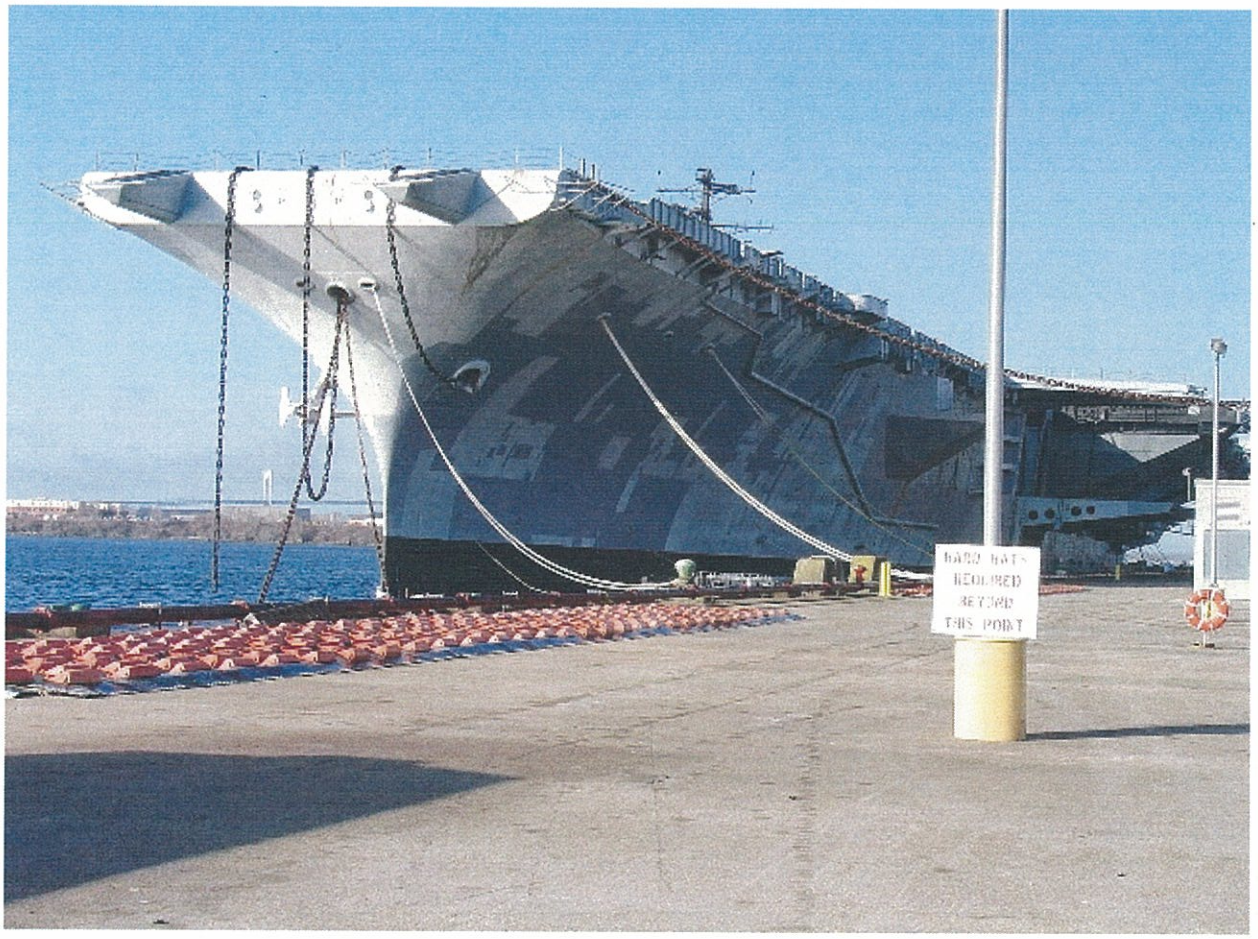
Final
Environmental Assessment
Dismantling of the Supercarrier
Ex-FORRESTAL (AVT-59)



July 2011

Prepared by the
Department of the Navy
Naval Sea Systems Command

Environmental Assessment for Dismantling of Supercarrier ex-FORRESTAL (AVT-59)

ABSTRACT

The United States (U.S.) Department of the Navy (DON) has prepared this Environmental Assessment (EA) to evaluate the potential environmental consequences of the proposed dismantling of supercarrier ex-FORRESTAL, currently moored at NAVSEA Inactive Ships On-site Maintenance Office (INACTSHIPMAINTO), Philadelphia, Pennsylvania. There are two Proposed Action Alternatives based on location: Sparrows Point, Maryland, and Brownsville, Texas. Also analyzed is the No-Action Alternative.

The Proposed Action would be to award a dismantling contract to a technically acceptable domestic ship dismantling company, which would then tow the vessel to its facility and dismantle her in accordance with applicable Federal, state and local laws and regulations. The Proposed Action is needed to execute Chief of Naval Operations (CNO) policy for inactive ships stricken from the Naval Vessel Register and designated for disposal, reduce the Navy's inactive ship inventory, and eliminate the costs associated with continuing to maintain the ship in a safe stowage condition.

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, 42 United States Code §§ 4321-4370d, as implemented by the Council on Environmental Quality (CEQ) regulations, 40 *Code of Federal Regulations* (C.F.R.) Parts 1500-1508, and Policies and Responsibilities for Implementation of NEPA within the Department of the Navy, 32 C.F.R. Part 775, and evaluates the potential effects of the Proposed Action on the following resource areas: cultural resources; water resources; biological resources; and air quality.

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EXECUTIVE SUMMARY

Introduction

This Environmental Assessment (EA) evaluates the potential environmental impacts resulting from the proposed dismantling of the aircraft carrier ex-FORRESTAL (AVT-59), which is currently moored at the Naval Sea Systems Command (NAVSEA) Inactive Ships On-Site Maintenance Office (INACTSHIPMAINTO), Philadelphia, Pennsylvania. The United States (U.S.) Department of the Navy (DON) has prepared this EA in accordance with the National Environmental Policy Act of 1969 (NEPA), 42 United States Code (U.S.C.) §§ 4321-4370d, as implemented by the Council on Environmental Quality (CEQ) regulations, 40 *Code of Federal Regulations* (C.F.R.) Parts 1500-1508 and the guidelines contained in the Chief of Naval Operations, Environmental and Natural Resources Program Manual Instruction (OPNAVINST) 5090.1C dated October 2007, which establishes procedures for implementing the NEPA.

Purpose of and Need for the Proposed Action

Ex-FORRESTAL is a decommissioned post-World War II aircraft carrier that has been inactive for nearly eighteen years and designated for disposal for the entire time. There are no Navy requirements for the ship, as ex-FORRESTAL is not needed for the defense of the country, having been struck from the Naval Vessel Register upon its decommissioning date on September 11, 1993.

The Proposed Action is to contractually transfer ex-FORRESTAL to a dismantling facility in order to dispose of her by recycling. The Proposed Action is needed to execute Chief of Naval Operations (CNO) policy[1] for inactive ships stricken from the Naval Vessel Register and designated for disposal, reduce the Navy's inactive ship inventory, and eliminate the costs associated with continuing to maintain the ship in a safe stowage condition.

Description of the Proposed Action

The Proposed Action would be to award a dismantling contract to a technically acceptable domestic ship dismantling company, which would then tow the vessel to its facility and dismantle it in accordance with applicable Federal, state and local laws and regulations. Ship dismantling contracts include a clause that requires the contractor to comply with all applicable Federal, state and local environmental and occupational safety and health laws and regulations. The vessel is currently moored at INACTSHIPMAINTO Philadelphia, PA. Two applicable guides, Environmental Protection Agency (EPA) Ship Scrappers Guide, and Occupational Safety and Health Administration (OSHA) Safe Work Practices for Shipbreaking, can be found on the PMS 333 website http://www.navsea.navy.mil/teamships/Inactiveships/default.aspx.

If the Navy decides to implement the Proposed Action, neither construction of new facilities nor modifications to the existing facilities would be required. Moreover, no dredging would be required. The vessel is non-operational (no propeller rotation or water intakes/discharges); therefore, due to the size of the ship, the use of one or more assist tug boats would be required.

[1] OPNAV Instruction 4770.5G, General Policy for the Inactivation, Retirement, and Disposition of U.S. Naval Vessels, 6 February 2009.

For this EA, the Proposed Action consists of actions for the towing of ex-FORRESTAL from its current location in Philadelphia to the dismantling facility; and the dismantling.

Sparrows Point, Maryland, Alternative
This alternative would dismantle ex-FORRESTAL at a facility in Sparrows Point, MD. This would be a commercial facility that has the capability of dismantling an aircraft carrier of this size and would not require construction of any new facilities. The Sparrows Point, MD, facility is located approximately 376 nautical miles from INACTSHIPMAINTO, Philadelphia.

Brownsville, Texas, Alternative
This alternative would dismantle ex-FORRESTAL at a facility in Brownsville, TX. This would be a commercial facility that has the capability of dismantling an aircraft carrier of this size and would not require construction of any new facilities. The Brownsville, TX, facility is located approximately 1,923 nautical miles from INACTSHIPMAINTO, Philadelphia.

No-Action Alternative
If the Federal Government is unable to award a dismantling contract, the No-Action alternative would result by default. The No-Action alternative includes continuous berthing of ex-FORRESTAL at INACTSHIPMAINTO Philadelphia, PA.

If the vessel is not removed from the inactive ship inventory, INACTSHIPMAINTO Philadelphia would continue to maintain the ship in safe stowage (i.e., fire and flooding protection).

The No-Action alternative does not meet the Navy's operational need to remove the vessel from the Navy's inactive ship inventory.

Alternatives Considered but Eliminated
In accordance with OPNAVINST 4770.5G, General Policy for the Inactivation, Retirement, and Disposition of U.S. Naval Vessels, there are six possible methods for the disposition of ships stricken from the Naval Vessel Register, one of which is dismantling. The following are five alternatives considered for ex-FORRESTAL but ultimately eliminated from further review:

- Fleet Training Exercise Requirements:
  - This alternative results in the destruction of the ship during at-sea, live-fire training exercises (SINKEX). The CNO currently has a moratorium on SINKEX exercises and thus none are foreseen at this time.
- Foreign Military Sale Transfer:
  - This alternative is not feasible as DoD does not allow aircraft carriers to be available for Foreign Military Sale transfer.
- Title Transfer to the Maritime Administration (MARAD), U.S. Department of Transportation:
  - This alternative is only applicable to merchant-type ships.
- Artificial Reefing:
  - The Navy has determined that this alternative is not feasible due to the extensive presence of regulated polychlorinated biphenyl (PCB) containing solid materials onboard, which exceed U.S. Environmental Protection Agency acceptable levels, therefore, prohibiting ocean disposal.

- Donation Transfer:
    - Ex-FORRESTAL was available for donation as a museum or memorial for six years; unfortunately, the Navy never received a satisfactory ship donation application.

Summary of Environmental Impacts

This EA has determined that implementation of either of the Proposed Action alternatives or the No-Action Alternative would not result in significant impacts to any resource area. The environmental consequences associated with implementation of these alternatives are presented and compared in Table ES-1. The vessel will be towed to, then dismantled at, a commercial industrial facility that is closed to public access. Consequently, certain resources present no risk of being affected by the Proposed Action. Thus, only four resources (cultural, water, biological, and air quality) have been analyzed in detail. For a detailed description and analysis, refer to Chapter 3, Environmental Conditions and Consequences for each of the four resources.

Table ES-1. Summary of Impacts

Resource Area	Sparrows Point, MD, Alternative	Brownsville, TX, Alternative	No-Action Alternative
Cultural Resources	• Adverse effect on the vessel. Compliance with ACHP Program Comment[2] prior to dismantling will mitigate the adverse effect; thus no significant impact. • No adverse effects on other cultural resources.	• Adverse effect on the vessel. Compliance with ACHP Program Comment prior to dismantling will mitigate the adverse effect; thus no significant impact. • No adverse effects on other cultural resources.	No adverse effects.
Water Resources	Insignificant temporary impacts of turbidity and potential spills from towing activities. Compliance with NPDES permits, state, and local regulations would avoid significant impacts from dismantling.	Insignificant temporary impacts of turbidity and potential spills from towing activities. Compliance with NPDES permits, state, and local regulations would avoid significant impacts from dismantling.	No Significant Impacts
Biological Resources	• The Proposed Action will have no effect on threatened and endangered species and no reasonably foreseeable takes are expected for marine mammals. • Insignificant temporary impacts of turbidity from towing activities. • No effect on Essential Fish Habitat.	• The Proposed Action will have no effect on threatened and endangered species and no reasonably foreseeable takes are expected for marine mammals. • Insignificant temporary impacts of turbidity from towing activities. • No effect on Essential Fish Habitat.	No Significant Impacts
Air Quality	Insignificant temporary impacts during towing and dismantling.	Insignificant temporary impacts during towing and dismantling.	No Impacts

[2] The Advisory Council on Historic Preservation (ACHP) has a Program Comment for the Department of the Navy for the Disposition of Historic Vessels. Federal Register Vol. 75, No. 49, March 15, 2010.

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ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ALU	aquatic life use
APE	Area of Potential Effect
AQCR	Air Quality Control Region
ARB	Air Resources Board
AVT	Training Aircraft Carrier
BMP	best management practice
BSC	Brownsville Ship Channel
CA	California
CAA	Clean Air Act
CATEX	Categorical Exclusion
CCD	Coastal Consistency Determination
CCND	Coastal Consistency Negative Determination
CEQ	Council on Environmental Quality
C.F.R.	Code of Federal Regulations
CMP	Coastal Management Plan
CO	carbon monoxide
CO_2	carbon dioxide
CWA	Clean Water Act
cy	cubic yards
CZMA	Coastal Zone Management Act
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DEM	Department of Environmental Management
DEP	Department of Environmental Protection
DO	dissolved oxygen
DOD	United States Department of Defense
DOI	United States Department of the Interior
DON	United States Department of the Navy
DRBC	Delaware River Basin Commission
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ELMR	Estuarine Living Marine Resources
EO	Executive Order
EPA	Environmental Protection Agency
ERL	Environmental Research Laboratories
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
FR	Federal Register

ft	feet
ft^2	square feet
FY	fiscal year
GMFMC	Gulf of Mexico Fisheries Management Council
INACTSHIPMAINTO	Inactive Ship Maintenance Office
km	kilometer
kph	kilometers per hour
lbs	pounds
m	meter
m^2	square meter
MAIA	Mid-Atlantic Integrated Assessment
MARAD	Maritime Administration
MBTA	Migratory Bird Treaty Act
MD	Maryland
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MILCON	Military Construction
MLLW	mean lower low water
mm	millimeter
MMPA	Marine Mammal Protection Act
mph	miles per hour
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NAVFAC	Naval Facilities Engineering Command
NAVSEA	Naval Sea Systems Command
NCSHPO	National Council for State Historic Preservation Officers
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHHC	Naval History and Heritage Command
NHPA	National Historic Preservation Act
NJ	New Jersey
NMFS	National Marine Fisheries Service
NO2	nitrogen dioxide
NOx	nitrogen oxides
NOAA	National Oceanic and Administration
NRHP	National Register of Historic Places
NVR	Naval Vessel Register
NWR	National Wildlife Refuge
O3	Ozone
OPNAVINST	Chief of Naval Operations Instruction
OTR	Ozone Transport Region
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
PAH	Polycyclic Aromatic Hydrocarbons

PACMP	Pennsylvania Coastal Zone Management Program
Pb	lead
PCBs	polychlorinated biphenyls
PEL	Probable Effects Level
PFBC	Pennsylvania Fish and Boat Commission
PMS 333	Navy Inactive Ships Program Office
PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter less than 2.5 microns in diameter
PNBC	Philadelphia Naval Business Center
ppm	parts per million
ppt	parts per thousand
RONA	Record of Non-Applicability
SAV	Submerged Aquatic Vegetation
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	sulfur dioxide
SO_x	sulfur oxides
T&E	Threatened and Endangered
TEL	Threshold Effects Level
TMDL	Total maximum daily loads
TX	Texas
UFC	Unified Facilities Code
U.S.	United States
USACOE	United States Army Corps of Engineers
U.S.C.	United States Code
USGS	United States Geological Survey
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VOC	volatile organic compound
WQS	water quality standards
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter

1 PURPOSE AND NEED

1.1 Introduction

This Environmental Assessment (EA) evaluates the potential environmental impacts resulting from the transport and dismantling of the aircraft carrier ex-FORRESTAL (AVT-59) (Figure 1.1) which is currently moored at the Naval Sea Systems Command (NAVSEA) Inactive Ships On-Site Maintenance Office (INACTSHIPMAINTO), Philadelphia, Pennsylvania.

Figure 1.1 – Ex-FORRESTAL (AVT-59) at NAVSTA Newport, RI.

The Navy decommissioned USS FORRESTAL on September 11, 1993 and designated the ship for disposal upon striking from the Naval Vessel Register on the same date. In May 1997, the Navy changed its disposition to donation hold status; however, an acceptable ship donation application was never received. In December 2003, the Navy removed ex-FORRESTAL from donation hold status and re-designated the ship for disposal.

Ex-FORRESTAL is in poor condition with extensive surface corrosion and deterioration; thus, the Proposed Action fits NAVSEA's mission for the reduction of inactive ship inventory.

This EA presents an analysis of the potential environmental consequences that may result from implementation of the proposed dismantling action and all reasonably foreseeable, connected actions. The EA identifies and analyzes potential consequences on the natural and human environment in sufficient detail to determine the significance of impacts on the affected environment.

