas immediately adjacent that may be impacted by re-suspended bottom sediments. Minor long term water quality benefits are possible from the removal of creosote treated piles which are known to leach toxins (DNR, 2013). However, due to the age of the existing creosote piles, they are likely no longer leaching appreciable amounts of toxic materials.

Construction-related impacts would not increase pollution levels or violate applicable state or federal water quality standards, nor would they reduce the ability of Sinclair Inlet to support its designated uses. BMPs and minimization measures will be implemented to prevent accidental losses or spills of construction debris into Sinclair Inlet. Therefore, no significant impacts to water quality would occur with implementation of the Proposed Action.

## **No Action Alternative**

Under the No Action Alternative, no piles would be removed or driven and impacts to water quality would not occur. The existing creosote treated timber piles would remain in place. While removal of creosote-treated pilings and structures has been a priority in the Puget Sound, the existing piles are likely no longer leaching appreciable amounts of toxic materials. Therefore, no significant impacts to water quality would occur with implementation of the No Action Alternative.

### **3.3 NOISE**

#### **3.3.1 Regulatory Setting**

Washington Administrative Code (WAC) 173-60-040) states that noise levels created by an industrial noise source (Class C) and measured at a residential property (Class A) cannot exceed 60 dBA during daytime and 50 dBA at night. Night is defined as 10:00 PM to 7:00 AM. However, the state noise rules allow these levels to be exceeded for up to 15 dBA for certain brief periods without violating the limits. In addition, certain activities are exempt from these noise limitations:

- Sounds created by motor vehicles on public roads are exempt at all times, except for individual vehicle noise, which must meet noise performance standards set by WAC 173-60-050.
- Sounds created by motor vehicles off public roads, except when such sounds are received in residential areas.
- Sounds originating from temporary construction activities during all hours when received by industrial or commercial zones and during daytime hours when received in residential zones. The WAC does not specify the time duration for temporary construction activities.
- Sounds caused by natural phenomena and unamplified human voices.

The City of Bremerton, and the City of Port Orchard have developed maximum permissible environmental noise levels for receiving properties. The City of Bremerton has exempted noise generated by construction activities, as long as these activities do not occur between the hours of 10:00 p.m. and 7:00 a.m. (WAC Chapter 173-60 and City of Bremerton Code Chapter 6.32 Noise). The City of Port Orchard has exempted noise generated by construction activities, as long as these activities do not occur between the hours of 9:00 p.m. and 7:00 a.m. (Port Orchard Municipal Code 9.24).

#### **3.3.2 Affected Environment**

NAVBASE Kitsap Bremerton is located in an urban setting with marine industrial uses characterized by airborne and underwater noise from truck and automobile traffic; marine vessel traffic; cranes; diesel-powered equipment; railroad traffic; continuously operating transmission lines for steam, water, and fuel; and compressors. The primary concentration of these types of noise sources is along the shore and piers of NAVBASE Kitsap Bremerton. Noise is also generated by commercial vessels (e.g., tugs, barges, and fishing vessels), ferry traffic, and recreational vessels operating on Sinclair Inlet. Noise from the shipyard can be heard throughout areas in the City of Bremerton as well as Port Orchard across Sinclair Inlet.

Cavanaugh and Tocci (1998) identify typical urban residential background sound at around 65 dBA, high-density urban areas at 78 dBA, and urban areas adjacent to freeway traffic at 88 dBA. The closest off-base sensitive receptors are single family residences located north of the base along Gregory Way, approximately 0.5 miles from Pier 4. Forest Ridge Park is located in a residential area west of Callow Avenue, approximately 1.3 miles from Pier 4. Other nearby sensitive receptors include single family residences across Sinclair Inlet in Port Orchard, approximately 1.5 miles away.

### **3.3.3 Environmental Consequences**

For this analysis, the ROI for noise is the industrial waterfront and the immediately adjacent nearshore region of Sinclair Inlet. The threshold of significance for noise impacts would be exceedances of an applicable noise threshold at a sensitive receptor (e.g., residential land uses, nursing homes, hospitals, etc.). Noise impacts to ESA-listed species, EFH, and marine mammals are discussed in Sections 3.4, 3.5 and 3.6, respectively.

#### **Proposed Action**

Noise generated from construction activities associated with the Proposed Action would mainly include vibratory pile removal and vibratory pile installation.

The sounds produced by these activities fall into a non-pulsed sound type. Vibratory pile drivers produce non-pulsed (or continuous) sounds. Non-pulsed sounds (intermittent or continuous) can be tonal, broadband, or both (Southall et al. 2007). Some of these non-pulsed sounds can be transient signals of short duration but without the essential properties of pulses (e.g. rapid rise time) (Southall et al. 2007). Examples of non-pulsed sounds include vessels, aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems (Southall et al. 2007).

Noise impacts due to other construction activities (i.e., cranes, barges, etc.) would not exceed normal background noise levels for day-to-day operations at NAVBASE Kitsap Bremerton.

Potential construction equipment and noise levels are shown in Table 3-1. Using the decibel addition rules in WSDOT (2015), the maximum combined noise level during construction is expected to be 101 dBA at a distance of 50 feet from the activity.

**Table 3-1. Maximum Noise Levels at 50 feet for Common Construction Equipment**

Equipment Type	Maximum Noise Level ( $L_{max}^b$ at 50 feet)
Chain Saw	84
Compressor (air)	78
Crane	81
Generator	81
Impact Pile Driver <sup>a</sup>	110
Pickup Truck	75
Vibratory Pile Driver	101

<sup>a</sup> WSDOT measured data in FHWA's Roadway Construction Noise Mode Database (2005).

<sup>b</sup>  $L_{max}$  is the maximum value of a noise level that occurs during a single event  
Source: WSDOT 2015

Sound generated by a stationary point source typically diminishes (attenuates) at a rate of 6 dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites, and at a rate of 7.5 dBA at acoustically "soft" sites (WSDOT 2015). A "hard" or reflective site is typically asphalt, concrete, open water, or very hard packed soils. An acoustically "soft" or absorptive site is normal earth and most ground with vegetation. Based on the maximum construction noise anticipated and typical noise attenuation of 6 dBA, noise received at the nearest residences 0.5 miles away would be approximately 65 dBA (Table 3-2).

**Table 3-2. Maximum Construction Noise Levels**

Distance from Source (feet)	Construction Noise (dBA)
50	101
100	95
200	89
400	83
800	77
1,600 (0.3 mile)	71
3,200 (0.6 mile)	65
6,400 (1.2 miles)	59

Scuba divers diving in Sinclair Inlet could experience underwater noise levels that could cause a behavioral response including increased breathing and elevated heart rate (154 dB re 1 $\mu$ Pa) (Naval Submarine Medical Research Laboratory 2002) within 40,000 feet of the construction site during pile work but would not receive levels sufficient to cause injury (SPL of 200 dB re 1 $\mu$ Pa). Other recreational users (i.e., boating, kayaking, fishing, etc.) in the vicinity could be exposed to noise levels. The sound levels would not be injurious but could result in a behavioral response such as avoiding the area around the installation. These noise impacts would be experienced by greater numbers of recreational users during the summer months when recreational uses are likely to increase. However, the floating security barrier would prevent recreational and commercial users from getting close enough to the vibratory pile driver to sustain injury from noise levels associated with pile work.

Noise generating activities associated with the Proposed Action would not occur between the hours of 09:00 p.m. and 07:00 a.m. and are therefore exempt from Washington State, City of Bremerton and City of Port Orchard noise codes.

Additionally, the Proposed Action would be a temporary action occurring during an approximate four week work period. No significant impacts to noise would occur with implementation of the Proposed Action.

### **No Action Alternative**

Under this alternative, no pile work would take place, thus no change to noise levels would occur. As such, no significant impacts from noise would occur with implementation of the No Action Alternative.

## **3.4 ENDANGERED SPECIES ACT LISTED SPECIES**

### **3.4.1 Regulatory Setting**

The Endangered Species Act (ESA) of 1973, as amended, requires that an action authorized by a federal agency not jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. Section 7 of the Act requires that the responsible federal agency consult with United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) concerning endangered and threatened species under their jurisdiction.