The action proponent and lead agency for the Proposed Action is the NAVSEA 21, Naval Sea Systems Command, Navy Inactive Ships Program (PMS 333). There are no cooperating agencies for the preparation of this EA.

1.2 Ship Disposal Program

Domestic ship dismantling and recycling contractors tow an inactive ship from the Navy's inactive ship maintenance facility to their ship dismantling facility. The contractor then accomplishes all work associated with the removal and proper disposal of hazardous materials, dismantles the ship and recycles the resulting scrap metals and salvageable equipment. Historically, the U.S. Navy has scrapped ships in the United States for the purpose of demilitarization and has no future plans to export ships for dismantling and recycling.

Awards are made to companies that have demonstrated acceptable environmental and occupational safety management plans as well as the facilities, technical processes, and trained personnel necessary to properly dismantle and recycle a Navy ship. The contracting companies must already be in possession of all regulatory permits necessary for the performance of ship recycling activities. The contracting companies dismantle each ship into smaller segments, selling a variety of components as well as scrap metals, and shipping wastes such as PCBs or asbestos to permitted disposal facilities. The dismantling of each Navy ship is overseen by Navy civilian personnel or independent contractor personnel separately contracted by the Navy to ensure contract compliance. The dismantling contracts include a clause that requires the contractor to comply with all applicable Federal, state and local environmental and occupational safety & health laws and regulations.

Since 1999, the Navy's ship dismantling program has received wide congressional and public recognition and has provided jobs for local communities, during which 61 ships have been successfully dismantled.

1.3 Project Location

The aircraft carrier ex-FORRESTAL is currently moored on the east side of Pier Four of INACTSHIPMAINTO Philadelphia for berthing (Figure 1.2). INACTSHIPMAINTO has been in continual use for inactive ships for over sixty years. There are currently 19 vessels moored at this facility.

INACTSHIPMAINTO is located in the Philadelphia Naval Business Center (PNBC) on League Island on the north side of the Delaware River and East of the Schuylkill River, at their meeting point in Philadelphia County, Pennsylvania (Figure 1.3). The facility is approximately 3.5 miles long and 1 mile wide.

Upon award of the dismantling contract, the contractor would take possession of the vessel and tow it to their facility. Possible locations for dismantling are identified and described in Section 2.2 Alternatives.

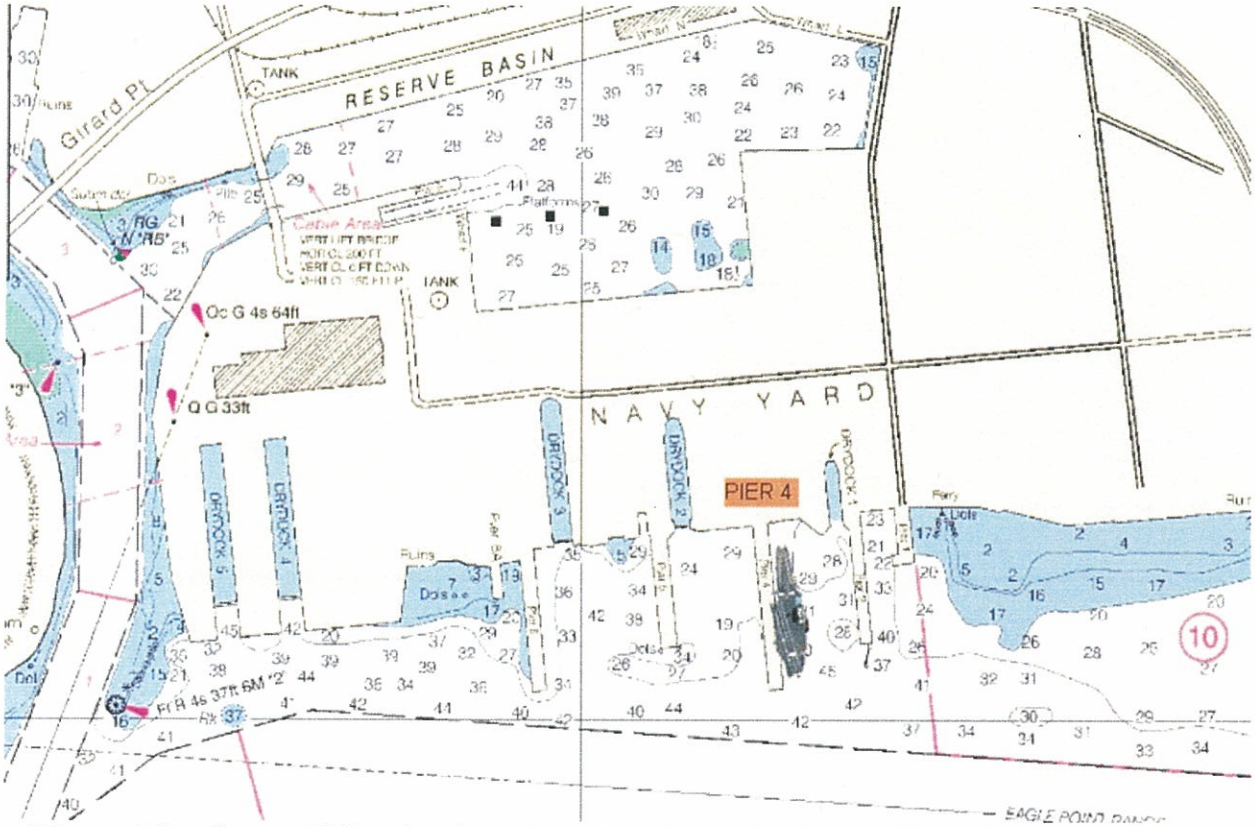

Figure 1.2 – Current Mooring Area Location, INACTSHIPMAINTO Philadelphia, PA

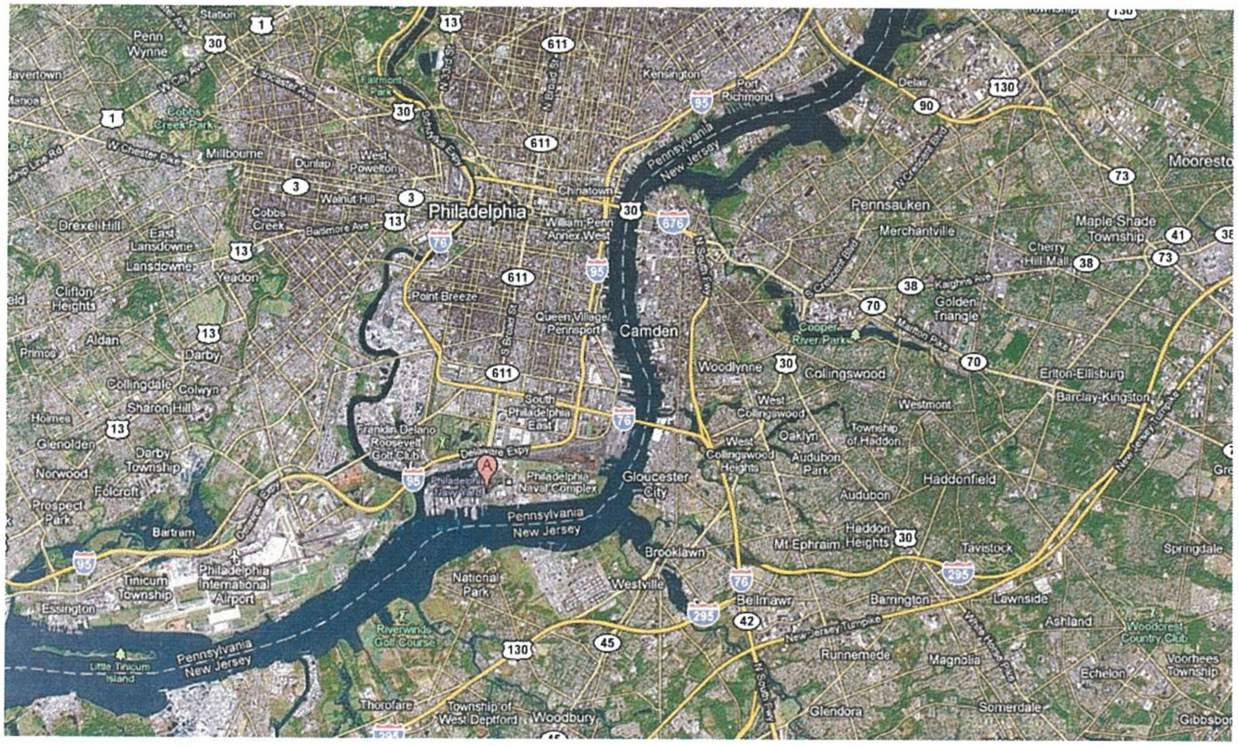

Figure 1.3 – Philadelphia Area Map

1.4 Purpose of and Need for the Proposed Action

Ex-FORRESTAL is a decommissioned post-World War II aircraft carrier that has been inactive and designated for disposal for nearly eighteen years. There are no Navy requirements for the ship, as ex-FORRESTAL is not needed for the defense of the country.

The Proposed Action is to contractually transfer ex-FORRESTAL to a dismantling facility in order to dispose of her by recycling. The Proposed Action is needed to execute Chief of Naval Operations (CNO) policy[3] for ships designated for disposal, reduce the Navy's inactive ship inventory, and eliminate the costs associated with continuing to maintain the ship in a safe stowage condition.

1.5 History of Ex-FORRESTAL

USS FORRESTAL (CVA-59), the first of the "super carriers," was laid down on June 14, 1952, at Newport News Shipbuilding and Dry Dock Company at Newport News, Virginia. The ship was launched on December 11, 1954, sponsored by Mrs. James V. Forrestal, widow of Secretary of Defense Forrestal, and commissioned on October 1, 1955, with Capt. Roy L. Johnson in

[3] OPNAV Instruction 4770.5G, General Policy for the Inactivation, Retirement, and Disposition of U.S. Naval Vessels, 6 February 2009.

command. The other carriers of her class were USS SARATOGA (CV-60), USS RANGER (CV-61), and USS INDEPENDENCE (CV-62).

USS FORRESTAL was the first aircraft carrier built after World War II. The design was a change from the previous U.S. Navy carrier design and became the lineal ancestor for subsequent carrier design. USS FORRESTAL was built with an angled flight deck to allow simultaneous takeoffs and landings. The ship also featured four steam catapults and four deck edge elevators to move aircraft from the hanger bays to the flight deck.

In 1963, USS FORRESTAL made history by completing trials that included 29 touch-and-go landings and 21 full-stop landings and takeoffs in a Lockheed C-130F Hercules aboard the ship. USS FORRESTAL and Hercules set a record for the largest and heaviest airplane landing on a Navy aircraft carrier.

In 1967, USS FORRESTAL was deployed to the Gulf of Tonkin for the Vietnam War. After five days "on the line," tragedy struck when an accidental launch of a missile started a major fire that killed 132 sailors, injured 62; two went missing and were presumed dead. USS FORRESTAL suffered major damage. Extensive repairs to the vessel were completed at the Norfolk Naval Shipyard in 1968.

The vessel was reclassified to CV-59 on 30 June 1975. In 1976, USS FORRESTAL served as the host ship for the International Naval Review to celebrate the bicentennial anniversary of the Declaration of Independence of the United States. Then-President Gerald R. Ford, Jr. rang the Bicentennial bell 13 times from the flight deck the next day, symbolizing the original Thirteen Colonies, and triggering the simultaneous ringing of bells across America.

In 1989, USS FORRESTAL supported U.S. diplomats during the Malta Summit between then-President George Bush and Soviet General Secretary Mikhail S. Gorbachev. The support included a three-hour Presidential visit to the ship, and aircraft from USS FORRESTAL flew airborne early warning and combat air patrols (CAP) during the summit.

In 1991, USS FORRESTAL was selected to replace USS LEXINGTON (AVT-16) as the Navy's training carrier. It was reclassified AVT-59 in 1992, and was undergoing regular overhaul at Philadelphia Naval Shipyard when the Navy decided to decommission her. USS FORRESTAL was decommissioned on September 11, 1993, and stricken from the NVR by the Secretary of the Navy.

Ex-FORRESTAL meets the criteria to be eligible for listing in the National Register of Historical Places (NRHP), according to an evaluation prepared by the Naval History and Heritage Command (NHHC) ships history division. Support for eligibility includes: ex-FORRESTAL is the first super carrier, representing a revolutionary change in naval design and warfighting capability. In 1993, per Navy regulations, the ship forwarded items of historic nature to the NHHC. The NHHC removed several additional items of historical interest following the ship's removal from donation hold status.

In May 1997, the Office of the Chief of Naval Operations (OPNAV) re-designated the ship for donation hold and the ship was advertised as available for donation transfer to a state, municipality or non-profit organization for public display as a ship museum/memorial. In the six

years it was on donation hold, no ship donation applications were received that met the Navy's minimum requirements for donation. In December 2003, OPNAV removed the ship from donation hold status and re-designated the ship for disposal, whereupon PMS 333 began environmental preparations for disposal which included cleaning fuel tanks and removing petroleum products, mercury and Freon (U.S. Navy, 2009).

1.6 Applicability of NEPA

The National Environmental Policy Act (NEPA) requires Federal agencies to assess any reasonably foreseeable direct and indirect effects of major Federal actions on human health and the environment (42 U.S.C. §§ 4321-4370f). The dismantling of ex-FORRESTAL is considered a "major Federal action" under the NEPA. There is no applicable Categorical Exclusion (CATEX) for this action; the CATEX for decommissioning, disposal, or transfer of Naval vessels (Number 22[4]) does not apply to the Proposed Action because ex-FORRESTAL is eligible for listing in the National Register of Historic Places (NRHP). To satisfy the NEPA requirements, the Navy must evaluate the interrelated environmental and cultural resource impacts of the Proposed Action, identify reasonable alternatives and analyze potential direct, indirect, and cumulative impacts that may result, to determine whether the Proposed Action will have a significant impact on the environment.

This EA documents the Navy's evaluation and assessment of the potential environmental impacts associated with the dismantling of ex-FORRESTAL.

This EA has been prepared by the Navy in accordance with the following laws, regulations and policy:

- The National Environmental Policy Act (NEPA) of 1969 (42 United States Code §§ 4321-4370d);
- The Council on Environmental Quality (CEQ) regulations implementing NEPA (40 C.F.R. §§ 1501-1508);
- Policies and Responsibilities for Implementation of NEPA within the Department of the Navy, 32 C.F.R. Part 775.
- Chief of Naval Operations Instruction (OPNAVINST) 5090.1C, The Navy Environmental and Natural Resources Protection Manual, Chapter 5, October 30, 2007;

This EA draws upon information in the possession of and obtained by the Navy, and other readily available public sources of information.

The NEPA, the CEQ regulations, and the Navy's procedures for implementing the NEPA specify that an EA should only address those resource areas potentially subject to impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact. The proposed Federal action is dismantling of the vessel through an acceptable contractor, which

[4] Decommissioning, disposal, or transfer of Navy vessels, aircraft, vehicles, and equipment when conducted in accordance with applicable regulations, including those regulations applying to removal of hazardous materials.

includes relocation, via tow, to an established domestic facility and does not involve any construction activities. Two potential facilities, based on existing dismantling contracts for carriers, are located in Sparrows Point, Maryland (MD) and Brownsville, Texas (TX).

Environmental resources potentially affected by the Proposed Action and all reasonably foreseeable actions to be evaluated in this EA include:

- Cultural Resources
- Water Resources
- Biological Resources
- Air Quality

The vessel will be towed to, then dismantled at, a commercial industrial facility that is closed to public access. No construction, dredging, or modifications to facilities is involved. Consequently, the following resources and conditions do not require a detailed evaluation in this EA:

- Land Use (there will be no change in land use as a result of the Proposed Action)
- Geology, Soils and Seismicity (there would be no effects to these resources and conditions)
- Socioeconomics (the project would not have a significant effect on the state, regional or local economy, or nearby housing or community services)
- Environmental Justice (the project is not expected to affect environmental and human health conditions in minority and/or low-income communities because none are located within a half-mile of the industrial dismantling facilities, which are restricted from public access and operate in compliance with all required environmental statutes)
- Transportation (the Proposed Action would not result in increased traffic or number of personnel at the vessel's current location or the dismantling facilities' locations)
- Noise (towing is a routine vessel movement; the facility where the dismantling would be performed would be in compliance with applicable environmental statues related to noise; the Navy is not performing the dismantling)
- Utilities (there is no need for additional utilities for the Proposed Action)
- Public Health and Safety (the facilities are closed to public access)
- Aesthetics and Visual Resources (The vessel does not have aesthetic value that would be affected. The Proposed Action does not have an effect on the existing visual character or quality of the possible dismantling sites and their surroundings)

1.7 Intergovernmental Coordination

The intergovernmental coordination process for this EA included consideration of the following statutes and their respective implementing regulations to determine permits, certifications, and/or

determinations that may be required for the Proposed Action and all reasonably foreseeable, related actions. The statutes pertaining to the Proposed Action and all reasonably foreseeable, related actions include but are not limited to:

- The National Historic Preservation Act (NHPA);
- The Coastal Zone Management Act (CZMA) of 1972, as amended (16 U.S.C. § 1451 et seq.);
- The Clean Air Act (CAA) as amended (42 U.S.C. § 7401 (1994), including the 1990 General Conformity Rule;
- The Clean Water Act (CWA), Section 404 (33 U.S.C. § 1344);
- The CWA, 401 Water Quality Certification (33 U.S.C. § 1341);
- Executive Order (EO) 13186 Responsibilities of Federal Agencies to Protect Migratory Birds, 12898 Environmental Justice.

As part of the NEPA compliance process, coordination with regulatory agencies is initiated to obtain regulatory input related to all Proposed Actions and to clearly define the regulatory requirements for all Proposed Actions.

The Navy notified the National Council for State Historic Preservation Officers (NCSHPO), in accordance with the Advisory Council on Historic Preservation (ACHP) Program Comment for the Department of the Navy for the Disposition of Historic Vessels, that ex-FORRESTAL is eligible for listing in the NRHP. A Determination of Eligibility (DoE) developed by a Navy historian was provided to the NCSHPO, the Historic Naval Ships Association, and the USS Forrestal Association, Inc., by NAVSEA PMS 333 letter Ser 333/123 of 30 June 2010. The DoE was posted to www.navsea.navy.mil/teamships/inactiveships/historic for a 60-day public comment period that expired on 28 August 2010. No comments were received by any stakeholder or member of the public. The letter correspondence to the NCSHPO is included in Appendix B.

The removal of the ship is covered by the Coastal Consistency Negative Determination (CCND) for vessel movement at INACTSHIPMAINTO Philadelphia, PA. This document was prepared and sent to state coastal regulator, the Pennsylvania Department of Environmental Planning (PADEP), and concurrence was received on February 1, 2011 (see Appendix B). The Proposed Action will not have an impact on any coastal use or natural resource of the coastal zone.

This EA has been prepared using a systematic, interdisciplinary assessment process designed to provide decision makers with an organized analysis of the potential environmental consequences of implementing the Proposed Action and all reasonably foreseeable, related actions. Section 1 provides a discussion of the Purpose and Need for the Proposed Action. Section 2 discusses the Proposed Action in greater detail and provides a discussion of reasonable alternatives to the Proposed Action. Section 3 provides a description of the affected environment and an analysis of potential environmental impacts. Section 4 discusses the cumulative impacts on the environment resulting from past, present, and reasonably foreseeable future actions. Section 5 discusses other NEPA considerations. Section 6 presents the conclusion. Section 7 provides a

list of preparers, Section 8 provides persons and agencies contacted, and Section 9 lists references used in the preparation of this EA.

2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action would be to award a dismantling contract to a technically acceptable domestic ship dismantling company, which would then tow the vessel to its facility and dismantle her in accordance with applicable Federal, state and local laws and regulations. Ship dismantling contracts include a clause that requires the contractor to comply with all applicable Federal, state and local environmental and occupational safety and health laws and regulations. The vessel is currently moored at INACTSHIPMAINTO Philadelphia, PA. Two applicable guides, Environmental Protection Agency (EPA) Ship Scrappers Guide, and Occupational Safety and Health Administration (OSHA) Safe Work Practices for Shipbreaking, can be found on the PMS 333 website http://www.navsea.navy.mil/teamships/Inactiveships/default.aspx.

If the Navy decides to implement the Proposed Action, neither construction of new facilities nor modifications to the existing facilities would be required. Moreover, no dredging would be required. The vessel is non-operational (no propeller rotation or water intakes/discharges); therefore, due to the size of the ship, the use of one or more assist tug boats would be required.

For this EA, the Proposed Action consists of actions for the towing of ex-FORRESTAL from its current location in Philadelphia to the dismantling facility; and the dismantling. These actions are described below.

Towing

Ex-FORRESTAL would be towed from its present location at INACTSHIPMAINTO Philadelphia to a dismantling contractor's facility. The contractor would be responsible for the tow. Towing would be a direct route from INACTSHIPMAINTO, along the shipping channel of the Delaware River, to the Atlantic Ocean then on to the facility. The vessel is non-operational (no propeller rotation or water intakes/discharges); therefore, due to the size of the ship, the use of one or more assist tug boats would be required.

Towing would be performed by the contractor in accordance with requirements of Appendix H of the U.S. Navy Towing Manual Sl740-AA-MAM-010, Rev 3, July 2002. The contractor would be responsible for making all applicable notifications associated with the towing activity and would adhere to all applicable safety requirements for towing ex-FORRESTAL. Commercial pilots would be utilized for departures from and entries into ports.

Navigation

Departing Philadelphia navigationally would not be a concern. The transit down the Delaware River, along Pennsylvania, New Jersey, and Delaware borders, is approximately 80 miles from the entrance from the INACTSHIPMAINTO facility. The channel is maintained to a depth of 40 ft; however, the outer edges of the channel are slightly shallower, 35 ft in certain locations. There are two fixed bridges, both with adequate clearance. The first bridge is the Commodore Barry with a horizontal clearance

of 1600 ft and a vertical clearance of 190 ft center span. The second bridge, as one heads outbound, is the Delaware Memorial Bridge with a horizontal clearance of 2000 ft and a vertical clearance of 188 ft center span. Ex-FORRESTAL and two other carriers have previously been towed along the Delaware River as inactive ships for berthing at INACTSHIPMAINTO Philadelphia. Figure 2.1 shows the probable tow route from Philadelphia to the Delaware Bay. The remainder of the transit from the Delaware Bay is described under each proposed action alternative description.

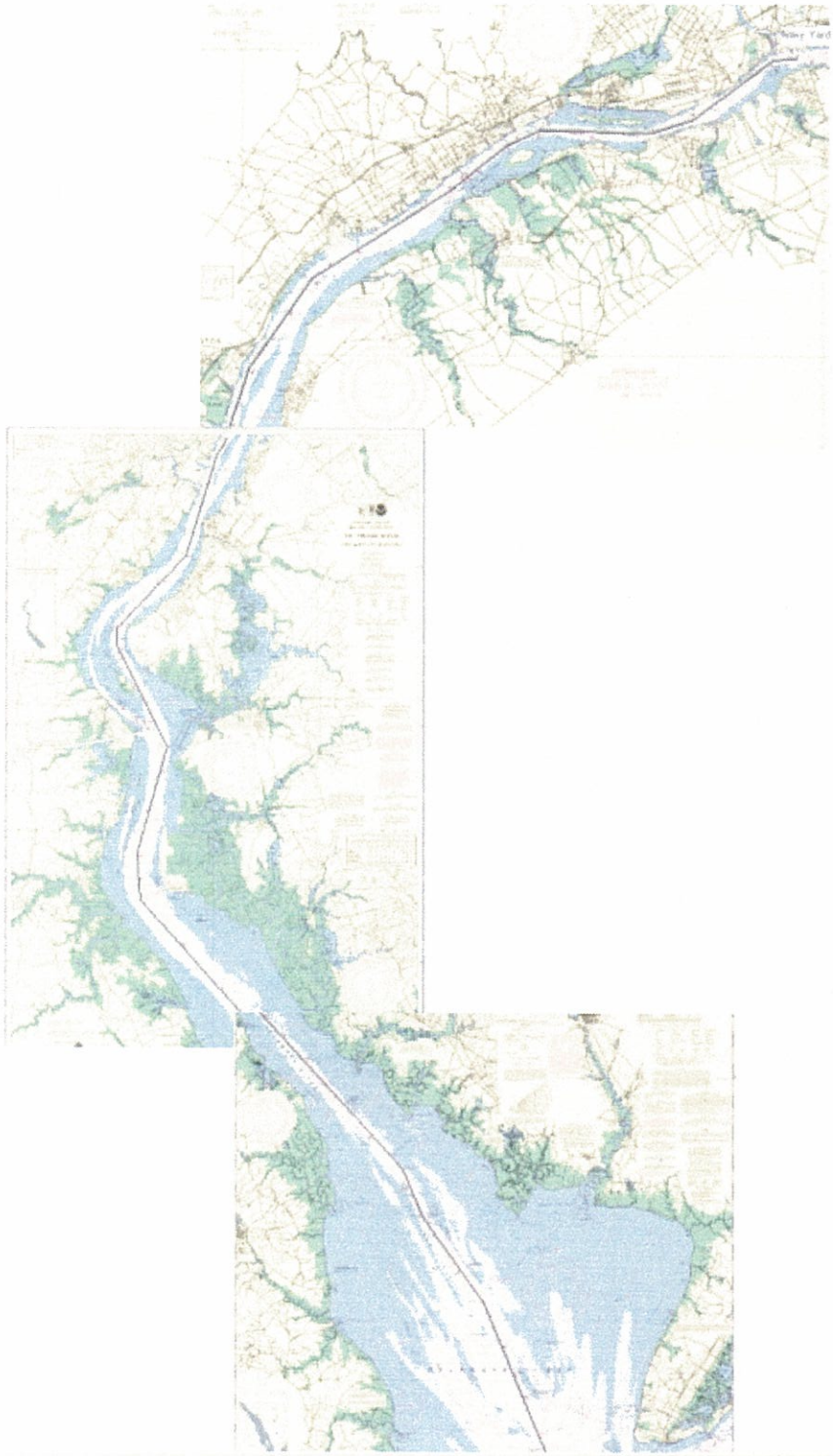

Figure 2.1 – Probable Tow Route: Departing INACTSHIPMAINTO Philadelphia

Dismantling

The dismantling actions would take place at one of two alternative locations. Procedures may vary slightly among recycling facilities. The following general description is the basis for the analysis in Chapter 3.

Dismantling, also called ship breaking and ship scrapping, is any breaking down of a vessel's structure to dismantle the vessel. Two methods of dismantling a ship are the afloat (moored) method and the dry-dock method. The afloat method is generally less expensive than the dry-dock method, but this cost savings comes with greater difficulty than the dry-dock method. Recycling a ship while in the water is more difficult because of the need to strip the inside of the ship before dismantling can begin. As material is removed from the ship it becomes lighter and is pulled ashore, a little more each day. For the dry-dock method, workers can immediately begin separating the vessel into large sections, and then move the large sections to other areas to be cut into smaller sections.

Most ship dismantling is performed in slips, which are dredged openings in the bank of the ship channel. Slips are generally 400 to 700 feet long and 100 to 120 feet wide at the entrance. A large winch at the head of the slip is used to drag the hull farther into the slip as work progresses. Booms are placed around the ship to help contain any spills.

Dismantling consists of removing mechanical, hydraulic and/or electronic components that have potential market value for resale or reuse and then physically cutting the remainder of the hull to allow the recycling of metals and other material by sale to salvage yards or smelters. Fixtures, anchors, chains, and small equipment are removed initially. Machinery components are typically removed throughout the recycling process. During the preparation phase of recycling, small articles and the propellers are removed which allows the hull to be pulled into shallow water where cutting usually takes place. As layers of the ship are cut, large reusable or recyclable components are removed as they become accessible (MARAD, 2009). Dismantling is a very labor-intensive, manual process.

When removed from the ship, ship machinery components are typically handled in the yard, or what is commonly called the scrap yard. These components, which may be stripped of valuable materials and/or cut into smaller pieces, may contain or be contaminated with hazardous materials, including asbestos, polychlorinated biphenyls (PCBs), oils, and fuels.

Asbestos-containing material (ACM) is removed from cut lines and compartments so that large sections of the ship can be removed. The engine rooms usually contain the most asbestos and, therefore, take the longest for asbestos removal to be complete. Any PCB-containing materials that are accessible are removed, as well as any PCB-containing paint coatings from areas to be cut. Some PCB-containing materials may be left in place on the room-sized pieces, only to be removed after the large piece is moved to shore. Following asbestos and PCB removal, paint is removed, if required, from surfaces to be cut.

Scrap metals, including steel, aluminum, copper, copper nickel alloy, and lesser amounts of other metals, are sorted by grade and composition and sold to remelting firms or to

scrap metal brokers. Other materials that are not recycled, including hazardous materials and other wastes, are disposed of according to applicable local, state and Federal laws and regulations.

The Navy and the MARAD work closely and cooperatively with the EPA and OSHA to ensure that domestic ship recycling facilities have the capability of dismantling ships in a manner that protects the environment, worker safety and health. Contractors are required to have a Technical Operational Plan, an Environmental Management Plan, and a Safety and Health Management Plan in place for their work.

2.2 Alternatives

The Navy and MARAD have ongoing dismantling contracts with private sector recyclers in the United States[5]. Due to the limited supply of government-owned vessels for dismantling, there are a limited number of domestic recyclers and locations available; however, no new recycling facilities are needed to fulfill the Proposed Action. The Proposed Action may be implemented at private sector facilities located in one of two alternative locations (1) Sparrows Point, MD; or (2) Brownsville, TX. The NEPA requires that the Navy evaluate a No-Action Alternative in addition to the other reasonable alternatives that are being analyzed for potential environmental impacts. The No-Action Alternative for this Proposed Action is to keep and maintain the vessel at INACTSHIPMAINTO, PA. These alternative locations are shown in the Project Area Map (Figure 2.2).

[5] If the future contract is awarded to a new dismantling location, this EA can be amended by a Supplemental EA.

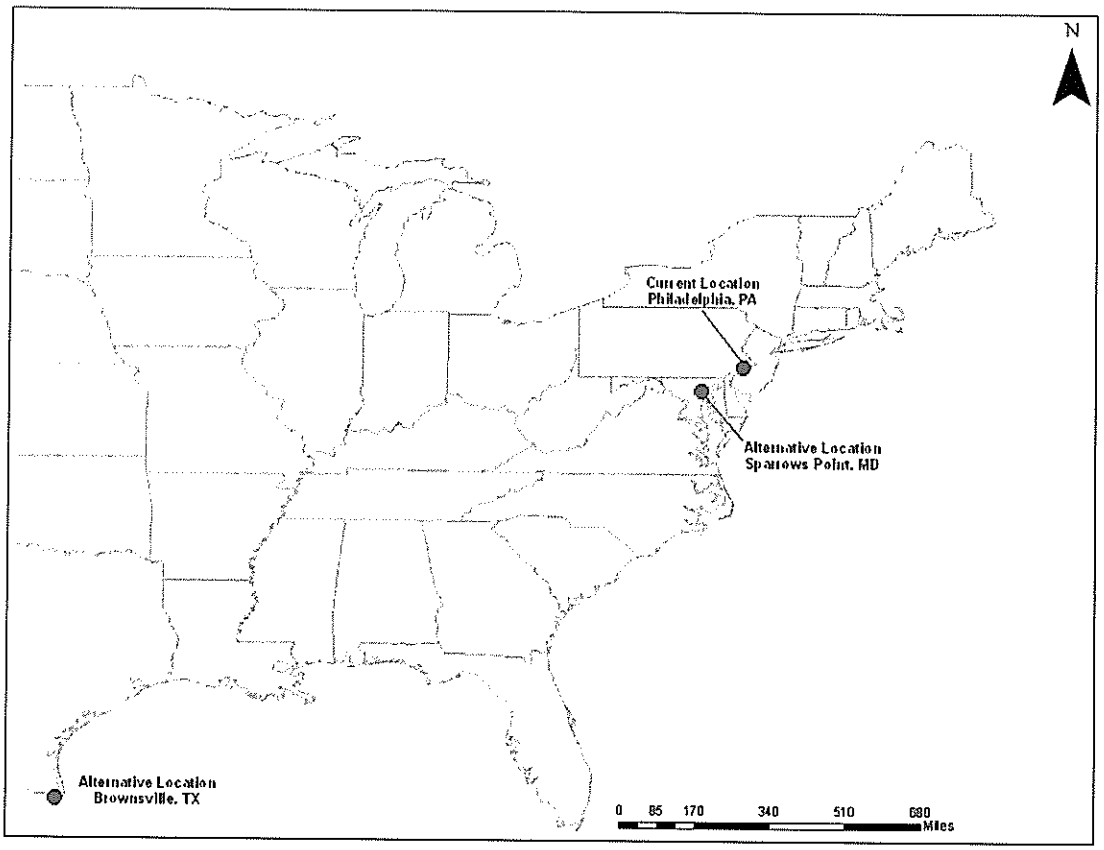

Figure 2.2 – Project Area Map with Alternatives

Alternatives Screening Analysis

Ex-FORRESTAL has the following characteristics:

Length Overall: 1,067 ft
Beam: 129 ft
Flight Deck Width: 252 ft
Draft: 32 feet
Air draft: 172.4 ft
Current Displacement: 58,657 tons

Screening criteria were developed to identify reasonable alternatives based on the purpose and need of the Proposed Action and to eliminate those that did not meet the criteria. For an alternative to be considered reasonable, it must:

- Be an approved domestic dismantling facility large enough to support a vessel of this size.
- Have waterways leading up to the facility that are currently deep enough to allow ex-FORRESTAL to be towed to the site without dredging.

Alternatives Considered but Eliminated

In accordance with OPNAVINST 4770.5G, General Policy for the Inactivation, Retirement, and Disposition of U.S. Naval Vessels, there are six possible methods for the disposition of ships stricken from the NVR, one of which is dismantling. The following are five alternatives considered for ex-FORRESTAL but ultimately eliminated from further review:

- Fleet Training Exercise Requirements:
  - This alternative results in the destruction of the ship. After environmental preparations are accomplished, a ship assigned to this disposition is transferred to the Fleet or other DoD organizations for use as a target during at-sea, live-fire training exercises (SINKEX) or as a test asset, both of which involve significant damage to the ship that results in the sinking of the ship in waters at least 50 miles from any land and in water depths of 6,000 feet minimum. The CNO currently has a moratorium on SINKEX exercises and thus none are foreseen at this time. The Navy has determined that this alternative is not reasonable since a future SINKEX is too speculative.
- Foreign Military Sale Transfer:
  - This alternative involves transferring ownership of the vessel to a foreign Navy for operational use, after which the foreign country disposes of the ship. This alternative is not feasible as DoD does not allow aircraft carriers to be available for Foreign Military Sale transfer.
- Title Transfer to the MARAD, Department of Transportation:
  - This alternative is only applicable to merchant-type ships such as amphibious and auxiliary ships, pursuant to the Merchant Marine Act of 1936. Because ex-FORRESTAL is a carrier, this alternative is not available. Merchant-type ships title transferred to MARAD are primarily dismantled under MARAD contracts.
- Artificial Reefing:
  - The Navy has determined that this alternative is not feasible due to the extensive presence of regulated polychlorinated biphenyl (PCB) containing solid materials onboard, which exceed U.S. Environmental Protection Agency acceptable levels, therefore, prohibiting ocean disposal.
- Donation Transfer:
  - Ex-FORRESTAL was available for donation as a museum or memorial for six years. Unfortunately, the Navy never received a satisfactory ship donation application; thus any future efforts to find a viable donee would be considered too speculative. Thus, the Navy has determined that this alternative is not feasible.