### **3.4.2 Affected Environment**

There are nine species that have been listed as threatened or endangered under the Endangered Species Act (ESA) that could occur near NAVBASE Kitsap Bremerton (Table 3-3). Critical habitat has been designated for several of the ESA-listed species that occur in the Puget Sound, but no critical habitat occurs at NAVBASE Kitsap Bremerton where the Proposed Action would take place. For more detail on the life history, critical habitat, and distribution of ESA-listed species please refer to the Biological Evaluation (BE) in Appendix B.

The majority (77 percent) of ESA-listed Chinook salmon found in Sinclair Inlet are estimated to be of hatchery origin from facilities in Gorst Creek (Fresh, et al. 2006). Ten percent are estimated to have naturally spawned in Sinclair Inlet area streams, with the remainder coming from other hatchery populations (Fresh, et al. 2006). There are no historic populations of Chinook salmon in streams draining into Sinclair Inlet.

ESA-listed Puget Sound steelhead can also be found in Sinclair Inlet including the project area (Fresh, et al. 2006). ESA-listed bull trout do not utilize any of the East Kitsap drainages due to a lack of suitable spawning habitat. Bull trout use of the project area would be on an incidental basis. However, anadromous forms of bull trout could overwinter or forage in Sinclair Inlet and thus be found rarely in the project area (University of Washington, 2002).

Pier 4 at NAVBASE Kitsap Bremerton lacks the deep water habitat preferred by mature bocaccio, canary rockfish and yelloweye rockfish, so no adult rockfish are anticipated to be in the immediate project area (Drake, et al. 2008). Larval rockfish are pelagic and can be found in Sinclair Inlet, but the industrial conditions at Pier 4 limit the likelihood of

this (Drake, et al. 2008). Juvenile rockfish have the potential to occur near pier side locations, if their preferred, high relief or kelp bed habitat is nearby, but kelp does not occur at NAVBASE Kitsap at Bremerton.

**Table 3-3. Endangered Species Act Listed Species**

<b>Species</b>	<b>ESA-Listed Status</b>	<b>Critical Habitat Designated</b>	<b>Occurrence in Sinclair Inlet</b>
Chinook salmon <i>Oncorhynchus tshawytscha</i> Puget Sound ESU	Threatened	Yes	Juveniles - May to Jul; Adults - Jul to Oct
Marbled murrelet <i>Brachyramphus marmoratus</i> California-Oregon-Washington	Threatened	Yes	Rare
Steelhead trout <i>Oncorhynchus mykiss</i> Puget Sound DPS	Threatened	No	Year-round
Bull Trout <i>Salvelinus confluentus</i> All U.S. stocks	Threatened	Yes	Rare adults and subadults – March to July
Bocaccio <i>Sebastes paucispinis</i> Puget Sound/Georgia Basin DPS	Endangered	No	Year-round
Canary rockfish <i>Sebastes pinniger</i> Puget Sound/Georgia Basin DPS	Threatened	No	Year-round
Yelloweye rockfish <i>Sebastes ruberrimus</i> Puget Sound/Georgia Basin DPS	Threatened	No	Year-round
Killer Whale <i>Orcinus orca</i> Eastern North Pacific Southern Resident/DPS	Endangered	Yes	Rare
Humpback Whale <i>Megaptera novaeangliae</i> California-Oregon-Washington stock	Endangered	No	Rare

ESA-listed marine mammals with the potential to occur in the waters surrounding NAVBASE Kitsap Bremerton include southern resident killer whale, and humpback whale. Southern resident killer whales occasionally move into rarely visited areas and inlets, probably in response to locally abundant food sources. In 1997, southern residents moved into Dyes Inlet near Bremerton and spent nearly a month feeding on a salmon run (Wiles 2004). Humpback whales were common in inland Washington State

waters in the early 1900s; however, there have only been a few sightings in this area since the whales were heavily hunted in the eastern North Pacific (Scheffer and Slipp 1948; Calambokidis and Steiger 1990; Pinnell and Sandilands 2004). While the two ESA-listed marine mammals have the potential to occur in Sinclair Inlet, confirmed sightings have been very rare over the past twenty years.

Marbled murrelets occur in Puget Sound marine habitats in relatively low numbers (Speich and Wahl 1995). The Navy has partnered with WDFW to conduct marbled murrelet surveys surrounding Navy installations including NAVBASE Kitsap Bremerton. WDFW's 2012-2014 marbled murrelet surveys of Sinclair Inlet have shown no presence of the species around NAVBASE Kitsap Bremerton or the surrounding waterways (Pearson, 2013). Although old-growth forest is the preferred habitat for nesting, marbled murrelets are known to nest in mature second growth forest with trees as young as 80 years old (Hamer and Nelson, 1995). The majority of Kitsap County, including NAVBASE Kitsap Bremerton and the area surrounding Sinclair Inlet, has been logged several times over the past 150 years and no longer contains old growth forest or the large trees necessary for marbled murrelet nesting. The closest documented habitat is on the west side of the Hood Canal in the Olympic National Forest (61 Federal Register 26256). The project area is in an industrial shipyard, miles from known nesting habitat and where high activity and noise levels limit any potential for foraging. While marbled murrelets can be seen in the South Puget Sound foraging, they have not been identified in the industrial waters surrounding NAVBASE Kitsap Bremerton (Pearson 2013).

### **3.4.3 Environmental Consequences**

Impacts to ESA-listed species would be considered significant if there was a loss of critical habitat or an adverse effect to a population, stock, species, or evolutionary significant unit of ESA-listed species.

#### **Proposed Action**

Individual ESA-listed fish may be exposed to impacts from pile replacement including sound pressure levels which may result in injury or behavioral disturbance depending on the distance of the fish to sound source. Fish that occur in the immediate vicinity of the project site would be exposed to underwater noise and behavioral disturbance may occur. Sound pressure levels from vibratory pile removal would not exceed the injury thresholds for fish.

Any exposures would likely have a minor and temporary impact on individuals and are not expected to result in population level impacts. Adherence to minimization measures and best management practices would likely avoid most potential adverse impacts to fish from vibratory pile driving. Nevertheless, some level of impact is unavoidable. To minimize the number of fish exposed to underwater noise and other construction disturbance, in-water work would be performed between July 16 and February 15, when juvenile salmon are less likely to be migrating through the construction area. This in-water work window is consistent with work restrictions imposed by the USACE under their nationwide permitting requirements and National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) under the ESA consultation (refer to Appendix B). Any modifications to this window would require additional consultation with the USACE, NMFS, and USFWS.

Impacts to ESA-listed fish from changes in water quality as a result of pile driving operations are expected to be minor and temporary. DO levels are not expected to drop to levels that would result in harm to fish species. Some degree of localized, short-term increase in turbidity is expected to occur during installation and removal of the piles, but would not affect overall conditions in the area. Fish species are expected to avoid areas with elevated suspended sediments or experience minor behavioral effects due to changes in turbidity. Though some sediment at the project location is listed as contaminated, re-suspension of contaminants from sediments are not expected to rise to levels that would cause toxicity in fish present. The numbers of fish exposed to underwater noise above injury and behavioral disturbance thresholds, and resulting in a take, is expected to be negligible because:

- The activity would occur when few juvenile Chinook salmon and steelhead are present;
- Migrating adult salmon do not orient to nearshore areas like juveniles of some species and are unlikely to be close enough to the piles for injurious effects to occur;
- Steelhead do not use nearshore habitat in the project area;
- There are very few juvenile or larval yelloweye rockfish, canary rockfish, and bocaccio anywhere at any time;
- Bull trout are unlikely to be in the project area; and
- The project area is a very small proportion of the total area occupied by the listed fish.

Given these considerations, the Navy expects very small numbers of ESA-listed fish species to be present during the in-water work window and fewer of those to be exposed to sound levels that would elicit adverse behavioral or physical responses. The Navy has determined that the Proposed Action 'may affect, not likely to adversely affect' Chinook salmon, steelhead, yelloweye rockfish, canary rockfish, bull trout, and bocaccio.