2.3 Sparrows Point, Maryland, Alternative

This alternative would dismantle ex-FORRESTAL in Sparrows Point Shipyard in Baltimore, Maryland (Figure 2.3). This commercial facility has the capability of

dismantling an aircraft carrier of this size and would not require construction of any new facilities.

Sparrows Point is located approximately 6.5 miles from Baltimore's Inner Harbor when coming into the port from the Chesapeake Bay, approximately one mile from the main channel.

The towing to Sparrows Point meets the requirements for safety, navigation, environmental, and other safeguards. A possible tow route is shown in Figures 2.4, 2.5, and 2.6.

The transit from the Chesapeake Bay entrance to Baltimore is approximately 150 miles. Navigationally, one would pass over the Chesapeake Bay Bridge Tunnel and under the Chesapeake Channel Fixed Bridge with a horizontal clearance of 1500 ft and vertical clearance of 182 ft confirmed by both the chart and the Coast Pilot. The shallowest part of the transit is going into the shipyard where the chart depth shows 30 ft but there are existing permits for maintenance dredging to 39 ft. The rest of the transit uses a deep water channel that has a depth of 47 ft or greater. The tidal range in the Port of Baltimore is up to 2 ft (less for varying phases of the moon).

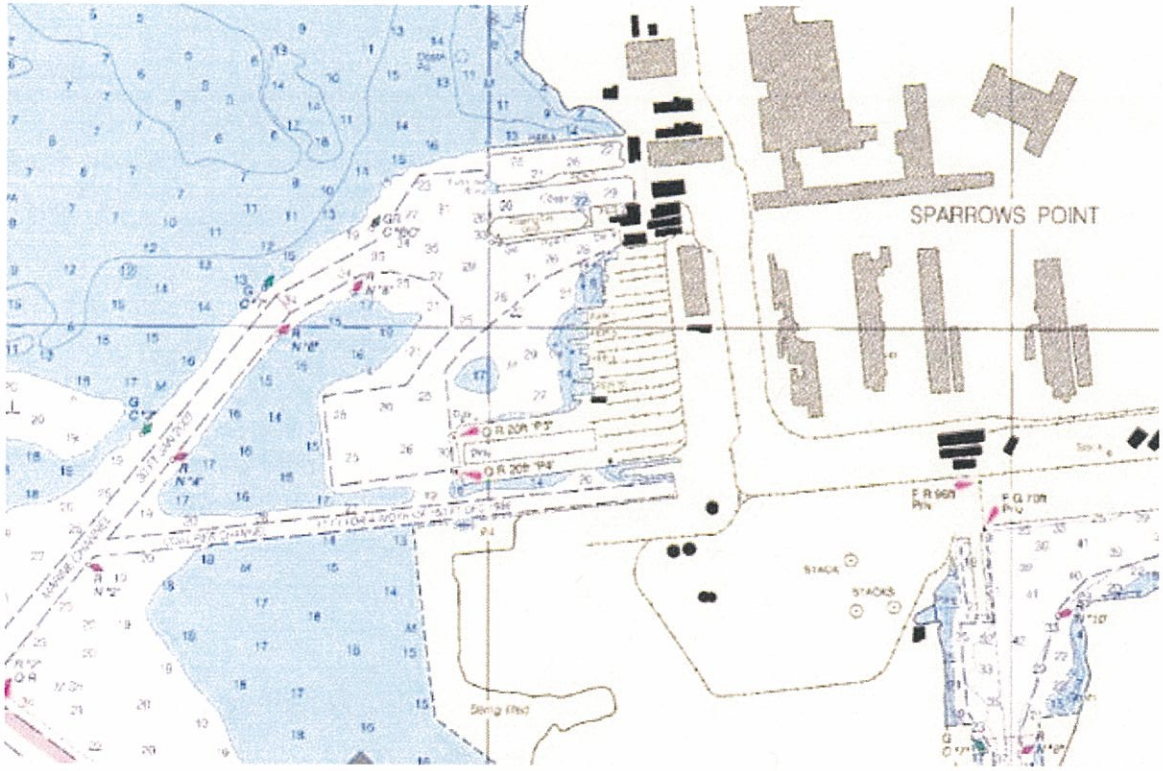

Figure 2.3 – Sparrows Point Site

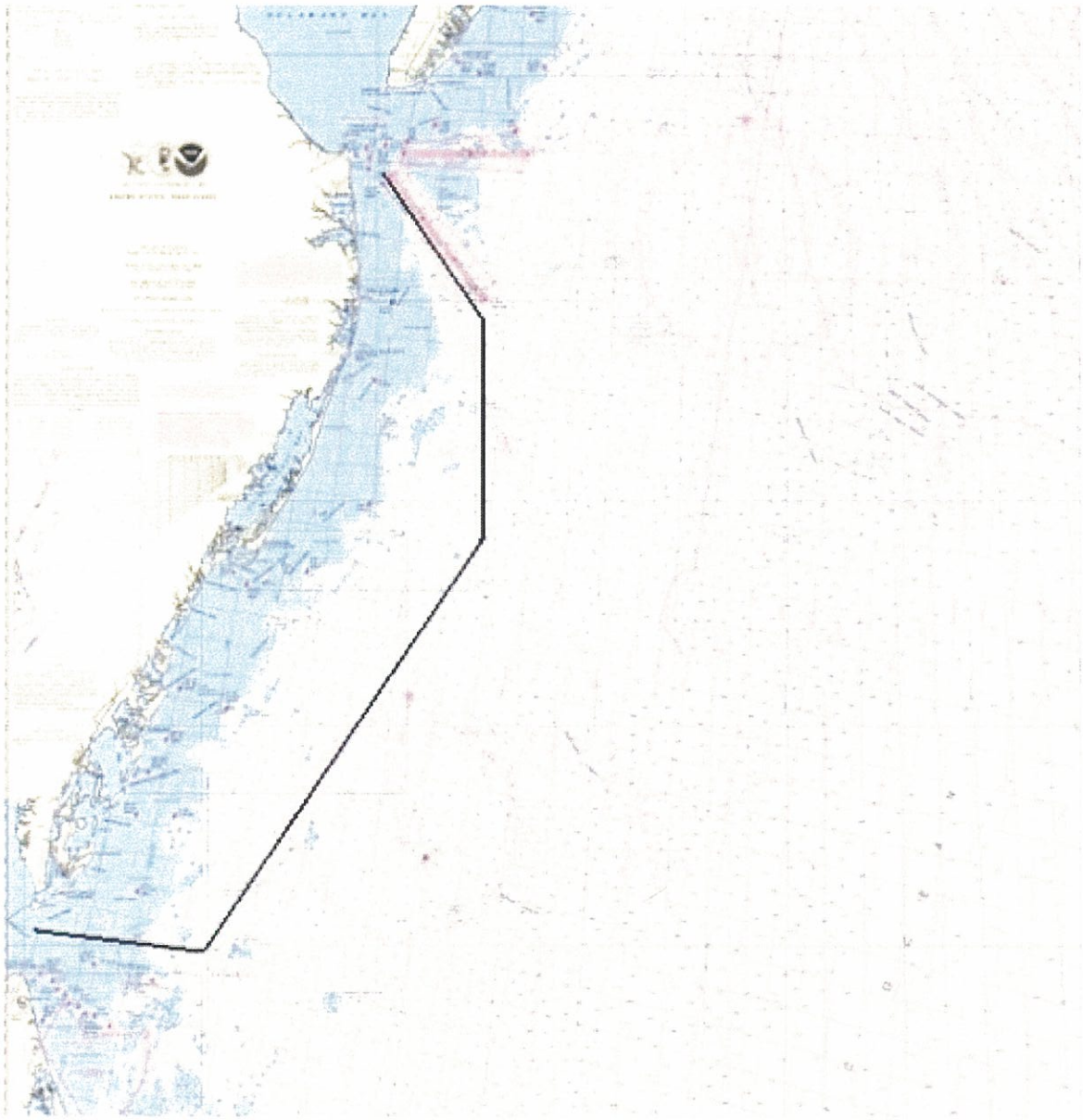

Figure 2.4 – Probable Tow Route: Delaware Bay to Chesapeake Bay

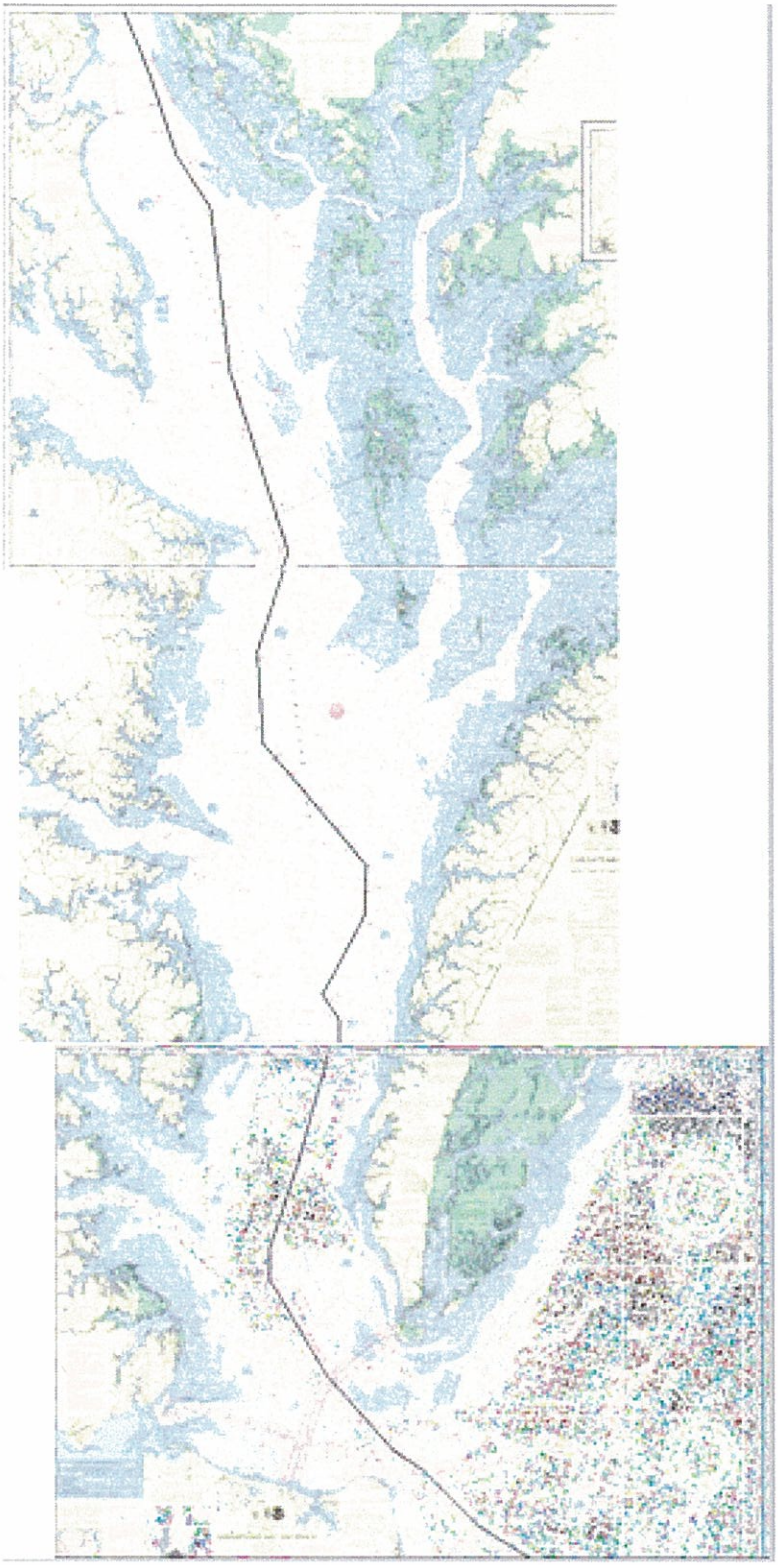

Figure 2.5 – Probable Tow Route: Up the Chesapeake

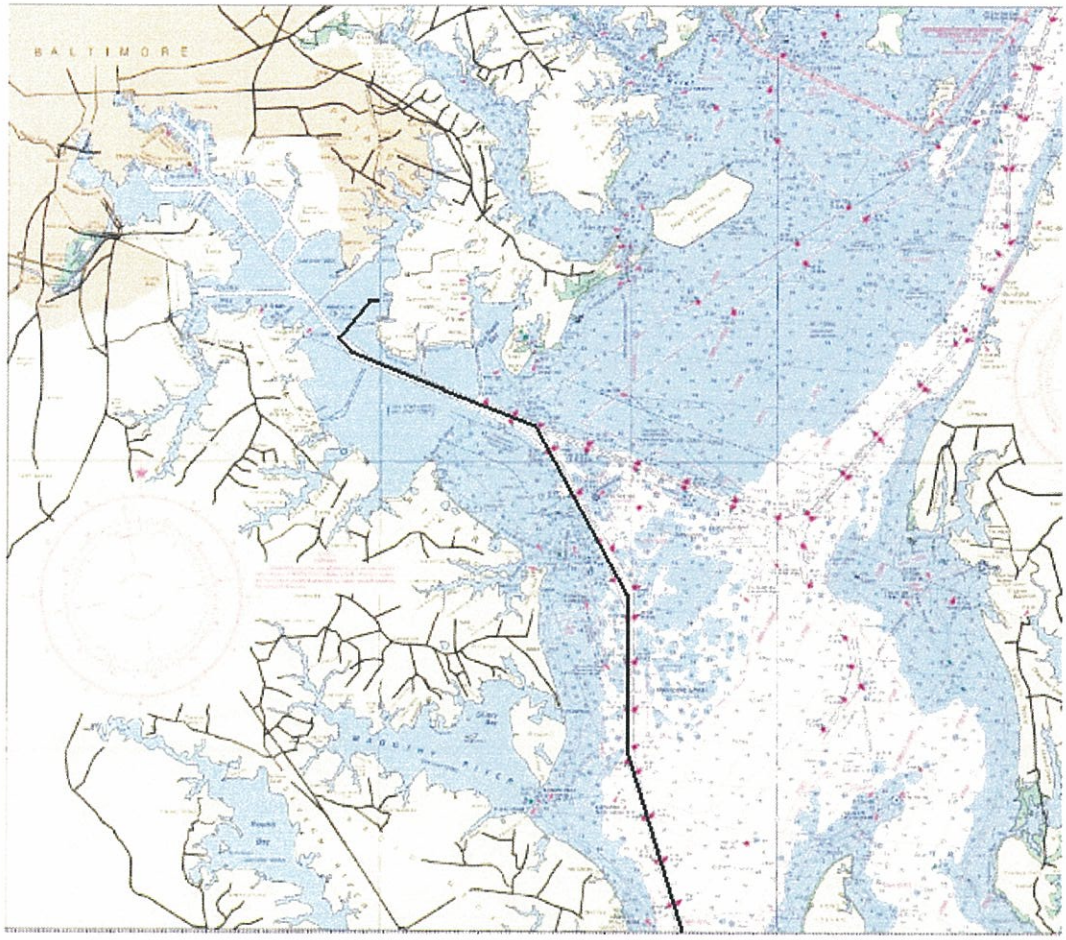

Figure 2.6 – Probable Tow Route: Arrive at Sparrows Point

2.4 Brownsville, Texas, Alternative

This alternative would dismantle ex-FORRESTAL at a facility in Brownsville, TX (Figure 2.7). The commercial facility has the capability of dismantling a carrier of this size and would not require construction of any new facilities.

The Port of Brownsville, located three miles from Mexico, is two miles from Brownsville, the southernmost city in Texas. A seventeen mile ship channel connects the Port from the Gulf of Mexico at South Padre Island.

The towing to Brownsville meets the requirements for safety, navigation, environmental, and other safeguards. A probable tow route is shown in Figures 2.8 and 2.9.

The transit from the channel entrance is approximately 17 miles. Two mile-long rock jetties protect the channel entrance. Navigationally, the ship channel has no bridges or other obstructions for the entire length of this virtually straight waterway. The shallowest part of the transit is the turning basin at 36 ft. The rest of the transit uses a deep water channel that has controlling depths at mean low water of 42 to 44 ft, depending on location.