ESA-listed marine mammals (humpback whales, and killer whales) are not frequent visitors to Sinclair Inlet and even less likely to occur within the industrial confines of the shipyard surrounding the project area. The high level of existing background noise (underwater and airborne) combined with the high level of marine activity limits the attractiveness of NAVBASE Kitsap Bremerton for marine mammals.

To minimize impacts to marine mammals, including ESA-listed marine mammals, the Navy would develop and implement a Marine Mammal Monitoring Plan. Implementation of this Plan would prevent exposure to potentially injurious noise levels. In accordance with the Plan, monitoring would occur within a 10-meter shutdown zone for purposes of avoiding injurious effects. Marine mammal monitoring would take place from 15 minutes prior to initiation through 15 minutes post-completion of vibratory pile work. Should a marine mammal enter the shutdown zone, vibratory pile work would be immediately halted until the marine mammal has left the area. The 10-meter shutdown zone can be easily monitored by a trained observer from pier side or stationed on the pile driving

barge and will prevent injury to any marine mammals in the unlikely event they are in the area. A larger disturbance zone (> 2,000 meters from pile driving activity) would be patrolled by a trained observer in a boat during all pile work. If a cetacean (e.g. humpback or killer whale) approaches or enters the disturbance zone during pile driving, work would be halted until either the animal has voluntarily left and been visually confirmed beyond the disturbance zone or 15 minutes have passed without re-detection of the animal. Marine mammal behavior would be monitored and documented during all pile work associated with the Proposed Action.

Additionally, a soft-start procedure would be implemented at the beginning each of vibratory pile driving session. The soft-start procedure provides a warning and/or gives animals in close proximity to pile driving a chance to leave the area prior to operating at full capacity, thereby exposing fewer animals to loud underwater and airborne sounds.

With implementation of the Marine Mammal Monitoring Plan, the Navy has determined that the Proposed Action “may affect, but is not likely to adversely affect” killer whales and has no effect on humpback whales.

Underwater and airborne sound levels from vibratory pile work have the potential to harass marbled murrelets foraging and resting in the project area. Nearshore waters in the vicinity are highly industrial, but may provide foraging habitat and prey species. The presence of construction workers, cranes, vessels (i.e. tugs, barges, small monitoring boats, etc.), pile equipment, and associated activities would create visual disturbances for marbled murrelets attempting to forage or rest in surrounding waters. Exposure to underwater sounds from pile replacement could cause behavioral disturbance, but would not be anticipated to result in injury or mortality.

The low chance of encountering marbled murrelets in the project area would limit the exposure of marbled murrelets to any sound pressure levels above the behavioral guidance criterion. No critical habitat for the marbled murrelet is located within the project area; therefore pile replacement activities will not affect critical habitat for the species. As such, the Navy has determined the Proposed Action ‘may affect, not likely to adversely affect’ marbled murrelets.

The Navy has completed informal consultations under the ESA with the USFWS and NMFS. In concurrence letters dated March 31, 2015, USFWS and NMFS concurred with the Navy’s findings of ‘may effect, not likely to adversely affect’ for the species discussed above. Detailed analysis can be found in the BE (See Appendix B).

The Proposed Action may have impacts to individual species, but any impacts observed at the population, stock, species, or evolutionary significant unit level would be negligible. Therefore, under NEPA, there would be no significant impact to ESA-listed species or critical habitat from the Proposed Action with implementation of the minimization measures and best management practices.

### **No Action Alternative**

Under this alternative, no piles would be removed or driven, thus there would be no change to ESA-listed species. As such, no significant impacts to ESA-listed species would occur with implementation of the No Action Alternative.

## **3.5 ESSENTIAL FISH HABITAT**

### **3.5.1 Regulatory Setting**

The Magnuson-Stevens Fishery Conservation and Management Act provides for the conservation and management of the fisheries and other purposes, including a requirement to designate essential fish habitat (EFH).

### **3.5.2 Affected Environment**

The Pacific Fishery Management Council designated EFH in Puget Sound for the Pacific salmon fishery as “riverine, estuarine, and marine areas used by life stages of managed salmon species and riverine areas found within watersheds of documented occurrence”. The Pacific salmon management unit includes Chinook, coho, and pink salmon. All three species use the marine nearshore environment for rearing as juveniles and migration for both adults and juveniles. The EFH designation for the Pacific salmon fishery in estuarine and marine environments in the state of Washington extends from nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone (200 nautical miles) offshore (PFMC 2003).

Pacific Fishery Management Council also manages a fishery in Puget Sound for all types of Pacific groundfish. Broad swaths of EFH have been designated for this fishery, and include, but are not limited to, sea mounts, eelgrass, kelp, estuaries and rocky reefs. In addition to salmonids and groundfish, the Pacific Fishery Management Council manages coastal pelagic species that occur in Puget Sound including, krill, northern anchovy, mackerels, Pacific sardine, and market squid.

While EFH for the above species does exist in Sinclair Inlet, the industrial nature of NAVBASE Kitsap Bremerton minimizes the quality of this habitat in the area surrounding Pier 4.

### **3.5.3 Environmental Consequences**

Impacts to EFH would be considered significant if there was a loss of high value habitat or a finding of adverse effect issued by NMFS that cannot be adequately avoided, minimized, or otherwise offset by conservation measures.

### **Proposed Action**

The action area includes habitats for various life stages of three species of Pacific salmon, groundfish, and five coastal pelagic species. The Proposed Action would result in a short-term increase in underwater sound-pressure levels. The Proposed Action would not result in excessive levels of organic materials, inorganic nutrients or heat, would not alter physical conditions that could adversely affect water temperature or beach contours, would not remove large woody debris, or other natural beach complexity features, nor would it affect any vegetated shallows. The Navy determined that the Proposed Action would adversely affect EFH for Pacific salmon, groundfish, and coast pelagic species if no protection measures were implemented. However, with implementation of protection measures detailed in Section 2.4 to include limiting work to the in-water work window, the Proposed Action would have no affect to EFH and NMFS determined that consultation under the Magnuson-Stevens Fisheries Conservation and Management Act is not required. Detailed analysis can be found in the BE (See

Appendix B). Therefore, the Proposed Action will not significantly affect EFH for Pacific salmon, groundfish, and coast pelagic species.

### **No Action Alternative**

Under this alternative, no piles would be removed or driven, thus there would be no change to EFH. As such, no significant impacts to EFH would occur with implementation of the No Action Alternative.

## **3.6 MARINE MAMMALS**

### **3.6.1 Regulatory Setting**

The Marine Mammal Protection Act (MMPA) of 1972, as amended, established a federal responsibility to conserve marine mammals. Subject to limited exceptions, MMPA protects marine mammals by prohibiting unauthorized "taking" of marine mammals in the United States or on the high seas unless exempted or authorized by NMFS. "Taking" is defined by NDAA 2004 as "to harass, hunt, capture, or kill or attempt to harass, hunt capture or kill any marine mammal." Permission may be granted to "take" marine mammal(s) incidental to Navy activities if NMFS determines the Navy action will: (1) have a negligible impact on the species or stock(s) so the taking is not likely to reduce annual rates of adult survival or annual recruitment; and (2) the activity affects "small numbers" of species or stock so the taking will be small relative to the estimated population size and relevant to the behavioral, physiological, and life history characteristics of the species.

### **3.6.2 Affected Environment**

Marine mammal species that may occur in Sinclair Inlet are listed in Table 3-4. Two of these species are federally listed under the ESA as discussed above. For more detail on the life history, critical habitat, and distribution of ESA-listed species please refer to the BE in Appendix B.

Any of the species listed in Table 3-4 have the potential to occur within Puget Sound. However, the species most likely to be encountered are non ESA-listed harbor seals and California sea lions. Monthly observations indicate that the California sea lion is the animal most abundantly hauled out in the immediate vicinity of the installation (Mollerstuen personal communication, 2012). Harbor seal pupping occurs from late June through September in this area of the Puget Sound (NOAA and WDFW, 2009). The submarines at NAVBASE Kitsap Bremerton are not used as a haul out by marine mammals. The preferred haul out locations for these species in the vicinity of the project are the pontoons associated with the floating security barrier that runs from Mooring E to Pier 7 (Figure 1-2). Sea lions hauled out on the barrier have become accustomed to frequent noise from the industrial waterfront of NAVBASE Kitsap Bremerton. Observations from previous pile driving projects have shown no behavioral impacts to sea lions hauled out on the security barrier (Mollerstuen personal communication, 2012). Humpback whales, Minke whales, gray whales, Pacific white sided dolphins, harbor porpoises, Dall's porpoises, and northern elephant seals are extremely unlikely to be in the project area and are included in Table 3-4 for informational purposes only. For more information on marine mammals, refer to the application for an IHA in Appendix C.

**Table 3-4. Sinclair Inlet Marine Mammals Protected Under the MMPA**

Species	Stock(s)	ESA Status
Humpback Whale ( <i>Megaptera novaeangliae</i> )	California-Oregon-Washington stock	Endangered
Minke Whale ( <i>Balaenoptera acutorostrata</i> )	California-Oregon-Washington stock	None
Gray Whale ( <i>Eschrichtius robustus</i> )	Eastern North Pacific stock	None
Killer Whale ( <i>Orcinus orca</i> )	(1) West Coast transient stock (2) Eastern North Pacific Southern Resident/DPS	(1) Not listed (2) Endangered
Pacific white-sided dolphin ( <i>Lagenorhynchus obliquidens</i> )	California-Oregon-Washington, Northern and Southern stock	None
Harbor Porpoise ( <i>Phocoena phocoena</i> )	Washington inland waters stock	None
Dall's Porpoise ( <i>Phocoenoides dalli</i> )	California-Oregon-Washington stock	None
Steller Sea Lion ( <i>Eumetopias jubatus</i> )	Eastern U.S. stock/DPS	None
California Sea Lion ( <i>Zalophus californianus</i> )	U.S. stock	None
Northern Elephant Seal ( <i>Mirounga angustirostris</i> )	California breeding stock	None
Harbor Seal ( <i>Phoca vitulina</i> )	Washington inland waters stock	None

### **3.6.3 Environmental Consequences**

Impacts to marine mammals would be considered significant if there was a loss of high value habitat and/or physical injury would result from the Proposed Action.

#### **Proposed Action**

Non ESA-listed marine mammals would experience similar impacts as described in Section 3.4.2 for killer whales and humpback whales. Individual marine mammals may be exposed to sound pressure levels during vibratory pile driving operations, which may result in Level B behavioral harassment (defined by the MMPA as potential behavioral disruption). Any marine mammals that are exposed (harassed) may change their normal behavior patterns (i.e., swimming speed, foraging habits, etc.) or be temporarily displaced from the area of construction. Any exposures will likely have only a minor effect on individuals and no effect on the population. The sound generated from vibratory pile driving is non-pulsed (e.g., continuous), which is not known to cause injury to marine mammals. The Navy does not anticipate Level A harassment (defined by the MMPA as potential to injure) because vibratory pile driving used for pile extraction and installation has a relatively low source level (less than 190 dB), and pile driving would be halted if a marine mammal is within the injury zone.

The exposure assessment methodology in the IHA Application (Appendix C) provides estimates for the numbers of individuals that may be exposed to the effects that exceed NMFS established thresholds. The calculated acoustic impact numbers should be regarded as conservative overestimates that are strongly influenced by limited marine mammal population data. To reduce the number of animals affected, the Navy will implement BMPs and mitigation measures (i.e. monitoring, soft-starts, shutdown zones, review of the Orca Network website for whale sightings in the area) in accordance with the IHA issued for the project (Appendix C).

To minimize impacts to marine mammals, including ESA-listed marine mammals, the Navy would develop and implement a Marine Mammal Monitoring Plan as described in Section 3.4.2. Implementation of this Plan would prevent exposure to potentially injurious noise levels.

Additionally, a soft-start procedure would be implemented at the beginning each of vibratory pile driving session. The soft-start procedure provides a warning and/or gives animals in close proximity to pile driving a chance to leave the area prior to operating at full capacity, thereby exposing fewer animals to loud underwater and airborne sounds.

The Navy has applied for an Incidental Harassment Authorization (IHA) from NMFS (see Appendix C).

The analysis presented above indicates that activities associated with the Proposed Action at NAVBASE Kitsap Bremerton may impact the behavior of individual marine mammals, but any impacts observed at the population, stock, or species level would be negligible. With implementation of the Marine Mammal Monitoring Plan and compliance with all conditions in the IHA, there would be no impacts to high value habitat or physical injuries to marine mammals from the Proposed Action. Therefore, no significant impacts to marine mammals would occur with implementation of the Proposed Action.

## **No Action Alternative**

Under this alternative, no piles would be removed or driven, thus there would be no change to marine mammals. Therefore, no significant impacts to marine mammal populations would occur with implementation of the No Action Alternative.

## **3.7 CULTURAL RESOURCES**

### **3.7.1 Regulatory Setting**

The National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties and to designate a qualified federal preservation officer to coordinate agency activities under this Act. Federal agencies must afford the Advisory Council on Historic Preservation an opportunity to comment whenever agency undertakings may affect historic properties or resources eligible for listing on the National Register (refer to 36 CFR 800), and, to the maximum extent possible, undertake planning and actions necessary to minimize harm to national historic landmarks.

Architectural resources generally must be more than 50 years old to be considered under the NHPA. However, more recent properties, such as Cold War era buildings less than 50 years of age, may warrant protection if they are “exceptionally important.” To be considered as an historic property, architectural resources must meet one or more criteria as defined in 36 CFR 60.4, National Register of Historic Places, Criteria for Evaluation, for inclusion on the National Register of Historic Places (NRHP). These criteria include association with an important event, association with a famous person, properties that embody the distinctive characteristics of a type, period, or method of construction, or that have yielded, or may be likely to yield information important in prehistory or history on the local, state, or national level. Resources must also possess integrity (i.e., their important historic features must still be present and recognizable). Additionally, the primary NRHP criteria consideration for properties less than 50 years of age is Criteria Consideration G: properties that have achieved exceptional significance within the past 50 years.

The area of potential effect (APE) for cultural resources is the geographic area or areas within which an undertaking (project, activity, program or practice) may cause changes in the character or use of any historic properties present. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking. For this proposed action, the Navy determined that the APE is the footprint of Pier 4.

### **3.7.2 Affected Environment**

Areas regarded as having a potential for archaeological sites at NAVBASE Kitsap Bremerton are along the original shoreline and upland areas. No known archaeological sites occur within the project area (Lewarch et. al, 2000). The proposed construction site is in a highly disturbed area where dredging, armoring, and general construction has been occurring for over 100 years.

Four National Register of Historic Properties (NRHP) Historic Districts and one National Historic Landmark (NHL) have been designated at NAVBASE Kitsap Bremerton: Officers Row; Puget Sound Radio Station District; Marine Reservation District; Naval

Hospital; and the Puget Sound Naval Shipyard NHL. The NHL is historically significant for its association with World War II (Thompson 1990). The shipyard was the principal repair establishment for battle-damaged battleships and aircraft carriers as well as smaller warships of the Pacific Fleet during World War II. Five of the eight battleships bombed at Pearl Harbor on December 7, 1941, were repaired at the shipyard and returned to sea. During the war, the Navy yard repaired 26 battleships (some more than once), 18 aircraft carriers, 13 cruisers, and 79 destroyers. In addition, 50 ships were built or fitted out at the yard during the war. More than 30,000 shipyard workers built, fitted out, repaired, over-hauled or modernized 394 fighting ships between 1941 and 1945. The shipyard's contribution to the success of the Pacific Fleet from the first to the last day of the war was inestimable.

Puget Sound Naval Shipyard shares with Mare Island Naval Shipyard the distinction of epitomizing the rise of the United States to world power in the Pacific and thus on two oceans. While Mare Island was the Navy's first permanent installation on the Pacific coast, Puget Sound became the focus of attention because it was the only west coast yard capable of repairing modern battleships, which emerged as the symbol and reality of U.S. naval power. Pier 4 is a contributing element to the NHL.

### **3.7.3 Environmental Consequences**

Impacts to cultural resources would be considered significant if the Proposed Action resulted in adverse effects to NRHP-eligible resources that could not be mitigated or reduced through a Memorandum of Agreement with the State Historic Preservation Office (SHPO).