Figure 2.7– Facilities along Brownsville, TX Ship Channel (CLUI photo)

Figure 2.8 – Probable Tow Route from Delaware Bay to Brownsville, TX

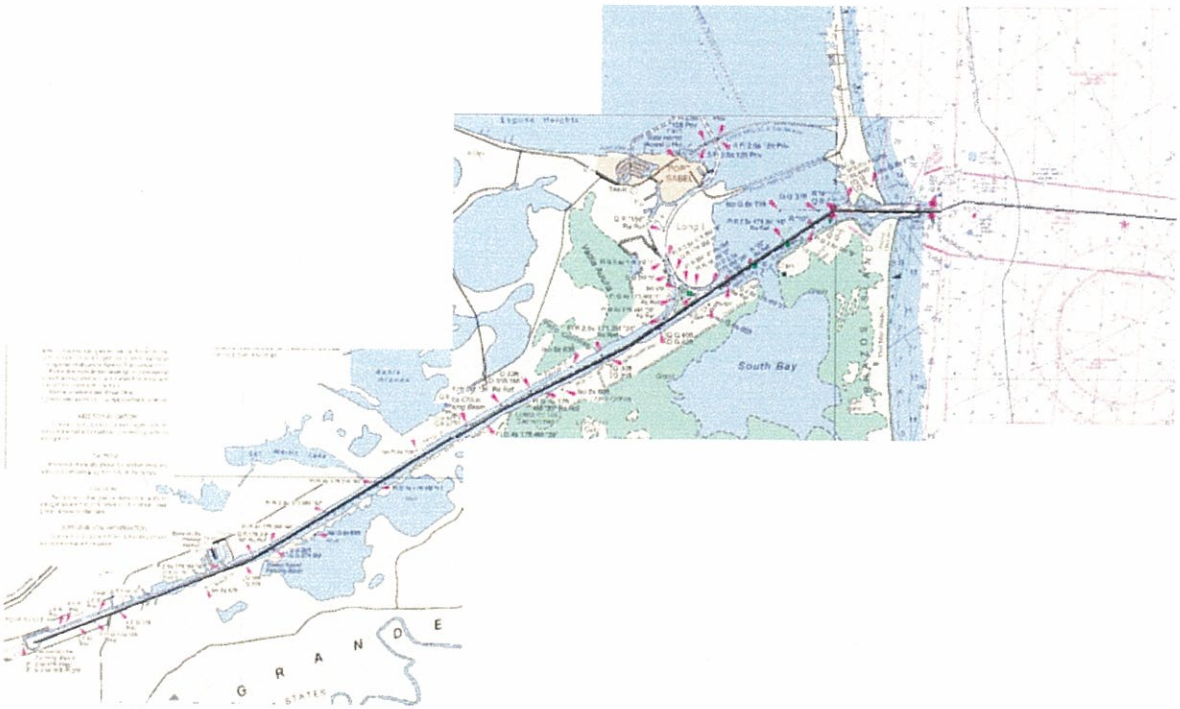

Figure 2.9– Probable Tow Route along channel to Brownsville, TX

2.5 No-Action Alternative

If the Federal Government is unable to award a dismantling contract, the No-Action alternative would result by default. The No-Action alternative includes continued berthing of ex-FORRESTAL at INACTSHIPMAINTO Philadelphia, PA.

If the vessel is not removed from the inactive ship inventory, the ship will continue to be maintained in safe stowage (i.e., fire and flooding protection).

The No-Action alternative does not meet the Navy's operational need to remove the vessel from the Navy's inactive ship inventory.

2.6 Summary of Impacts

This EA has determined that implementation of either of the Proposed Action alternatives or the No-Action Alternative would not result in significant impacts to any resource area. The environmental consequences associated with implementation of these alternatives are presented and compared in Table 2-1. For a detailed description and analysis, refer to Chapter 3, Environmental Conditions and Consequences.

Table 2-1. Summary of Impacts

Resource Area	Sparrows Point, MD, Alternative	Brownsville, TX, Alternative	No-Action Alternative
Cultural Resources	• Adverse effect on the vessel. Compliance with ACHP Program Comment prior to dismantling will mitigate the adverse effect; thus no significant impact. • No adverse effects on other cultural resources.	• Adverse effect on the vessel. Compliance with ACHP Program Comment prior to dismantling will mitigate the adverse effect; thus no significant impact. • No adverse effects on other cultural resources.	No adverse effects.
Water Resources	Insignificant temporary impacts of turbidity and potential spills from towing activities. Compliance with NPDES permits, state, and local regulations would avoid significant impacts from dismantling.	Insignificant temporary impacts of turbidity and potential spills from towing activities. Compliance with NPDES permits, state, and local regulations would avoid significant impacts from dismantling.	No Significant Impacts
Biological Resources	• The Proposed Action will have no effect on threatened and endangered species and no reasonably foreseeable takes are expected for marine mammals. • Insignificant temporary impacts of turbidity from towing activities. • No effect on Essential Fish Habitat.	• The Proposed Action will have no effect on threatened and endangered species and no reasonably foreseeable takes are expected for marine mammals. • Insignificant temporary impacts of turbidity from towing activities. • No effect on Essential Fish Habitat.	No Significant Impacts
Air Quality	Insignificant temporary impacts during towing and dismantling.	Insignificant temporary impacts during towing and dismantling.	No Impacts

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Cultural Resources

3.1.1 Regulatory Setting

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties. The lead Federal agency must also allow the ACHP an opportunity to participate in Section 106 consultation whenever it determines that the proposed undertaking will adversely affect historic properties or resources that are eligible for listing in the NRHP. The Federal agency, in consultation with the relevant SHPO, the ACHP, and other consulting parties, must consider methods that would minimize, mitigate, or avoid any adverse effects that such undertaking would cause on properties that are listed in the NRHP, or that are determined to be eligible for listing. Sections 106 and 110 of the NHPA requires Federal agencies to identify, evaluate, inventory, and protect historic properties (that are eligible for listing in or are already listed in the NRHP) that are under their jurisdiction and control. The NHPA imposes no absolute preservation requirements, however, the Navy must follow and document mandated procedures for any Navy decision regarding undertakings that may affect cultural resources.

The Department of Interior, through the National Park Services (NPS), established four criteria for determining whether a property is eligible for listing in the NRHP. The four evaluation criteria are codified in 36 C.F.R. § 60.4 and are as follows:

a. are associated with events that have made a significant contribution to the broad patterns of our history; or
b. are associated with the lives of persons significant in our past; or
c. embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d. have yielded, or may be likely to yield, information important in prehistory or history

Navy vessels that meet one or more of these criteria, and that continue to possess integrity of (as appropriate) design, materials, workmanship, feeling and/or association are eligible for listing in the NRHP.

The Navy, in considering listing a historic vessel, would prepare a Determination of Eligibility or Determination of Ineligibility document for listing in the NRHP, and consult with the appropriate SHPO.

Requirements regarding consultation with consulting parties such as the ACHP, SHPO, Tribal Historic Preservation Office (THPO), Indian tribes, and interested public vary on a case by case basis. In general, Federal agencies should initiate consultation at the earliest stage in the planning process to allow consideration of all possible alternatives that would minimize, mitigate, or avoid adverse effects to a historic property.

3.1.2 Affected Environment

Ex-FORRESTAL meets the criteria to be eligible for listing on the NRHP according to an evaluation prepared by the NHHC ships history division. Support for eligibility includes: ex-FORRESTAL is the first of her class and the very first super carrier, representing a revolutionary change in naval design and warfighting capability. In 1993, per Navy regulations, the ship forwarded 132 items of historic nature to the NHHC. The NHHC removed several additional items of historical interest following the ship's removal from donation hold status.

In accordance with the ACHP Program Comment procedures of March 15, 2010, the NCSHPO and other historic preservation stakeholders were notified on June 30, 2010, of the Navy's determination that ex-FORRESTAL was eligible for listing in the National Register of Historic Places. The Navy solicited public comments for a sixty-day period in accordance with the Program Comment procedures and received no responses.

The Navy will annotate the vessel's entry in the NVR to reflect listing eligibility and include the basis for eligibility (the public can access the NVR at http://www.nvr.navy.mil). The Navy has also made available a documentation package consisting of historically significant records such as command operation reports, war diaries, and deck logs, as they are submitted (the public would be able to access the documentation package at the NHHC).

There are steps the Navy shall take, under the ACHP Program Comment, for eligible vessels not designated for donation: (1) give priority to compiling histories of these eligible vessels when preparing entries in the Dictionary of American Naval Fighting Ships; (2) retain and provide public access to historical documentation from NRHP eligible vessels such as command operation reports, war diaries, and ship deck logs at the NHHC; (3) in addition to the standard curatorial items removed from the vessel upon decommissioning in accordance with required Navy policy, the Navy would make the vessel available to the Navy Curator and eligible non-profit organizations for removal of additional equipment, parts of the vessel, etc., that contribute to the historical significance of the vessel; (4) within three years of designating a NRHP-eligible vessel for final disposition, deposit with the National Archives and Records Administration documentation consisting of archivally stable media of the Booklet of General Plans and the last report of the Board of Inspection and Survey describing the material condition of the vessel.

By following this ACHP Program Comment, the Navy would meet its responsibilities for compliance with Section 106 of the NHPA concerning the evaluation of vessels for eligibility for listing in the NRHP and the final disposition of eligible vessels.

3.1.2.1 INACTSHIPMAINTO Philadelphia

Ex-FORRESTAL is currently moored at INACTSHIPMAINTO, which is within the Philadelphia Naval Shipyard Historic District (PNSHD). The PNSHD is listed on the NRHP and considered significant under NRHP Criterion A for its roles in historic events such as U.S. Navy shipbuilding and repair, naval aviation, and U.S. Marine Corps training and deployment. The historic district is also considered significant under NRHP Criterion C for embodying both the distinctive characteristics of a period of construction and for

representing a significant and distinguishable entity (McVarish, 1999). Although archaeological sites or archaeologically sensitive areas have been identified at the Philadelphia Naval Business Center, there is a low probability for archaeological value at INACTSHIPMAINTO, given the level of development at the site. Therefore, it is concluded that the proposed location does not contain any sensitive historical, cultural or archaeological resources that could be impacted by the Proposed Action.

3.1.2.2 Sparrows Point, Maryland

The Sparrows Point Shipyard Industrial Complex is a 226 acre facility of which 150 acres are on dry land and 76 acres are in water. It was constructed in 1889 by the Maryland Steel Company and later by Bethlehem Steel Company and was the site of ship construction from 1891 to the early 1990s. Current operations consist solely of ship dismantling and scrapping. The Sparrows Point Shipyard (Maryland Historic Trust [MHT] Inventory No. BA-3208) is identified as a historic district that is eligible for listing in the NRHP. The Sparrows Point Shipyard was critical in the development of America's steel industry in the early twentieth century and was a critical industrial hub during World War II, contributing to American victory against the Axis Powers. Despite modifications to a number of buildings the historic character and skyline of the installation remains largely intact. Due to previous extensive ground disturbances from industrial land use, no sensitive terrestrial archaeological resources are expected within the Sparrows Point Shipyard. Based on a marine archaeological remote sensing survey undertaken in July 2006 (Pelletier et al., 2006), no submerged cultural deposits exist in the project area.

3.1.2.3 Brownsville, Texas

The Port of Brownsville has been in operation since 1936 when the Brownsville Ship Channel (BSC) was originally dredged. It has undergone vast growth since then and can support large vessels. It is not listed in the NRHP.

There are four dismantling facilities currently in operation at Brownsville, TX, which MARAD and the Navy have used for vessel dismantling. None of the facilities satisfy eligibility criteria for listing in the NRHP, nor operate under any restrictions pertaining to historic or cultural resources.

Therefore, it is concluded that the Brownsville, TX, location does not contain any sensitive historic, cultural or archaeological resources that could be impacted by the Proposed Action.

3.1.3 Environmental Consequences

Because Ex-FORRESTAL is eligible for listing in the NRHP, the Navy has determined that the Proposed Action will have an adverse effect on the ship. According to 36 C.F.R. § 800.5(a)(1), an adverse effect results "when an undertaking may alter directly or indirectly any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association."

Prior to dismantling the vessel, the Navy shall follow the ACHP Program Comment procedures discussed in Section 3.1.2 to mitigate the adverse effect resulting from the Federal undertaking.

3.1.3.1 Sparrows Point, Maryland, Alternative

The dismantling of ex-FORRESTAL would require demolition of the ship. There would, therefore, be an adverse effect from the Proposed Action; however the Navy has undergone the Section 106 process through notification to NCSHPO and other historic preservation stakeholders and compliance with the ACHP Program Comment. In addition, ex-FORRESTAL has already been through the historic assessment process and historically significant artifacts have already been removed.

The Proposed Action does not require dredging, so there would be no impact on any submerged maritime archaeological sites. The removal of the vessel from INACTSHIPMAINTO Philadelphia would not have an effect on the PNSHD historic property. Dismantling of the vessel would not affect any historic properties at Sparrows Point Shipyard. Besides the vessel itself, there would be no effects on cultural resources as a result of this alternative.

3.1.3.2 Brownsville, Texas, Alternative

Under this alternative, the ship would be towed to the dismantling facility in Brownsville, TX. Impacts on cultural resources would be the same as under the Sparrows Point, MD, Alternative. Besides the vessel itself, there would be no effect on cultural resources as a result of this alternative.

3.1.3.4 No-Action Alternative

Under the No-Action Alternative, the ship would remain in INACTSHIPMAINTO Philadelphia, PA and there would be no adverse effects on cultural resources at the facility, or on the vessel itself. The ship would continue to be maintained in a safe stowage condition (i.e., fire and flooding protection).

3.2 Water Resources

This section describes the existing conditions and potential environmental consequences for water resources, including water and sediment quality in the project area. Surface water includes bays and estuaries, lakes and ponds, rivers and creeks, and overland precipitation runoff. Sediment quality describes the chemical and physical composition of water and sediment in bodies of water. For the purposes of this analysis, water and sediment quality is evaluated with respect to possible disturbances of existing conditions associated with the proposed project activities. This project is entirely in-water and all considered alternatives are at hard shorelines developed with piers and other facilities, thus no groundwater would be impacted and will not be discussed.

3.2.1 Regulatory Setting

Water resource regulations focus on the protection of beneficial uses of water within the vicinity of the project area. The principal Federal law protecting water quality is the Clean Water Act (CWA), as amended (33 U.S.C. § 1251 et seq.), which is enforced by the U.S. Environmental Protection Agency (EPA). Under Section 303(d) of the CWA and EPA's Water Quality Planning and Management Regulations (40 C.F.R. Part 130), States are

required to develop total maximum daily loads (TMDLs) for impaired waterbodies unable to meet their designated uses. A TMDL "establishes the amount of a pollutant that a water body can assimilate without exceeding its water quality standard for that pollutant".

Section 307(c) of the Coastal Zone Management Act (CZMA) requires that any Federal actions that would directly or indirectly affect any land or water use or natural resource of the coastal zone must be consistent to the maximum extent practicable with the state program. The state of Pennsylvania has prepared a Coastal Management Program (CMP).

3.2.2 Affected Environment

3.2.2.1 INACTSHIPMAINTO Philadelphia

Water Quality

INACTSHIPMAINTO is within the Philadelphia Naval Business Center (PNBC) that lies on the boundary between two watersheds. The Schuylkill River watershed encompasses 2,000 square miles in southeastern Pennsylvania and is Delaware River's largest tributary. The Delaware River watershed encompasses about 13,500 square miles in four states: New York, New Jersey, Pennsylvania, and Delaware. Surface water runoff on the northern and western parts of the PNBC drains into the Schuylkill River near its confluence with the Delaware River. Surface water runoff on the southern and eastern parts of the PNBC drains directly into the Delaware River. The river flows generally south from the PNBC and empties into the Delaware Estuary, which is connected to the Atlantic Ocean.

The PNBC has approximately 2.3 miles of shoreline on the Delaware River and 0.5 miles of shoreline along the Schuylkill River. The shorelines of both the Schuylkill and Delaware rivers in the vicinity of INACTSHIPMAINTO are heavily developed with residential, commercial, and heavy manufacturing land uses. Both the Schuylkill and Delaware rivers are used for municipal and industrial water supplies and as discharge points for treated wastewater. The intensity of shoreline development and water use has degraded the water quality of these rivers in the area of INACTSHIPMAINTO.

PCBs are of particular concern in the Delaware River due to high PCB concentrations found in fish tissue. The segment of the Delaware River between the head of Delaware Bay (River Mile 48.2) and Trenton, New Jersey (River Mile 133.4) has been found to be impaired. In 2003, a PCB TMDL of 44.8 picograms per liter was developed for the portion of the Delaware River adjacent to the PNBC. This is the only TMDL developed for the Delaware River in Pennsylvania.

Sediment Quality

Given the heavy industrial history of the project areas and the known contamination of Delaware River sediments, sediment quality is anticipated to be poor. Studies were conducted on the Delaware River in the vicinity of the project areas in 1995 and 1997 as part of a proposed channel deepening project. Area sediments are predominantly silty clay and silty sand. Bulk sediment analyses found no frequent occurrences or high concentrations of pesticides, PCBs or volatile and semi-volatile organics. Sediment organic contaminants including polynuclear aromatic hydrocarbons (PAHs) and phthalates (di-n-butyl phthalate) were detected at several locations. Most sample concentrations, however, were well within the acceptable range of guidelines used by the New Jersey

Department of Environmental Protection (NJ DEP) and the Delaware Department of Natural Resources and Environmental Control. Of the 126 sediment organic contaminant concentrations, four exceeded NJ DEP's residential soil cleanup criteria. Two samples had concentrations of benzo(a)anthracene (1.2 and 1.0 ppm) above the criterion of 0.6 ppm, and two samples had concentrations of benzo(a)pyrene (0.39 and 0.34 ppm) above the critierion of 0.2 ppm. Heavy metals were found to be widely distributed, but concentrations were acceptable in comparison to New Jersey and Delaware guidelines. Thallium and arsenic were the only contaminants that exceeded the NJ DEP standard. Of the 45 samples, two had thallium concentrations (5.33 ppm and 7.24 ppm) above the residential criterion of 5 ppm. Two samples had arsenic concentrations (51.4 ppm and 37.4 ppm) above the residential criterion of 19 ppm. Bulk sediment data from the Delaware River berthing areas did not differ significantly from data derived from the main navigation channel (USACE, 1997).