#### **Proposed Action**

Implementation of the Proposed Action would not affect any known NRHP-eligible archaeological sites. Construction activities would take place in previously disturbed underwater areas. Although there are no known or expected underwater cultural resources, if there was an "inadvertent discovery" of archaeological resources, the Navy would evaluate the eligibility and effects to the discovered resources through consultation with the SHPO, the Suquamish Tribe and other interested parties in accordance with federal regulations and Navy policy. Similarly, if American Indian human remains, funerary items, sacred objects, or items of cultural patrimony are encountered, the Navy would comply with the Native American Graves and Repatriation Act.

The replacement of existing piles will have no impact to the characteristics that make Pier 4, the NHL or nearby historic districts eligible for inclusion in the NRHP. The Navy has determined that the Proposed Action would have no adverse effect on historic resources. Consultation with SHPO is completed. In a letter dated April 8, 2015, SHPO concurred with the APE and the determination that the Proposed Action would not have an adverse effect on Pier 4 or the NHL (Appendix D). No significant impacts to cultural resources would occur with implementation of the Proposed Action.

## **No Action Alternative**

Under this alternative, no piles would be removed or driven, thus there would be no change to Pier 4. As such, no significant impacts to cultural resources would occur with implementation of the No Action Alternative.

## **3.8 AMERICAN INDIAN TRADITIONAL RESOURCES**

### **3.8.1 Regulatory Setting**

As required by EO 13175, *Consultation and Coordination with Indian Tribal Governments*, the Navy has implemented a policy for consultation with federally recognized Indian Tribes, on actions with the potential to significantly impact protected tribal resources, tribal rights, or Indian lands. This policy, included in Secretary of the Navy Instruction 11010.14A and Commander, Navy Region Northwest Instruction 11010.14, describes the Navy's process and responsibilities during consultation. The Suquamish Tribe has adjudicated tribal treaty rights in Sinclair Inlet that include the project area.

### **3.8.2 Affected Environment**

The Suquamish Tribe has Usual and Accustomed grounds and stations in the project area. The Suquamish Tribe harvests a variety of fish throughout Sinclair Inlet which continues to be a culturally and economically important area for the Tribe. However, the Suquamish Tribe does not fish within the Sinclair Inlet Naval Restricted Area No.2 and shellfish harvesting is prohibited throughout Sinclair Inlet due to pollutant levels.

### **3.8.3 Environmental Consequences**

Impacts to Native American resources would be considered significant if there was a loss of access to exercise tribal treaty rights secured under treaties or a substantial reduction or degradation of harvestable marine resources.

## **Proposed Action**

The Navy initiated Government-to-Government consultation with the Suquamish Tribe in February 2015 and concluded consultation in **Month 2015**. Tribal concerns were identified and addressed during these consultations. The Proposed Action would not alter access to, or use of, tribal traditional resources. Access for fishing is currently not allowed inside the Restricted Area that surrounds Pier 4. This restriction would remain unchanged. The Proposed Action would not appreciably impact the quantities of fish available for harvest by the Suquamish Tribe in Sinclair Inlet, nor would it restrict access to existing traditional harvest areas in Sinclair Inlet. As such, no significant impacts to American Indian traditional resources would occur with implementation of the Proposed Action.

## **No Action Alternative**

Under this alternative, no piles would be removed or driven, thus there would be no change to American Indian traditional resources. As such, no significant impacts to American Indian traditional resources would occur with implementation of the No Action Alternative.

**Table 3-5. Summary of Potential Environmental Consequences by Resource**

<b>Section / Resource Area</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
<b>Sediments</b>	Some degree of localized changes in sediment composition would occur during construction. Impacts from sediment resuspension would be minor and localized in the area of pile removal and pile installation. Weak, stable tide currents in the project area would allow any disturbed sediments to resettle in the general area of pile removal/installation. Project-related construction activities would not create sediment contamination concentrations or physical changes that violate state standards. Therefore, there would be no significant impact to sediments.	Under this alternative, no piles would be removed or driven, thus there would be no impacts to sediments due to the No Action Alternative.
<b>Water Quality</b>	Direct discharges of waste would not occur. Construction-related turbidity impacts would be limited to short-term and localized changes associated with re-suspension of bottom sediments. These changes would be spatially limited to the construction site and areas immediately adjacent that may be impacted by re-suspended bottom sediments. Temporary impacts would not violate applicable state or federal water quality standards. BMPs and minimization measures would be implemented to prevent accidental losses or spills of construction debris. Therefore, no significant impacts to water quality are expected.	Under this alternative, no piles would be removed or driven, thus there would be no significant impacts to water quality due to the No Action Alternative.
<b>Noise</b>	Bremerton, Port Orchard, and Washington state exempt temporary construction noise from 7:00 a.m. to 10:00 p.m. (7:00 a.m. to 9:00 p.m. for Port Orchard) from exceeding maximum permissible environmental noise levels. Based on construction timing (not occurring between 9:00 p.m. and 7:00 a.m.), the limited duration of impact pile driving and the distance between the noise source and the receptors, noise levels are expected to attenuate to the residential thresholds, or be within the allowable exceedances of temporary daytime construction. Therefore, no significant impacts to the existing sound environment would result from the Proposed Action.	Under this alternative, no piles would be removed or driven, thus there would be no significant impact from noise.
<b>ESA-Listed Species</b>	With implementation of the protection measures including limiting work to the in-water work windows, and implementing monitoring protocols for marine mammals, the Proposed Action would not result in significant impacts to ESA-listed species.	Under this alternative, no piles would be removed or driven, thus there would be no significant impacts to ESA-listed species due to the No Action Alternative.

**Table 3-5. Summary of Potential Environmental Consequences by Resource**

<b>Section / Resource Area</b>	<b>Proposed Action</b>	<b>No Action Alternative</b>
<b>Essential Fish Habitat</b>	The action would result in a short-term increase in underwater sound-pressure levels. The action would not result in physical alterations that could adversely affect water temperature or beach contours, would not remove large woody debris, or other natural beach complexity features, nor would it affect any vegetated shallows. Therefore, there would be no significant impacts to EFH.	Under this alternative, no piles would be removed or driven, thus there would be no significant impacts to EFH due to the No Action Alternative.
<b>Marine Mammals</b>	Construction activities may impact the behavior of individual marine mammals, but any impacts observed at the population, stock, or species level would be negligible. Shutdown zones and marine mammal monitoring would reduce potential impacts. Therefore, there would be no significant impact to marine mammals.	Under this alternative, no piles would be removed or driven, thus there would be no significant impacts to marine mammals resources due to the No Action Alternative.
<b>Cultural Resources</b>	The replacement of existing piles would have no impact to the historic districts or national landmark or affect any known NRHP-eligible archaeological sites. Construction activities would take place in previously disturbed areas at Pier 4. In the unlikely event historic properties or cultural materials such as archaeological deposits or human remains are encountered during construction, the Navy will initiate consultation with the SHPO and affected tribes, as appropriate. The Navy has determined that the Proposed Action would have no adverse effect to cultural resources and therefore will result in no significant impact.	Under this alternative, no piles would be removed or driven, thus there would be no significant impacts to cultural resources due to the No Action Alternative.
<b>American Indian Traditional Resources</b>	The Proposed Action would not appreciably impact the quantities of fish available for harvest by the Suquamish Tribe in the Sinclair Inlet, nor would it restrict access to existing traditional harvest areas in the Sinclair Inlet. As such, no significant impacts to American Indian traditional resources would occur with implementation of the Proposed Action.	Under this alternative, no piles would be removed or driven, thus there would be no significant impacts to American Indian traditional resources due to the No Action Alternative.

## 4 CUMULATIVE IMPACTS

CEQ regulations implementing the procedural provisions of NEPA define cumulative impacts as:

*“...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (40 CFR 1508.7).*

Each resource, ecosystem, and human community must be analyzed in terms of its ability to accommodate additional effects, based on its own time and space parameters. Therefore, cumulative effects analysis normally will encompass a ROI or geographic boundaries beyond the immediate area of the Proposed Action, and a time frame including past actions and foreseeable future actions, to capture these additional effects.

For the Proposed Action to have a cumulatively significant impact to an environmental resource, two conditions must be met. First, the combined effects of all identified past, present, and reasonably foreseeable projects, activities, and processes on a resource, including the effects of the Proposed Action, must be significant. Second, the Proposed Action must make an appreciable contribution to that significant cumulative impact. In order to analyze cumulative effects, a cumulative effects region must be identified for which effects of the Proposed Action and other past, present, and reasonably foreseeable actions would occur.

### 4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

This analysis depends on the availability of data and the relevance of effects of past, present, and future actions. Although certain data (e.g., extent of forest cover) may be available for extensive periods in the past (i.e., decades), other data (e.g., water quality) may be available for much shorter periods. Because specific information and data on past projects and action are usually scarce, the analysis of past effects is often qualitative (CEQ 1997).

Table 4-1 provides the past, present, and reasonably foreseeable future actions within the ROI that have had, continue to have, or would be expected to have some impact to the natural and human environment. The projects in this list are limited to those implemented in the last 5 years or those with ongoing contributions to environmental effects. Projects with measureable contributions to impacts within the ROI for a resource area were included in the cumulative analysis.

**Table 4-1. Past, Present, and Reasonably Foreseeable Future Projects at NAVBASE Kitsap Bremerton and the ROI**

<i>Project</i>	<i>Project Description</i>	<i>Project Timeframe</i>		
		<i>Past</i>	<i>Present</i>	<i>Future</i>
Dredging	Dredging for navigational and CERCLA purposes included over 368,000 cubic yards of material from 13 berthing areas and from the inner channel south of the installation in Sinclair Inlet.	X		
Security Barriers	This project installed a floating security barrier from Pier 8 to Mooring E.. A proposed extension would connect it to the shore at the eastern edge of the installation	X		X
Piers Pile Replacement	In 2011, 70 creosote treated timber piles at Piers 5 and 6 were replaced with concrete piles.	X		
Pier 6 Pile Replacement	In 2014/2015, 400 creosote treated timber piles and steel piles are being replaced with concrete piles. Work is expected to be completed in the fall/early winter of 2015/2016.	X	X	X
Manette Bridge Replacement	In 2011, Washington Departments of Transportation completed the replacement of the Manette Bridge, crossing the nearby Washington Narrows. This included the demolition of existing in-water structures and the construction of a new in-water foundation for the bridge.	X		
Pier B Construction	In 2012, the Navy completed construction of the aircraft carrier Maintenance Wharf, replacing the existing Pier B. The new concrete pile supported pier (165,000 ft <sup>2</sup> ) was constructed to support vessel overhaul and maintenance.	X		
Pier B Mitigation	As mitigation for construction of Pier B, Pier 8 on the east side of the installations was demolished. Additional mitigation funding was set aside for the restoration of 0.8 acres of intertidal habitat, as well as restoration efforts on Chico Creek including fish passage improvement and the purchase/preservation of two properties.	X	X	
Port Orchard Boat Launch	In 2013, the City of Port Orchard installed a new floating pier with steel piles at the public boat launch in Port Orchard.	X		
Bremerton Ferry Terminal Maintenance	In 2014, Washington Department of Transportation started removal of 112 creosote treated piles and installation of 20 steel piles in support of the Bremerton Ferry Terminal.		X	

**Table 4-1. Past, Present, and Reasonably Foreseeable Future Projects at NAVBASE Kitsap Bremerton and the ROI**

<i>Project</i>	<i>Project Description</i>	<i>Project Timeframe</i>		
		<i>Past</i>	<i>Present</i>	<i>Future</i>
Northwest Training and Range Complex (NWTRC) and Northwest Training and Testing (NWTT)	The Navy's Proposed Action is to conduct training and testing activities primarily within existing range complexes, operating areas, testing ranges and select Navy pier side locations in the Pacific Northwest. The Proposed Action includes pier side sonar testing conducted as part of overhaul, modernization, maintenance and repair activities at Puget Sound Naval Shipyard in Bremerton, NAVBASE Kitsap Bangor and Naval Station Everett. The NWTT EIS/OEIS will reassess the environmental analyses of Navy at-sea training and testing activities contained in the EISs/OEISs for NWTRC and Keyport Range and various environmental planning documents, and consolidate these analyses into a single environmental planning document.	X	X	X

**4.2 ASSESSMENT OF CUMULATIVE IMPACTS BY RESOURCE**

The projects contributing to cumulative impacts for all relevant resources are evaluated in detail below.

**4.2.1 Sediment**

The ROI for examining cumulative impacts to sediment quality is Sinclair Inlet. Past, present, and future actions involving in-water construction near NAVBASE Kitsap Bremerton have caused and continue to cause short-term disturbances to sediments. Previous sediment contamination has occurred from historic Navy operations resulting in high levels of polychlorinated biphenyl and metals (USEPA, 2000). A Record of Decision (ROD) is in place for managing these sediments which are not expected to worsen or spread due to ongoing installation operations (USEPA, 2000). Disturbed sediment from pile driving or vessel movements can create plumes of turbid water that carry fine-grained material down current from the disturbed area. This disturbance has increased as the installation has grown as many of the in-water projects including the construction of piers marinas, boat ramps, and Navy piers. Vessels that operate in these areas have the potential to disturb sediments from their propeller wash. The cumulative impact of sediment movement from in-water construction or propeller wash has been inconsequential compared to the movement of sediment by tides and currents. Pre-construction and post-construction sediment sampling of similar projects at NAVBASE Kitsap Bremerton have demonstrated that pile driving does not adversely impact the Navy's sediment cleanup actions under the 2000 ROD. In combination with the past, present, and foreseeable future projects, implementing the Proposed Action would not have a significant cumulative impact to sediments.

#### **4.2.2 Water Quality**

Water quality in Puget Sound has been and is being impacted by past and present in-water actions and would potentially be impacted by future actions. Specific actions include: 1) incidental spills; 2) sediment disturbance and turbidity; 3) toxin leakage attributable to use over time of materials such as treated wood pilings; 4) stormwater runoff; and 5) nutrient and pollutant loading from septic systems or development.

Most of the future actions would have no impact or variable (sometimes minimal) short-term impact, and some future actions would be designed to minimize such impacts. For example, pile repair and maintenance at the Bremerton Ferry Terminal and NAVBASE Kitsap Bremerton's Piers would use concrete or steel piles, which, unlike creosote-treated piles used in the past, would not have the potential for leaching toxic compounds into the water. Additionally new piers (e.g. the new Pier B at NAVBASE Kitsap Bremerton) are designed to include current stormwater control and treatments systems thereby reducing input of impacted stormwater runoff into Sinclair Inlet.

Past Navy projects including Pier 5 and 6 have helped make incremental improvements to water quality in Sinclair Inlet by removing 70 creosote piles and replacing them with concrete piles. Past and ongoing Navy projects implemented to mitigate for impacts from and Pier B impacts have also improved water quality in Sinclair Inlet and nearby waterways through beach creation, pier removal, and remediation of fish passage barriers.

Implementation of the Proposed Action would not be expected to contribute to cumulative water quality impacts because spills would be avoided through adherences to BMPs and minimization measures; sediment disturbance would be minimal and localized; creosote-treated piles would be removed; no stormwater runoff would be generated; and no nutrients or pollutants would be discharged. Therefore, in combination with the past, present, and foreseeable future projects, implementing the Proposed Action would not have a significant cumulative impact to water quality.

#### **4.2.3 Noise**

The ROI for evaluating cumulative impacts for airborne noise includes Sinclair Inlet and the adjacent upland areas including the industrial waterfront and areas within the Cities of Bremerton and Port Orchard. NAVBASE Kitsap Bremerton has been an industrial ship repair facility for 100 years. While surrounded by suburban to urban residential land uses, noise from the shipyard has likely been fairly constant since the installation's creation. Completed past actions listed in Table 4-1 would not contribute cumulatively to the noise environment within the ROI. The current and reasonably foreseeable future projects would contribute to the noise environment primarily during construction, and secondarily during operations.