This facility has been in operation for over sixty years, thus sediment quality beneath and surrounding the vessel is likely to be degraded. The U.S. Army Corps of Engineers (USACE) conducted a sediment and water quality study in 2009 for the area. Analysis found bulk sediment concentrations exceeded consensus-based sediment threshold effect concentrations (i.e. concentrations above which harmful effects on aquatic life are likely to be observed; MacDonald et al., 2000). Concerned sediment concentrations include PCBs, DDT, DDE, endrin and mercury. Additionally, dissolved elutriate PCB concentrations were found to exceed the Delaware River Basin Commission (DRBC)'s chronic water quality criterion for the protection of aquatic life and DRBC's criterion for human health and fish ingestion. Despite the occurrence of concerned chemicals, none of the parameters exceeded the Pennsylvania Department of Environmental Protection (PADEP) general permit for beneficial criteria value (USACE, 2009).

3.2.2.2 Sparrows Point, Maryland

Water Quality

The Sparrows Point Shipyard is situated in Baltimore Harbor along the Patapsco River. Water quality at the Baltimore Harbor is impaired due to contamination by chlordane, PCBs, metals, low oxygen, and bacteria in tidal waters. Siltation in non-tidal waters, a consequence of urban runoff, habitat alteration, and channelization, results in the failure of some areas to meet all designated uses. Fish consumption advisories are in place for Baltimore Harbor (EPA, 2007).

Maryland Department of the Environment (MDE) has designated the Patapsco River as Classification II for Tidal Water indicating migratory spawning and nursery use (February 1 through May 31), shallow water submerged aquatic vegetation use (April 1 through October 30), open water fish and shellfish use (January 1 through December 31), seasonal deep water fish and shellfish use (June 1 through July 30), and seasonal deep channel refuge (June 1 through September 30).

Sparrows Point is within the Upper Chesapeake Subregion which is part of the Mid-Atlantic Watershed Region. The Chesapeake Bay basin encompasses 64,000 square miles of land including portions of six states (Maryland, Virginia, New York, Pennsylvania, West Virginia, and Delaware) and the District of Columbia. Approximately 94% of

Maryland drains to Chesapeake Bay (USGS, 2007). In 2000, the Chesapeake Bay was listed as an impaired waterbody by the EPA due to excess nutrients and sediment (EPA, 2004). The watershed area surrounding the Sparrows Point Shipyard is primarily urban, with a population of nearly 1.5 million people; it has been impacted by point source and non-point source pollution resulting in water quality degradation.

Sediment Quality

Sediments from Sparrows Point are composed primarily of clay particles and have been classified as impaired by the MDE. Specific contaminants for the Baltimore Inner Harbor include PCBs, PAHs, chlordane, mercury and nickel; Sparrows Point includes PAHs and metals. Sediment analyses have been conducted in 2006 and 2007 by the FERC for the construction and operation of a LNG import terminal and natural gas pipeline facilities. Sediment test results were compared to the Threshold Effects Level (TEL)[6] and the Probable Effects Level (PEL)[7] as provided by the EPA Marine Sediment Guidelines. Results found PAHs exceeded the PEL at multiple surface locations. The locations with the most elevated concentrations of PAHs were close to shore along the finger docks of the historic shipbuilding docks. Similar to the pattern for PAHs, the concentrations of metals generally decreased with depth with fewer exceedances of the PELs in the intermediate and deep samples. All metals exceeded PEL at the shallow depth and most exceeded at the intermediate depth interval. Only arsenic and mercury exceeded sediment criteria at depth (FERC, 2008).

3.2.2.3 Brownsville, Texas

Water Quality

The City of Brownsville is located near the U.S.-Mexico border, where the Rio Grande River flows into the Gulf of Mexico. Ship recycling facilities in the vicinity are located within the Port of Brownsville, which is in a man-made inlet south of South Padre Island. The Port connects to the Gulf via Brazos Santiago Pass. The Brownsville Shipping Channel (five mile section of the navigation channel) extends from the Port to the Laguna Madre. The remaining twelve mile section of the channel was dredged through coastal prairie and passes adjacent to or through three salt marsh areas (Vadia Ancha, Bahia Grande, and San Martin Lake).

The Laguna Madre, which is a shallow productive lagoon, lies between the mainland and the barrier islands. The Laguna Madre drains most of the Nueces-Rio Grande Coastal Basin (10,442 square miles) and is one of only five hypersaline or negative estuaries in the world. The Laguna Madre is a shallow, bar-built coastal lagoon with limited freshwater inflow and a surface area at mean high tide of 729 square miles. Freshwater inflows to lower Laguna Madre average less than 530,000 acre-feet per year and, an important conduit of freshwater to the lagoon is the Brownsville Shipping Channel. Tides in the Laguna Madre are minimal. Ecologically, the Laguna is characterized as exhibiting hypersaline conditions, barren shorelines with extensive wind-tidal flats, extensive submerged seagrass meadows, and a highly productive fin fishery (TCEQ, 2008).

[6] TEL represents the concentration below which adverse effects are expected to occur only rarely.
[7] PEL is the level above which adverse effects are frequently expected.

The Brownsville Shipping Channel is listed as having impairment for bacteria as a result of the 2010 assessment. This impairment may be related to the numerous wastewater treatment plants that discharge to the segment. The aquatic life use (ALU) designation is exceptional[8]. The ship channel also has a concern for depressed dissolved oxygen (DO) based on screening levels (TCEQ, 2010). TMDL has not been established for this water body.

Historical data from the USACE regarding metals, several pesticides, and polycyclic aromatic hydrocarbons, indicate that the water quality in the entrance channel is generally good. Recent data on samples collected in April 2004, also indicate that water quality is good (USACE, 2004). None of the contaminants of concern exceeded applicable EPA Water Quality Criteria or Texas Surface Water Quality Standards (WQS). For example, arsenic was detected at 2.33 ug/L as compared to the WQS acute level of 149 ug/L and chronic level of 78 ug/L. Since 1998, the Gulf of Mexico along the entire Texas coast has been listed by the Department of State Health Services as being impaired for mercury contamination. Health advisories concerning the consumption of large king mackerel (over 43 inches in total length) taken from the Gulf of Mexico were issued due to high level of mercury found in fish tissue.

Sediment Quality

The sediments at the navigation channel consist of deposited sands transported by littoral currents. Sediments in the jettied segment of the Entrance Channel have been regularly sampled for size characteristics between dredging cycles since the early-1990s. The sediment in this channel reach is primarily sand with silt and a small clay fraction. Historical USACE data of this deposited material in the navigation channel indicate that the sediment quality is good. Elutriate data showed that none of the contaminants of concern exceeded the Texas Surface WQS. Although currently there is no EPA quality criteria for sediments, sediment samples were compared with the sediment quality screening guidelines from the National Oceanic and Atmospheric Administration (NOAA) Environmental Research Laboratories (ERL). Results indicate that none of the contaminants of concern exceeded the screening levels. For example, the maximum concentration of arsenic in sediment samples was detected at 5.05 mg/kg, which is below the NOAA ERL screening level of 8.2 mg/kg (USACE, 2004). The BSC has a concern for iron in sediment on a screening level basis.

3.2.3 Environmental Consequences

3.2.3.1 Sparrows Point, Maryland, Alternative

INACTSHIPMAINTO Philadelphia

The Proposed Action does not require dredging or a discharge permit, thus the impact on water resources would be minimal and temporary from towing within the vicinity of INACTSHIPMAINTO Philadelphia. Potential impacts include bottom sediment disturbance and surface water turbidity resulting from towing operations. Towing can pose a risk to water quality if toxic levels of contamination from exfoliating paint chips on

[8] ALU designation for freshwater and saltwater includes exceptional, high, intermediate, limited, and minimal.

vessel hulls are released into the environment. However, the ship will be towed according to the U.S. Navy Towing Manual. Compliance with towing guidelines would ensure that impacts from the discharge of paint chips would not be significant during the tow. There is potential risk for oil spill due collision, grounding, or tank or hull rupture or leakage. However, such events are rare. Additionally, the vessel is subject to detailed inspections to ensure it is safe for towing. Towing procedures and safety measures would be implemented to minimize potential for collision or grounding of the vessel during transport. Overall, the Proposed Action would not have a significant impact on water quality.

The project areas would be returned to the pre-existing conditions following the removal of the ship. Due to the industrial nature of the site, no submerged vegetation or sensitive marine habitat exists in the project area. Potential biological impacts are analyzed in section 3.3 of this EA.

The Navy has determined that the Proposed Action would be consistent to the maximum extent practicable with the enforceable policies of the state CMP (see Appendix B).

Sparrows Point, Maryland

Potential impacts to water resources for the Sparrows Point Alternative are similar to those described under INACTSHIPMAINTO Philadelphia. Except for bottom sediment disturbance and surface water turbidity, the proposed action should have no adverse impacts on water and sediment quality. Any impacts are expected to be minor and will be temporary.

The contracted recycling/dismantling facility must have possession of all permits necessary for the performance of ship recycling activities. The facility will be closely monitored by the EPA, state environmental protection agencies, the OSHA, and other relevant agencies and boards to ensure compliance with rigorous environmental and worker safety requirements. Compliance with regulations would avoid significant impacts on water and sediment quality. The dismantling contract includes a clause that requires the contractor to comply with all applicable Federal, state and local environmental and occupational safety & health laws and regulations. Because the Proposed Action is to dismantle ex-FORRESTAL at an existing industrial facility capable of dismantling the ship, it is not anticipated that the contractor will need to obtain any additional regulatory permits in order to perform the requirements of the contract.

3.2.3.2 Brownsville, Texas, Alternative

INACTSHIPMAINTO Philadelphia

Similar to the Sparrows Point, MD, Alternative, the Brownsville, TX, Alternative requires removal of the vessel from INACTSHIPMAINTO Philadelphia through towing. The environmental impacts at this location are described in Section 3.2.3.1 and are not repeated here.

Brownsville, Texas

Similar to INACTSHIPMAINTO Philadelphia, the primary ways which water resources can be impacted from the proposed action include the temporarily localized impairment of water quality. Conducting the towing in deep water and in compliance with towing

guidelines would minimize any impacts. In addition, all recycling/dismantling activities will be conducted in compliance with applicable Federal and state environmental laws. The dismantling contract includes a clause that requires the contractor to comply with all applicable Federal, state and local environmental and occupational safety & health laws and regulations. Because the Proposed Action is to dismantle ex-FORRESTAL at an existing industrial facility capable of dismantling the ship, it is not anticipated that the contractor will need to obtain any additional regulatory permits in order to perform the requirements of the contract. Therefore, implementation of the Brownsville, TX Alternative would not have a significant impact on water resources.

3.2.3.3 No-Action Alternative

Under the No-Action Alternative, ex-FORRESTAL would not be contracted for dismantling and would not be removed from INACTSHIPMAINTO Philadelphia. As a result, there would be no significant water resources and quality impacts to INACTSHIPMAINTO Philadelphia as a result of this action.

3.3 Biological Resources

3.3.1 Regulatory Setting

The Federal laws and requirements protecting many bird species are the Migratory Bird Treaty Act (MBTA) and EO 13186 Responsibilities of Federal Agencies to Protect Migratory Birds. The Marine Mammal Protection Act (MMPA) protects marine mammals from "take" (harm or harassment). The Federal Endangered Species Act (ESA) protects Federally-listed threatened and endangered (T&E) plant and animal species. Threatened and endangered species are defined as those plant and animal species in danger of extinction throughout all or a significant portion of its range, by the United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), or appropriate state agency.

3.3.2 Affected Environment

Biological resources consist of native and nonnative plant and animal species and the habitats in which they occur. Biological resources can be grouped into two primary categories: terrestrial and marine resources. Since this project is almost entirely in water, the discussion will only focus on marine resources as well as migratory birds.

Marine biological resources are transient resources that can range in and out of surrounding habitat area. As a result, this section not only includes species that are within the project action area but also ones that may be affected by the project. For example, a fish may be included if it lives downstream from the area; and birds include resident and migratory species.

Each location section is divided into subsections that address: 1) wetlands; 2) benthic communities; 3) fish and Essential Fish Habitat (EFH); and 4) protected species in the area.

3.3.2.1 INACTSHIPMAINTO Philadelphia

Wetlands

Wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Both the Delaware and Schuylkill Rivers, and their undeveloped shorelines are designated tidal riverine systems by the National Wetlands Inventory. Tidal riverine systems have water that is usually flowing, the gradient is low and water velocity fluctuates under tidal influence, the stream bed is mainly mud with occasional patches of sand, and fauna include species that thrive in still water and true planktonic organisms. There are no wetlands at the INACTSHIPMAINTO facility.

Benthic communities

Benthic organisms dwell on mudflats, on the bottom of tidal marshes and open water areas, and on hard surfaces below the intertidal zone. Benthic invertebrates are an important component of the food chain as they are an important food source for demersal (bottom dwelling) fishes, crabs, and shorebirds. In 1996, the EPA performed a Mid-Atlantic Integrated Assessment (MAIA) of benthic conditions in the Delaware River estuary to track the condition of benthic communities. According to the results of the MAIA, the benthic condition in the project area was classified as "severely impacted."

The Delaware Estuary is characterized by an historical lack of Submerged Aquatic Vegetation (SAV), predominantly due to naturally-occurring low water clarity. It is also one of the most nutrient enriched estuaries in the world, although harmful phytoplankton blooms are held in check by other factors, including low water clarity (EPA, 2006). No SAV was observed in the project area in 2007.

Species that occur in the area would include freshwater mussel species, crabs, and snail species. These species would not be fit for consumption because of the water quality of the Delaware River. Only blue crab (*Callinectes sapidus*) is known to be harvested by individuals. No shellfish or macroinvertebrates were observed in the project area during site inspections for wharf repairs in 2007.

The Delaware River is an important migratory flyway for numerous bird species. As a result, avian species diversity would be greatest during the spring and fall months. Bird species utilizing the area as habitat would generally be limited to those species that are tolerant of human activities; these species include sparrow species, dove species, European starlings as well as corvid species (crows and jays) and gulls. However, since many sites in the vicinity are currently abandoned, less tolerant species could be found in these areas.

Aquatic birds found in the vicinity that forage primarily on benthic organisms include the bufflehead (*Bucephala albeola*); while fish eating aquatic birds found in the vicinity include the hooded merganser (*Mergus merganser*) and cormorants (*Phalacrocorax auritus*). These species are fall and spring migrants and over wintering birds within the area. Diving ducks, including the ruddy duck (*Oxyura jamaicensis*), canvasback (*Aythya valisineria*), and lesser scup (*A. affinis*), are also present in the vicinity and feed on aquatic invertebrates (SAIC, 2004).

A River Otter (*Lontra canadensis*) has been spotted in the Schuylkill River about three miles upriver from the INACTSHIPMAINTO. However, no otters have been sited in the project area as they prefer clearer water and shorelines. Marine mammals such as whales have been recorded in the Delaware River following anadromous[9] fish migrations. Such instances are extremely rare.

Fish and Essential Fish Habitat

The project area is not classified as EFH by NMFS. Habitat value for the fish species in the project area is considered to be minimal. Eight species of anadromous fish use the Delaware River as a migratory corridor. Within the vicinity of the project area, recreational fishing is limited by pollution and marine traffic. Except for small harvests of American shad (*Alosa sapidisima*), and blueback herring (*Alosa aestivalis*), minimal fishing occurs. Most commercial fishing occurs approximately fifty-three miles south of the Navy Yard where the Delaware River meets the Delaware Bay.

According to the Pennsylvania Fish and Boat Commission (PFBC), the shortnose and Atlantic sturgeon (*Acipenser brevirostrum, Acipenser oxyrhynchus*), the Eastern mudminnow (*Umbra pygmaea)* and the threespine stickleback (*Gasterosteus aculeatus)* have been recorded from sites near the INACTSHIPMAINTO. The Eastern mudminnow is a candidate for protective status within the state while the remaining species are currently considered threatened or endangered within the state. The mudminnow and the stickleback are unlikely to occur within the project area due to a lack of suitable habitat. The shortnose sturgeon is also a Federal endangered species and discussed below.

Protected Species

According to the USFWS; seventeen Federal T&E species occur in Pennsylvania and the shortnose sturgeon (*Acipenser brevirostrum*) is the only one found in the vicinity of the project area. Table 3-1 lists the T&E species in the project area.

Table 3-1. Threatened and Endangered Species List for Pennsylvania location

Common Name	Scientific Name	Status	Listing
FISH			
Shortnose sturgeon	*Acipenser brevirostrum*	E	Federal, Commonwealth of Pennsylvania
Atlantic sturgeon	*Acipenser oxyrhynchus*	T	Proposed listed Federal, Commonwealth of Pennsylvania
Eastern mudminnow	*Umbra pygmaea*	E	Commonwealth of Pennsylvania
Threespine stickleback	*Gasterosteus aculeatus*	C	Commonwealth of Pennsylvania
REPTILES			
Red-bellied turtle	*Pseudemys rubriventris*	T	Commonwealth of Pennsylvania
AMPHIBIANS			

[9] Anadromous fish are those that spend all or part of their adult life in salt water and return to freshwater streams and rivers to spawn

Common Name	Scientific Name	Status	Listing
New Jersey chorus frog	*Pseudacris feriarum kalmi*	E	Commonwealth of Pennsylvania
Coastal Plain leopard frog	*Rana utricularia*	E	Commonwealth of Pennsylvania
BIRDS			
Peregrine falcon	*Falco peregrinus*	E	Commonwealth of Pennsylvania

E = Endangered, T = Threatened, C = Candidate

In recent years, the major area of occurrence of the shortnose sturgeon in the Delaware River has been above Philadelphia (i.e., upstream of INACTSHIPMAINTO). Due to high salinity, occurrence of shortnose sturgeon are rare in this area.

In recent years, the area of greatest abundance of Atlantic sturgeon has been downstream of the project area, which may be due to the poor water quality in this period. Historically, NMFS and PADEP have limited in-water construction activities in the Delaware River to the eight and a half-month period from July 1 through March 14. Activities are prohibited between March 15 and June 30 to protect migrating Atlantic sturgeon and other fish species. Other species of fish, the eastern mudminnow and the threespine stickleback, inhabit wetlands and small streams and ditches and, therefore, are unlikely to occur in the project area.

The red-bellied turtle is one of Pennsylvania's largest native aquatic turtles and is known to inhabit relatively large, deep streams, rivers, ponds, lakes and marshes with permanent water and ample basking sites. Due to the industrial nature and lack of natural shoreline within the project area, this species is unlikely to be present. In addition, due to the poor water quality, the New Jersey chorus frog and Coastal plain leopard frog are unlikely to occur. No Federally protected amphibian or reptile species are known to occur in the project areas.

The only state threatened or endangered bird species known to occur in the area is the Peregrine Falcon. Peregrine falcons (*Falco peregrinus*), a Pennsylvania endangered species, are known to nest on the Girard Point Bridge (I-95) right at the entrance to the PNBC from the Schuylkill River. The falcon pair represents birds born and reared in captivity as part of the cooperative program between the state and Federal governments and Cornell University to reestablish the species in the eastern United States. No Federally protected bird species are known to occur in the project area.

Incidental occurrences of Federal threatened and endangered species have been noted in this area. Most recently, a beluga whale was spotted in the Delaware River during the Spring 2005 shad migration. Such instances are considered rare and are not expected to occur during the Proposed Action.

Additionally, there may be protected whales and turtles where Delaware Bay meets the Atlantic Ocean. They are oceanic and potential summer visitors to Delaware coastal waters and not expected to be in the Project Area along the Delaware River and Delaware Bay portion of the tow route.

3.3.2.2 Sparrows Point, Maryland

Wetlands

Wetlands in Chesapeake Bay are designated open water and tidal estuarine emergent wetlands. There are no wetlands identified at the dismantling facility in Sparrows Point.

Waterbirds use the open water habitat adjacent to the site. Seabirds and waterfowl within the Chesapeake Bay include gulls, terns, ducks such as scaup and scoters, double-crested cormorant, and brown pelican. A midwinter waterfowl survey is conducted annually by Maryland Department of Natural Resources (MDNR) biologists during the month of January, when waterfowl are considered to be in their wintering areas and migration has ended. Species observed in this area include Canada goose; American black duck; mallard; gadwall; American wigeon; canvasback; redhead; bufflehead hooded, common, and red-breasted mergansers (MDNR, 2010). The MDNR Wildlife Heritage Services (WHS) has indicated the presence of two colonial waterbird colonies in the vicinity of the terminal site, but both are more than 3,000 feet south of the dismantling area.

Benthic communities

Sampling conducted at the proposed site for the Federal Energy Regulatory Commission (FERC) for the construction and operation of a liquefied natural gas (LNG) Environmental Impact Statement (EIS) indicated that the benthic community consisted of 13 species and was dominated by the polychaete *Nereis succinea* (47% of collected individuals) followed by the bivalve *Tellina agilis*, and the polychaete *Streblospio benedicti* (combined 15% of collected individuals). Other invertebrates such as grass shrimp would also be expected in such estuarine habitats.

According to surveys completed for, and studies referenced in, the LNG EIS from December 2008, there is no SAV in the project area. There is no sensitive vegetation within this highly industrial area.

The Chesapeake Bay supports a major blue crab fishery. Low numbers of blue crabs were found in bottom trawls in the vicinity of the proposed LNG terminal. Due to the industrial nature of the facility, none are expected in the dismantling area.

Fish and Essential Fish Habitat

This is a highly industrialized area with an estuarine water characterization supporting fish species that can tolerate a wide range of salinities. This section of the Patapsco River is considered impaired due to point and non-point sources throughout the watershed and has been listed as an impaired waterbody under the CWA (USGS, 2007). However, the Chesapeake Bay Program is attempting to reduce nutrient and sediment loads in the bay.

The open waters of the Patapsco River provide a migratory corridor for anadromous and catadromous[10] fish that move between their respective spawning and nursery grounds in the main stem of the river and tributaries. These fish species include alewife, blueback herring, American shad, white perch, yellow perch, and American eel (NMFS, 2006). The American eel is the only true catadromous fish that may occur in the project area. Bluefish (Pomatomus saltatrix), and summer flounder (Paralichthys dentatus), are the species for which EFH has been identified by NMFS in the vicinity. Bluefish are present in the

[10] Catadromous fish spawn in the ocean but complete most of its life cycle in fresh water.

project area only in low numbers and only during a few months of the year. Summer flounder occupy inshore shallow coastal and estuarine waters during spring and summer and migrate offshore in the fall. They are not likely to be found in polluted areas or areas with inadequate circulation in Maryland coastal bays. Therefore, summer flounder do not generally occur in the project area during winter or spring and they may be present in the project area in low numbers during the late summer and early fall when they migrate offshore.

River herring, White Perch (Morone americana), and Yellow Perch (Perca flavescens) are not designated as EFH species but are important forage fish for managed game fish in the project area. River herring (also called alosine species) include American shad (*Alosa sapidissima*), hickory shad (*Alosa mediocris*), alewife (*Alosa pseudoharengus*), and blueback herring (*Alosa aestivalis*). The annual migration of river herring in the area occurs from late February through early June. During sampling for the LNG EIS in June and October 2006, no suitable habitat was identified for the American shad and none were captured in trawls. White perch are ubiquitous in estuaries and freshwater ecosystems and were the most abundant fish found in the area.

Protected Species

The state government entity responsible for protection of state listed species in the project area is the MDNR. Ten Federally listed endangered or threatened species potentially occur within the Project area. These include five mammals (North Atlantic right whale, humpback whale, fin whale, sperm whale, and sei whale), four reptiles (loggerhead sea turtle, Kemp's ridley sea turtle, green sea turtle, leatherback sea turtle), and one fish species (shortnose sturgeon). See Table 3-2. No critical habitat for Federally listed threatened and endangered species has been designated in the project area.

Table 3-2. Threatened and Endangered Species List for Maryland Alternative

Common Name	Scientific Name	Status	Listing
MAMMALS			
North Atlantic right whale	*Eubalaena glacialis*	E	Federal, Maryland
Humpback whale	*Megaptera novaeangliae*	E	Federal, Maryland
Fin whale	*Balaenoptera physalus*	E	Federal, Maryland
Sperm whale	*Physeter macrocephalus*	E	Federal, Maryland
Sei whale	*Balaenoptera borealis*	E	Federal, Maryland
REPTILES			
Loggerhead sea turtle	*Caretta caretta*	T	Federal, Maryland
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	Federal, Maryland
Green sea turtle	*Chelonia mydas*	T	Federal, Maryland

Common Name	Scientific Name	Status	Listing
Leatherback sea turtle	*Dermochelys coricea*	E	Federal, Maryland
FISH			
Shortnose sturgeon	*Acipenser brevirostrum*	E	Federal, Maryland
BIRDS			
Peregrine falcon	*Falco peregrinus*	N	Maryland
Bald eagle	*Haliaeetus leucocephalus*	W	Maryland (for breeding species)

E = Endangered, T = Threatened, N = Species in need of conservation, W= Watch List

The MDNR WHS also has records of peregrine falcon (designated by Maryland as a Species In Need of Conservation) nesting on the Francis Scott Key Memorial Bridge (I-695) (MDNR, 2007) approximately 1.5 miles from the pier. Bald eagles, Federally delisted, can be found in every state in the continental United States and Alaska. The Chesapeake Bay watershed supports one of the highest concentrations of bald eagles in the continental U.S., with most being found within one mile of the bay and its tidal tributaries. The bald eagle would occur over the waterway only as transient individuals during migration or moving within their range across Chesapeake Bay.

The NMFS reports that North Atlantic right whales, humpback whales and fin whales are rare visitors to the Chesapeake Bay and project site, but the area outside of the Bay is a high use area for this species, especially during migration. Sperm and Sei whales are found farther offshore than the other whales and their potential presence would be remote from the pier. However, sperm and Sei whales may be present within the towing path.

The Kemp's ridley, loggerhead, and green sea turtles are known to be present in the Chesapeake Bay from April 1 to November 30, but mainly in the late spring, summer, and early autumn when water temperatures are relatively warm. Leatherback turtles are seasonally present in the Bay. Recent data from sightings and incidental captures in fishing gear indicate that loggerhead and Kemp's ridley are the sea turtle species most likely to be found in the waters of the bay, while leatherback and green sea turtles are relatively less common. In general, sea turtles are less common in the upper bay; however, data from the MDNR sea turtle tagging program and from the Sea Turtle Stranding Salvage Network indicate that sea turtles do occur near the mouth of the Patapsco River. Typically sea turtles do not enter riverine environments and are unlikely to be present within the Patapsco River near the dismantling facilities.

A small and vulnerable population of shortnose sturgeon is known to be present in the Chesapeake Bay though no shortnose sturgeon were reported during June and October 2006 marine surveys in the Patapsco River.

3.3.2.3 Brownsville, Texas

Wetlands

Lower coast riparian wetlands are river bottom wetlands and river-associated habitats from the San Antonio River south to the Rio Grande. In this subhumid to semiarid region, some

of these habitats are called riparian corridors. Riparian habitats are usually transitional between uplands and wetlands. These depressional wetlands are often freshwater marshes dominated by plants like southern cattail and California bulrush in the wetter areas grading into various grasses and sedges and brush such as Drummond's rattlebush, retama, and salt cedar. Trees and shrubs that dominate these riparian zones include mesquite, huisache, salt cedar, hackberry/sugarberry, retama, cedar elm, Chinese tallow-tree, green ash, black and sandbar willow, and rattlebush. In the lower Rio Grande Valley, evergreen subtropical riparian woodlands can also include brush like brasil, anacua, granjeno, tepeguaje, Texas ebony, and locally, remnant groves of Texas palmetto (sabal palm trees). Animals found in riparian habitats include bald eagles, wading birds, ducks, woodpeckers, warblers, frogs, salamanders, turtles, snakes, alligators, bats, rabbits, beaver, squirrels, bobcats, foxes, river otters, raccoons, and deer. On the lower coast, riparian woodlands and the associated water provide important fish and wildlife habitats. Some animals found in these habitats, such as the green and ringed kingfishers, Mexican treefrog, Rio Grande chirping frog, Rio Grande river cooter, ocelot, and jaguarundi are seldom seen in other regions of Texas.

Benthic communities

Benthic communities near ship recycling facilities along the BSC will be similar to those found in other parts of the Lower Laguna Madre, which is found between the mainland of South Texas and Padre Island. Salinity is a dominant factor controlling the distribution of estuarine organisms and community composition. The National Oceanic and Atmospheric Administration's (NOAA) Estuarine Living Marine Resources (ELMR) program categorizes faunal distribution in Gulf of Mexico estuaries based on the following three salinity zones: tidal fresh (0.0 to 0.5 ppt), mixing (0.5 to 25 ppt), and seawater (>25 ppt) (Nelson, 1992). As in other estuaries, salinity is a dominant factor controlling the distribution of organisms and community composition. In comparison to other Gulf of Mexico estuaries, the Lower Laguna Madre receives minimal freshwater input, with average annual evaporation exceeding mean annual input. The Laguna Madre Estuary was characterized by the ELMR program as having only a seawater (salinity >25 ppt) zone (Nelson, 1992).

NOAA's ELMR program compiled data on ecologically or economically important fauna in Gulf of Mexico estuaries. Several species of shrimp were reported among the dominant invertebrate taxa in the Laguna Madre Estuary. The grass shrimp (*Palaemonetes pugio*) was considered highly abundant, and was frequently found to be among the numerical dominants in the estuary. Pink shrimp (*Penaeus duorarum*), white shrimp (*Penaeus setiferus*), and brown shrimp (*Penaeus aztecus*) were identified as sub-dominants, considered to be abundant in the Laguna Madre (Nelson, 1992). Shrimp have also been reported as dominant invertebrate taxa in surveys conducted within the BSC; white shrimp and brown shrimp were identified as the dominant invertebrate taxa in the BSC. Grass shrimp use the Laguna Madre during all life stages, while the penaeid shrimp (pink, white, and brown) use the estuary as a nursery (Nelson, 1992). Blue crab (*Callinectes sapidus*) are also considered abundant in the Laguna Madre, using the estuary during all life stages. Bay squid (*Lolliguncula brevis*), though not found in large numbers, are considered common. Bay scallop (*Argopecten irradians*), American oyster (*Crassostrea virginica*), Gulf stone crab (*Menippe adina*), and Spiny lobster (*Panulirus argus*) are all present in the estuary, but considered rare (Nelson, 1992). Many of these taxa inhabit estuaries

throughout the Gulf of Mexico. Several of these invertebrates are targeted by commercial fisheries in the Gulf of Mexico. Essential Fish Habitat (EFH) for any managed invertebrate species is discussed below.

Submerged aquatic vegetation (SAV) refers to vascular, rooted, flowering plants that live and grow mostly underwater. The prevalence and health of SAV is largely dependent on water quality and salinity. All five genera of salt-tolerant SAV (*Halodule*, *Thalassia*, *Syringodium*, *Halophila*, and *Ruppia*) that occur in Texas waters are found in the Lower Laguna Madre (TPWD, 1999). The Texas Parks and Wildlife Department (1999) reports that the Lower Laguna Madre supports 118,600 acres of seagrass, the largest acreage of seagrass meadows in any Texas bay system. The dominant seagrass species in the Lower Laguna Madre are turtlegrass (*Thalassia testudinum*) and manateegrass (*Syringodium filiforme*). The annual widgeongrass (*Ruppia maritima*) and perennial shoalgrass (*Halodule wrightii*) often occur in mixed beds. Small amounts of clovergrass (*Halophila*), a minor, understory species, are also found in the estuary (TPWD, 1999).

The benthos in the BSC are likely to be influenced by human activities. As a highly industrialized man-made navigational corridor, the BSC is subject to impacts from heavy ship traffic, industrial facilities, and dredging. Sections of the channel have been dredged at least every two years, and the entrance to the BSC is now scheduled for annual maintenance.

Fish and Essential Fish Habitat

The relatively high salinities of this estuary play an important role in determining the composition of the fish community. Fishes identified as highly abundant in the Laguna Madre were bay anchovy (*Anchoa mitchilli*), hardhead catfish (*Arius felis*), sheepshead minnow (*Cyprinodon variegates*), silversides (*Menidia* species), pinfish (*Lagodon rhomboides*), and spot (*Leiostomus xanthurus*) (Nelson, 1992). Atlantic croaker (*Micropogonias undulatus*) is considered abundant, but not typically among the numerical dominants (Nelson, 1992). Gulf menhaden (*Brevoortia patronus*), Gulf killifish (*Fundulus grandis*), Crevalle jack (*Caranx hippos*), Florida pompano (*Trachinotus carolinus*), sheepshead (*Archosargus probatocephalus*), silver perch (*Bairdiella chrysoura*), striped mullet (*Mugil cephalus*), code goby (*Gobiosoma robustum*), and southern flounder (*Paralichthys lethostigma*) were also considered abundant in the estuary (Nelson, 1992). Common fish that are not typically found in high numbers include snook (*Centropomus undecimalis*), gray snapper (*Lutjanus griseus*), spotted seatrout (*Cynoscion nebulosus*), black drum (*Pogonias cromis*), and red drum (*Sciaenops ocellatus*). Bull shark (*Carcharhinus leucas*), tarpon (*Megalops atlanticus*), gizzard shad (*Dorosoma cepedianum*), sand seatrout (*Cynoscion arenarius*), Spanish mackerel (*Scomberomorus maculatus*), and Gulf flounder (*Paralichthys albigutta*) are all occasionally found in the Laguna Madre, but are considered to be rare (Nelson, 1992).

The Gulf of Mexico Fisheries Management Council (GMFMC) is responsible for designating EFH in Texas, Louisiana, Mississippi, Alabama, and Florida. The GMFMC has designated the entire Gulf of Mexico, which is the nearest major body of water where EFH is designated, as EFH for white shrimp, pink shrimp, brown shrimp, spiny lobster, gulf stone crab, stone crab, gray snapper, red drum, and Spanish mackerel (GMFMC, 2008). It is reasonable to assume that habitat for most of these species occurs in Lower

Laguna Madre. All except for stone crab have been reported from the Laguna Madre (Nelson, 1992).

Protected Species

According to the USFWS, 58 animal and 28 plant Federal T&E species occur in the state of Texas, however only 12 listed species occur in Cameron County, where the Brownsville Recycling Facilities are located (USFWS, 2011). There is critical habitat for one species, the piping plover, in Cameron County. There is also a state listed species, the Eastern brown pelican, that has been Federally delisted. Table 3-2 lists the T&E species in the project area.