Construction noise would come primarily from pile driving activities, as well as supporting equipment (e.g., cranes, truck traffic). This noise is expected to be similar to background noise from the shipyard which includes operational noise from cranes, trains, large vessels, and ship maintenance and repair activities. Airborne noise tends to extend over limited distances, while underwater noise travels for longer distances. Future projects at NAVBASE Kitsap Bremerton such as the repair of pilings at Pier 5,

and the current replacement of piles at the Bremerton Ferry Terminal will have similar noise impacts. Construction would likely be limited to the hours between 07:00 a.m. and 09:00 p.m. and would be exempt from state and city noise regulations. After construction, operations at these facilities would be similar to existing operations, and no significant change to current airborne and underwater sound is anticipated. Due to the limited duration of construction activities and anticipated consistency with current operations, the Proposed Action in combination with known past, present, and future actions would not have a significant adverse noise impact.

#### **4.2.4 ESA-listed Species and EFH**

Past actions have adversely impacted ESA-listed populations of fish, marine mammals, and avian species in Sinclair Inlet and tributaries through loss of foraging and refuge habitat in shallow areas, reduced function of migratory corridors, loss and degradation of spawning habitat in streams, interfering with migration, adverse impacts to forage fish habitat and spawning, contamination of water and sediments, and removal of old growth forest habitat. Ongoing fish harvest has resulted in adverse impacts to salmonid abundance and the impact has been greatest on native stocks. Practically all chum salmon, most Chinook, and all sockeye salmon spawning in Sinclair Inlet and in the Puget Sound stream systems are derived from naturalized hatchery stock. Populations of pink salmon, coho salmon, bull trout, and steelhead are also in decline. The net result is that several Puget Sound salmonid species have been listed under the ESA. Similar impacts have occurred to ESA-listed marine mammals including killer whales and humpback whales whose populations have dropped significantly due to hunting. Marbled murrelet nesting habitat has been lost throughout the Puget Sound area as the removal of old growth forests has pushed the breeding population in Washington to small areas on the Olympic Peninsula.

The State of the Sound Report (PSAT 2007) describes several trends that may be indicative of cumulative impacts to the growth and development of salmonids and marine mammals. There is an increasing trend for toxics to be concentrated in the tissues of salmon and marine mammals. Both salmon and killer whales have been found to have PCB levels much higher than species outside of the Puget Sound. Wild salmon stocks have declined from 93 to 81 healthy stocks from 1992 to 2002, and during that same period seven stocks have become extinct.

Existing Navy structures have affected salmonid and forage fish habitat, and have potentially impeded and continue to impede juvenile salmon migration to some degree. The placement of in-water structures by the Navy and from non-Navy actions has changed and would continue to change fish habitat in and around these structures. In-water structures can impact fish in several ways, including increasing the presence of predators that prey on juvenile fish; posing a barrier to fish movement, particularly juvenile fish; causing direct loss of marine vegetation such as eelgrass, which is important habitat for forage fish and other species; and creating shade that reduces the productivity of aquatic vegetation and benthic organisms, which are preyed on by fish.

Currently, efforts are being made to reverse the decline of fish populations by regulating development and restoring fish habitat. Numerous salmon preservation and restoration groups have proposed and constructed habitat restoration projects in Puget Sound.

Efforts to reduce construction impacts to salmonids and other fish have resulted in a schedule of in-water work periods that all projects must adhere to if authorized by state (WDFW) or federal regulatory (USACE) authorities. The in-water work windows help minimize adverse impacts to fish.

Future waterfront projects at NAVBASE Kitsap Bremerton would be designed and implemented to minimize impacts to salmonids and other fish habitat and migration. The protective measures taken to minimize impacts during construction activities, and the design elements that reduce long-term impacts to nearby habitats is expected to reduce impacts to fish populations. In addition, many regional habitat restoration projects would benefit all fish species.

The Navy's construction of Piers B and D included several projects to mitigate for impacts to salmonids. This included demolition of Pier 8 at Bremerton, creation of Charleston Beach, installation of a fish ladder on Heinz Creek, restoration of 0.8 acres of inter-tidal habitat, and restoration of Chico Creek.

Since the Proposed Action would not impact upland bird habitat, it will not make any contribution to cumulative adverse impacts to marbled murrelet nesting. Cumulative impacts to marbled murrelets have the greatest potential to occur during simultaneous pile driving activities. However, the Proposed Action is not expected to overlap with other vibratory pile driving projects.

Due to the temporary and localized extent of the Proposed Action, including measures to avoid and minimize impacts; the Proposed Action would not contribute to significant cumulative adverse impacts to ESA-listed species and EFH.

#### **4.2.5 Marine Mammals**

Past and present Navy and non-Navy actions, including marinas, residential docks, boat ramps, and piers have resulted in increased human presence, underwater and airborne noise, boat movement, and other activities, and have likely impacted some water-dependent wildlife (e.g., marine mammals) in the area. Increased anthropogenic noise in the marine environment has the potential to cause behavioral reactions in marine mammals including avoidance of certain areas. However, the abundance and coexistence of marine mammals with existing anthropogenic activities suggests that cumulative effects have not been significant. The MMPA regulatory process ensures that each project that could affect marine mammals is assessed in light of the status of the species and other actions affecting it in the same region.

Future Navy and non-Navy waterfront projects may have similar impacts to past and present actions including increased anthropogenic sound (both airborne and underwater), increased human presence, increased boat movements and other associated activities. These actions could result in behavioral impacts to local populations of marine mammals, such as temporary avoidance of habitat, decreased time spent foraging, increased or decreased time spent hauled out (depending on the activity), and other minor behavioral impacts. All impacts would likely be short-term and temporary in nature and unlikely to affect the overall fitness of the animals. Additionally, the NAVBASE Kitsap Bremerton projects including Security Barrier movement and Pier 5 pile repairs are within an existing, heavily developed installation waterfront. These

areas already have industrial uses with higher than normal activity and noise levels. Thus, there is little loss of habitat for marine mammals, and the marine mammals in the area may be habituated to these higher levels of ongoing activity.

The primary impact of in-water construction projects, including the Proposed Action, to marine mammals is behavioral disturbance from underwater sound due to vibratory pile driving. Any marine mammals that are behaviorally disturbed may change their normal behavior patterns (i.e., swimming speed or foraging habits) or be temporarily displaced from the area of construction. Any exposures would likely have a minor effect and temporary impact on individuals.

The Northwest Training and Range Complex program implements several procedures and mitigation measures and will evaluate other mitigation measures to reduce impacts to marine mammals. The current procedures of monitoring, safety zones and level of sonar transmissions, and working with NMFS and local resources groups will reduce the cumulative effects of the various exercise and training activities covered under this program.

Two species of pinnipeds, California sea lions and harbor seals, are abundant in Sinclair Inlet and at the NAVBASE Kitsap Bremerton waterfront in particular. The seals would likely be foraging in Sinclair Inlet as no haul outs exist on the installation, however California sea lions are known to use the floating waterfront security barrier as a haul out. Airborne noise from construction is not anticipated to have significant impacts to hauled-out pinnipeds because sea lions have grown accustomed to frequent 70 to 90 dBA noise levels associated with existing shipyard operations. Vibratory pile driving is the loudest construction noise source anticipated within the ROI, and no pile driving is anticipated within 50 ft of the waterfront security barrier.

Cumulative impacts to marine mammals have the greatest potential to occur during simultaneous pile driving exposure events. However, it is very unlikely that pile driving activities associated with planned pile replacement work at Piers 5 would occur simultaneously with pile driving activities associated with the Proposed Action. Other projects listed on Table 4-1 would not overlap temporally with the Proposed Action. With implementation of avoidance and minimization measures including marine mammal monitoring and pile-driving shutdown zones, the Proposed Action would not contribute to significant cumulative adverse impacts to marine mammals.

#### **4.2.6 Cultural Resources**

The ROI for evaluating impacts to cultural resources is defined as NAVBASE Kitsap Bremerton, but specifically to the Puget Sound Navy Shipyard NHL. Cultural resources are unique as well as finite in nature, so that an adverse effect to a single historic property affects the complement of historic properties within the area. Continued construction projects and modifications to Navy facilities have the potential to adversely affect historic properties.

While no archeological sites have been identified, the shipyard itself is a NHL with four NRHP historic districts located inland from Pier 4. Future pile replacement projects including pile replacement at Piers 5 are not expected to impact these historic districts, but the Navy would consult with the SHPO to ensure no adverse effects from these

future projects. The Proposed Action would not adversely affect any cultural resources, and would not contribute to a significant cumulative impact to cultural resources.

#### **4.2.7 American Indian Traditional Resources**

Regionally, tribes have expressed concern over loss of access to traditional foraging areas along the coastline of Puget Sound, especially as a result of the incremental habitat loss from construction of new piers, bulkheads, and docks. The Proposed Action would not have an appreciable contribution to impacts to quantities of fish available for harvest by the Suquamish Tribe, nor would it restrict access to existing traditional harvest areas, since the Tribe does not currently harvest inside the Waterfront Restricted Area that surrounds Pier 4. Pile repairs at Pier 5 would have similar effects to the Proposed Action and would not be expected to have a significant impact to tribal resources. The Navy will continue to consult with the Suquamish Tribe regarding future Navy activities and projects that may have the potential to significantly affect the tribal treaty rights and resources. Therefore, in combination with the past, present, and foreseeable future projects, implementing the Proposed Action would not have a significant cumulative impact to American Indian traditional resources.

## 5 OTHER CONSIDERATIONS REQUIRED BY NEPA

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, Regulations and Policies Applicable to the Proposed Action**

Federal and State Laws, Regulations, and Policies	Status of Compliance
National Environmental Policy Act (NEPA) (42 USC §4321 et seq.); CEQ NEPA implementing regulations (40 CFR 1500-1508; Navy procedures for Implementing NEPA ((32 CFR Part 775 and OPNAVINST M- 5090.1 Chapter 10)	Preparation of this EA has been conducted in compliance with NEPA and in accordance with CEQ regulations and the Navy's NEPA procedures.
Clean Air Act (42 USC §7401 et seq.)	The EPA has established NAAQS for seven pollutants. NAVBASE Kitsap Bremerton is located in Kitsap County which is an attainment area. A formal conformity determination is not required. Emissions for the Proposed Action would come from mobile sources: one pile driver and associated support vehicles and would be well below applicable thresholds. As a result, the project would comply with the requirements of the Clean Air Act, as amended.
Clean Water Act (Sections 401 and 404, 33 USC 1251 et seq.)	The Proposed Action is not expected to require a Section 404 Permit or Section 401 Water Quality Certification because the Action does not involve discharge of fill materials into water of the U.S. However, should Section 404 and 401 permits be required, the Navy would obtain these permits prior to construction. All chemicals, liquid products, petroleum products, and other wastes present at the construction site would be covered, contained, and protected.
Rivers and Harbors Act (33 U.S.C. 401 et seq.)	A permit under Section 10 of the Rivers and Harbors Act is required for the removal and replacement of pilings in navigable waters. The Proposed Action is expected to qualify for a USACE Nationwide Permit (NWP #3 Maintenance). The Navy submitted a Joint Aquatic Resource Permit Application to the USACE, which serves as the pre-construction notification required under NWP #3. The Navy would obtain a Nationwide Permit from the USACE prior to construction and would comply with all permit conditions.
Coastal Zone Management Act (16 USC 1451 et seq.)	Washington is a coastal state and has an approved CZMA program. The Proposed Action is expected to qualify for a USACE Nationwide Permit (#3 Maintenance), which has been certified by Washington State as consistent with Coastal Zone Management Act.

**Table 5-1. Principal Federal and State Laws, Regulations and Policies  
Applicable to the Proposed Action**

Federal and State Laws, Regulations, and Policies	Status of Compliance
National Historic Preservation Act (Section 106, 54 USC 306108 <i>et seq.</i> )	In accordance with Section 106 of the NHPA, the Navy determined that the Proposed Action would have no adverse effect on historic properties. The SHPO concurred with the Navy's finding. In the unlikely event historic properties or cultural materials such as archaeological deposits or human remains are encountered during construction, the Navy will initiate consultation with the SHPO and the Suquamish Tribe, as appropriate.
Endangered Species Act (16 USC 1531 <i>et seq.</i> )	In accordance with ESA Section 7 requirements, the Navy prepared a Biological Evaluation and consulted informally with USFWS and NMFS regarding potential effects to ESA-listed species and critical habitat. The Navy received Letters of Concurrence from NMFS and USFWS, concluding informal consultation (Appendix B). For listed marine mammal species, NMFS would issue an incidental take statement after issuance of an IHA.
Marine Mammal Protection Act (16 USC 1361 <i>et seq.</i> )	Based on potential impacts to marine mammals, the Navy is requesting take for level "B" harassment. An IHA application was submitted to NMFS, which will issue the IHA after public review of the Draft IHA. The Navy will comply with all IHA conditions.
Magnuson-Stevens Fishery Conservation and Management Act MSA (16 USC 1801-1882)	The Navy prepared an EFH Assessment and submitted it to NMFS with the BA. The Navy determined that the Proposed Action would not affect EFH and NMFS determined that consultation under the Magnuson-Stevens Fisheries Conservation and Management Act was not required.
Migratory Bird Treaty Act (16 USC 703-712)	The Proposed Action is not likely to take migratory birds.
Bald and Golden Eagle Protection Act (16 USC 668-668d)	A bald eagle nest occurs on the facility, but the Proposed Action would occur outside of the buffer zones.
Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-income Populations	No disproportionately high or adverse impacts to minority and/or low-income populations would be expected from the Proposed Action.
EO 13045, Protection of Children from Environmental Health Risks and Safety Risks.	There are no residences, schools, or other facilities used by children within the CIA at the NBK Bremerton waterfront, and access is restricted. Therefore, the removal and replacement of piles at Pier 4 would not cause environmental health risks and safety risks to children.
Consultation and Coordination with Indian Tribal Governments (EO 13175)	The Navy initiated consultation with the Suquamish Tribe regarding potential impacts to Tribal U&A fishing grounds and stations in February 2015. Consultations with the Tribe were concluded in <b>Month 2015</b> .

### **5.1 Irreversible or Irretrievable Commitment of Natural or Depletable Resources (40 CFR Section 1502.16)**

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

Implementation of the Proposed Action would involve human labor, the consumption of fuel, oil, and lubricants for construction vehicles and loss of natural resources (to make the construction materials).

### **5.2 Relationship between Local Short-Term Use of the Human Environment and Maintenance and Enhancement of Long-Term Natural Resource Productivity (40 CFR Section 1502.16)**

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.

In the short-term, effects to the human environment with implementation of the Proposed Action would primarily relate to the construction activity itself. Noise would be a short-term impact. In the long-term, there would be beneficial impacts to the environment by removing the structurally unsound creosote-treated piles.

### **5.3 Means to Mitigate and/or Monitor Adverse Environmental Impacts (40 CFR Section 1502.16(h))**

The Proposed Action would not result in any significant adverse environmental impacts with implementation of BMPs and mitigation measures to avoid, minimize and/or mitigate impacts. BMPs are described in Section 2.4 and mitigation measures are described in Appendix A.

### **5.4 Any Probable Adverse Environmental Effects That Cannot Be Avoided and Are Not Amenable To Mitigation**

This EA has determined that the Proposed Action would not result in any significant impacts; therefore, there are no probable adverse environmental effects that cannot be avoided or are not amenable to mitigation.

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In accordance with OPNAVINST M-5090.1, this section lists the names and qualifications (expertise/experience, professional disciplines) of the persons who were primarily responsible for preparing the EA.

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## Appendix A Mitigation and Monitoring

This Appendix provides a comprehensive list of all mitigation requirements associated with the proposed action, as required by OPNAV M-5090.1, section 10-3.6.

Mitigation Measure <i>Title and Description</i>	Origin of measure <i>EA, BE, MOA, CWA permit, etc.</i>	Anticipated Benefit	Criteria for Evaluating Effectiveness	Responsible Party	Estimated Completion Date
In-water work timing restrictions to avoid bull trout migration period	BE CWA permit	Avoid impacts to bull trout.	Observance of approved work windows for protection of bull trout	Navy	Fall 2016
Marine mammal monitoring during vibratory pile driving	BE IHA	Avoid injury to marine mammals.	Marine mammal monitoring	Navy	Fall 2016