Table 3-3. Threatened and Endangered Species List for Texas alternative

Common Name	Scientific Name	Status	Listing
MAMMALS			
West Indian Manatee	*Trichechus manatus*	E	Federal, Texas
Ocelot	*Leopardus pardalis*	E	Federal, Texas
Gulf Coast jaguarundi	*Felis yagouaroundi cacomitli*	E	Federal, Texas
American black bear	*Ursus americanus*	T	Federal, Texas
REPTILES			
Loggerhead sea turtle	*Caretta caretta*	T	Federal, Texas
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	Federal, Texas
Green sea turtle	*Chelonia mydas*	T	Federal, Texas
Leatherback sea turtle	*Dermochelys coricea*	E	Federal, Texas
Hawksbill sea turtle	*Eretmochelys imbricata*	E	Federal, Texas
PLANTS			
Slender rush pea	*Hoffmannseggia tenella)*	E	Federal, Texas
BIRDS			
Piping plover	*Charadrius melodus*	T	Federal, Texas
Northern aplomado falcon	*Falco femoralis septentrionalis*	E	Federal, Texas
Eastern brown pelican	*Pelecanus occidentalis*	E	Texas (Federal delisted)

E = Endangered, T = Threatened

The ocelot, jaguarondi, black bear and slender rush pea are not anticipated to be near the industrial recycling facilities because they prefer other habitat and there have been no sightings in the area. The ocelot and jaguarondi prefer dense thorny shrub or brush land. The black bear prefers desert scrub or woodland habitats within scattered mountain ranges, though the Louisiana subspecies may also be found in coastal flatwoods and marshes; this subspecies has not been found in Texas, but potential habitat exists in the eastern part of

the state. Slender rush-pea grows on clayey soil of blackland prairies and creek banks in association with short and midgrasses and woody plants.

West Indian manatees are found in rivers, estuaries, and coastal areas of the tropical and subtropical New World from the southeastern United States coast along Central America and the West Indies to the northern coastline of South America. Manatees are extremely rare in Texas and are thought to be wanderers from the Florida or Mexican populations.

Loggerheads are capable of living in a variety of environments, such as in brackish waters of coastal lagoons, river mouths, and tropical and temperate waters above 50 degrees Fahrenheit. In Texas, they are found in the Gulf of Mexico and are occasional visitors to the Texas coast. Only minor and solitary nesting has been recorded along the coasts of the Gulf of Mexico (TPWD, 2009).

Kemp's Ridley sea turtles are found in the coastal waters and bays of the Gulf of Mexico and Atlantic Ocean. Adults essentially are restricted to the Gulf of Mexico, but immature turtles inhabit the Gulf and also the U.S. Atlantic coast. A nesting beach at Rancho Nuevo, Tamaulipas, Mexico is the primary nesting site for these turtles. It is the only known major nesting beach for this species in the world. A secondary nesting population has been established on Padre Island National Seashore and has had limited success.

Green sea turtles feed in shallow water areas with abundant seagrasses or algae. The major nesting beaches are always found in places where the seawater temperature is greater than 77 degrees Fahrenheit. In Texas, green sea turtles are found in the Gulf of Mexico. They occasionally visit the Texas coast (TPWD, 2009).

Leatherback sea turtles prefer the open ocean and move into coastal waters only during the reproductive season. Leatherbacks inhabit primarily the upper reaches of the open ocean, but they also frequently descend into deep waters from 650 to 1650 feet in depth. In Texas, the leatherback sea turtle occurs in the Gulf of Mexico; it is a rare visitor to the Texas Gulf Coast.

Hawksbill sea turtles are found primarily in warmer waters of the Atlantic, Pacific, and Indian Oceans from Japan to Australia and the British Isles to southern Brazil. They are also found in the southern waters of Florida, the Gulf of Mexico, and the Caribbean. In Texas, the hawksbill is found in the Gulf of Mexico and occasionally on the Texas coast (TPWD, 2009).

Piping plovers live on sandy beaches and lakeshores. They migrate through the Great Lakes along the river systems through the Bahamas and West Indies. They are currently found along the Atlantic Coast from Canada to North Carolina and along the shorelines of Lakes Michigan and Superior. Gulf Coast beaches from Florida to Mexico, and Atlantic coast beaches from Florida to North Carolina provide winter homes for plovers. In 2001, the Texas Gulf Coast had the highest wintering population; it represented ten to twenty percent of the North American population. Most of the plovers that winter on the Texas coast are found in the lower Laguna Madre, where tidal flats are extensive and productive (TPWD, 2009).

Aplomado falcons require open grassland or savannah habitat with scattered trees or shrubs. In Texas, Aplomados are found in the South Texas and Trans-Pecos regions.

Their geographical distribution extends to the southern tip of South America (TPWD, 2009). Reintroduction of captive-reared Aplomados has been occurring for decades and preliminary results look promising.

Eastern brown pelicans nest on small, isolated coastal island where they are safe from predators such as raccoons and coyotes. Brown pelicans are found along the Atlantic and Gulf of Mexico coasts. Pelicans almost disappeared from Texas because they were poisoned by the pesticide DDT; since DDT was banned in 1972, pelicans have made a steady comeback.

Although bald eagles are no longer listed as a threatened or endangered species, they are still protected under the Protection of Bald & Golden Eagle Act. The bald eagle occurs throughout the United States, Canada, and northern Mexico. Bald eagles are present year-round throughout Texas as spring and fall migrants, breeders, or winter residents (TPWD, 2009). Their population in Texas is divided into two populations; breeding birds and nonbreeding or wintering birds. Breeding populations occur primarily in the eastern half of the state and along coastal counties from Rockport to Houston (north of Brownsville). Nonbreeding or wintering populations are located primarily in the Panhandle, Central, and East Texas, and in other areas of suitable habitat throughout the state. In Texas, bald eagles nest in tall trees near water from October to July.

3.3.3 Environmental Consequences

The potential impacts may vary according to the location of the activity, time of year when the activity occurs, and the location of each fish species during their respective life cycle.

3.3.3.1 Sparrows Point, Maryland, Alternative

INACTSHIPMAINTO Philadelphia

Wetlands

The vessel would be towed along established tow/navigation routes. Once vessels being towed reach open water, there is no risk of impacts on wetlands. Closer to shore, there is a risk that impacts to wetlands could result if an oil spill were to occur during towing as a result of collision, grounding, or tank or hull rupture or leakage. However, the vessel is subject to detailed inspections to ensure it is safe for towing. Towing procedures and safety measures would be implemented to minimize potential for collision or grounding of the vessel during transport. Overall, there would be no significant impacts on wetlands from fuels, oils, and other hazardous materials during towing.

There would be an increased potential for improved water quality and biological conditions of wetlands from the removal of vessels at INACTSHIPMAINTO Philadelphia.

Benthic communities

Due to poor sediment and water quality, benthic habitat within the project area has very low biodiversity, and is limited to organisms that are tolerant of poor environmental conditions. Therefore, the potential impact to benthic invertebrates is considered minor. The larger, more mobile benthic megainvertebrates, such as shrimp species, would be able to flee the area during towing and, therefore, would not be significantly affected.

Approximately 268,884 ft^2 (24,980 m^2) of benthic habitat would be opened to sunlight as a result of the removal of the vessel, which is a potential beneficial impact. There is also a benefit to removing a potential source of contaminants to the INACTSHIPMAINTO Philadelphia waters.

There are no known stands of SAV within the project area. Therefore, SAV would not be affected by the Proposed Action. Turbidity generated by towing activities may be created within the tow route but would have minimal to no temporary impact to marine vegetation. There may be indirect beneficial impacts on marine vegetation by opening up the substrate to sunlight and promoting the establishment of vegetation and algae.

There are limited species in the area that can tolerate the poor conditions. The towing of the vessel would result in minimal to no temporary impacts; the approvals, inspections, licenses and other procedures required for towing would minimize and risk of accidental spills or collisions during towing. The new habitat would not be shaded by a vessel. The addition of sunlight may potentially have a beneficial impact to the area. There would be no significant impacts to benthic communities as a result of this alternative.

Various species of aquatic birds that forage on the benthic organisms are known to occur within the project areas. Most of these species are well adapted to human activity and may be present in and around the project area during towing and mooring activities. No loss of avian breeding habitat (e.g., salt marsh, sand or cobble beach) will occur as a result of this alternative.

Fish and Essential Fish Habitat

The facility and surrounding area is not classified as EFH by NOAA. Minimal to no impact is anticipated for mobile fish species that can readily avoid the temporary disturbance and potentially increased turbidity in the water column that may occur because of towing activities. Beneficial impacts to fish may result from decreased shading in the area waters; sunlight would increase potential nutrient growth to support fish habitat. Any impacts would be minor and acceptable, considering the removal of the vessel and towing impacts are less substantial than the most recent approved maintenance dredging that occurred in the project area.

Protected Species

One Federally endangered fish species, the shortnose sturgeon, is known to occur transiently in the vicinity of the project area. Due to the long distance from spawning grounds (i.e., greater than 45km downstream from the spawning grounds) and the high salinity near INACTSHIPMAINTO, the occurrence of shortnose sturgeon is rare. Therefore, the Proposed Action would have no effect on threatened and endangered species.

The presence of marine mammals in the Delaware River typically follows the migration of anadromous fish species such as shad. Observance of marine mammals is very rare, therefore, there would be no reasonably foreseeable takes of marine mammals that pursue these prey species into the Delaware River. In addition, normal ship towing speeds are four to six knots, which also minimizes potential strike risks; the NMFS' "Vessel Strike Avoidance Measures and Reporting for Mariners" document to reduce the potential of

vessel strikes to marine species would be followed. There would be no reasonably foreseeable takes of marine mammals as a result of this alternative.

Sparrows Point, Maryland

Wetlands

Although the hazardous materials involved in ship recycling can pose serious threats to aquatic environments and wetlands, especially with using this method of dismantling, state and Federal regulations would substantially reduce the risk of contamination to nearby wetlands from typical operations. Facility permits would impose regulations that limit the migration of any potentially hazardous materials into aquatic habitats. Thus, there would be no significant impacts to wetlands from vessel recycling at Sparrows Point, MD.

The MDNR has established protection zones around the colonial waterbird colonies on Sparrows Point and Fort Carroll Island. The overall protection area is a 0.25-mile radius around the nesting colony's outer boundary. Since both waterbird colonies are located over 0.5 miles from the terminal site, no effect on these nesting sites are expected.

The MDNR has similarly established timing restrictions as protection guidelines for nesting peregrine falcon on the Francis Scott Key Memorial Bridge. These protections extend for approximately 0.25 mile outward from the nesting site. No effect on the nesting site is expected since the nesting site is located approximately 1.5 miles away from the pier. There would be no reasonably foreseeable takes of migratory birds.

Most of the various bird species are well adapted to human activity and may be present in and around the project area during towing and mooring activities. No loss of avian breeding habitat would occur as a result of this alternative.

Vessel spills and leaks are possible, but removal of fluids and combustible materials would be regulated so as to minimize or avoid introduction of hazardous waste into the aquatic environment, and non-recyclable material would be disposed of as waste in accordance with applicable regulatory requirements. Metal scrap and waste would be protected from exposure to storm water so that wastes and contaminants from the scrap would not be carried to surface waters and contribute to wetland contamination. Risks of wetland contamination would be further minimized because of the spill prevention and containment measures which are in place, such as booms around the ship (if not in drydock) to help contain any spills as required by the U.S. Coast Guard. Additionally, wetlands do not occur immediately adjacent to the recycling facility. Any contaminants would need to travel in aquatic environments some distance to reach any wetlands. Thus, there would be no significant impacts to wetlands from vessel dismantling at the Sparrows Point facility.

Benthic communities

Potential direct, adverse impacts may result from effects of propeller wash and exposure to contaminants. Turbidity and siltation associated with propeller wash would be local and transient. As a result of recycling activities, contamination could be released during ship transport (from accidental spills) or during processing at the dismantling facility. However, these impacts would be temporary and minor. The approvals, inspections, licenses and other procedures required for towing would minimize the risk of the tug boat or another vessel from being involved in a collision during towing to the facility. The

larger, more mobile benthic megainvertebrates, such as shrimp species, would be able to flee the area during towing and, therefore, would not be affected. Considering the industrial nature of the site, the potential impact on benthic communities is considered minor.

There are no known stands of submerged aquatic vegetation (SAV) within the project area; therefore, SAV would not be affected. There are limited species in the area that can tolerate the poor conditions. The towing of the vessel would result in minimal to no temporary impacts. Blue crabs are not expected in the area, and would not be impacted.

No changes to the overall operations at the recycling facility are expected due to this vessel. Additionally, the abundance and distribution of benthos are influenced by heavy ship traffic, industrial activities, and dredging which result in the relatively low occurrence of benthos in the area surrounding the ship recycling facilities. Thus, any impacts to local benthic communities would be comparable to those occurring routinely at this industrial facility. Overall, impacts to the benthos from contaminant exposure, physical disturbance, or suspended sediments resulting from dismantling at Sparrows Point facility are not expected to be significant.

Fish and Essential Fish Habitat

Potential impacts may result from effects of propeller wash as mentioned above for benthic communities; however, towing in deep water will reduce the potential for impacts from propeller wash. Potential impacts to fish resources from recycling activities would be similar to those described above for benthic communities; contaminant exposures and re-suspended sediments are potential impacts to fish as well. Minimal to no impact is anticipated for mobile fish species that can readily avoid the temporary disturbance and potentially increased turbidity in the water column that may occur because of towing activities. Overall, impacts to fish resources from contaminant exposure, physical disturbance, or suspended sediments resulting from dismantling at the Sparrows Point facility are neither likely nor expected to be significant.

Potential impacts to EFH would be as described above for fish resources and benthic communities. The EFH-designated species are present in the project area only in low numbers and only during a few months of the year, mostly the summer. There would be no effect on EFH.

Protected Species

Impacts on the four species of sea turtles which may be found in the area are likely to be minimal due to the permits and regulations in place to guard against the discharge of contaminants into the aquatic environment. Additionally, these species inhabit open-ocean and near-coastal environments, which are some distance away from the Sparrows Point facility located on the Patapsco River north of Chesapeake Bay. Any contaminants that may enter the water would likely be at low concentrations and the probability that they would be ingested by sea turtles, or their prey species, is almost non-existent. Thus, there would be no effect on protected sea turtles.

Impacts to whales and turtles are most often caused by vessel strike. This potential impact would be minimized by the low speed of the tugs along the channel and at the pier. The NMFS' "Vessel Strike Avoidance Measures and Reporting for Mariners" document to

reduce the potential of vessel strikes to marine species would be followed. Sturgeons are highly mobile; therefore, impacts from ship strike of the vessel are not anticipated. There would be no reasonably foreseeable takes of marine mammals and no effect on threatened and endangered species as a result of this alternative.

There is a very low probability that the bald eagle, which is delisted but still protected under the Migratory Treaty Act and the Bald and Golden Eagle Protection Act, and peregrine falcon, could be harmed by ingestion, through fish, of chemical contaminants released during dismantling activities. These contaminants, which if released into the water would occur in low concentrations and rapidly diluted to background level; thus the probability of an eagle or falcon catching a fish that ingested dismantling contaminants would be very low. The Navy has determined that there would be no reasonably foreseeable takes of migratory birds, including bald eagles and no effect on the peregrine falcon.

Considering compliance with all Federal and state regulations, guidelines, and agreements, the removal of the vessel from INACTSHIPMAINTO Philadelphia, towing to the Sparrows Point, MD facility, and the subsequent dismantling/recycling activities are not expected to have significant impacts on biological resources.

3.3.3.2 Brownsville, Texas, Alternative

INACTSHIPMAINTO Philadelphia

The same impacts as the Sparrows Point Alternative would apply to this alternative. Specific impacts for INACTSHIPMAINTO Philadelphia are provided in Section 3.3.3.1.

Brownsville, Texas

Wetlands

Wetlands do not occur at or adjacent to the Brownsville facilities; Thus, there would be no significant impact to wetlands from vessel recycling at the Brownsville facilities..

Benthic communities

The proposed recycling of the vessel at Brownsville, TX could have impacts to benthic communities. Considerations regarding potential impacts are similar to those described above for Sparrows Point, MD.

The potential impacts of concern for benthic communities would include exposure to contaminants from the vessel (or from accidental spills) and propeller wash from tug vessels. The Brownsville facilities would use an in-water shipbreaking process. Implications for benthic communities would likely be comparable in spatial extent and duration to those described for Sparrows Point recycling. Overall, no significant impacts to the benthos from recycling at the Brownsville facilities would be expected.

Fish and Essential Fish Habitat

Considerations regarding impacts to fish resources are the same as those described above for benthos. Exposure to contaminants and suspended sediments from propeller wash would be the key concerns. The impact-causing factors would be the same as those described above and specific implications for fish are discussed regarding Sparrows Point dismantling.

Potential impacts to EFH would be as described above for fish resources and benthic communities; however, the closest EFH-designated water body to the dismantling facility is the Gulf of Mexico, seventeen miles away at the other end of the BSC. There would be no effect on EFH.

Protected Species

Impacts to protected species from dismantling could occur as a result of the vessel being dismantled at a Brownsville recycling facility via the in-water/slip method. Impacts on the five species of sea turtles which may be found in the area are not expected due to the permits and regulations in place to guard against the discharge of contaminants into the aquatic environment. Additionally, these species inhabit open-ocean and near-coastal environments, which are some distance away from the Brownsville facilities. Brownsville is located some distance inland along the BSC. Any contaminants that may enter the water would likely be at low concentrations and the probability that they would be ingested by sea turtles, or their prey species, is almost non-existent. Thus, there would be no effect on protected sea turtles.

Impacts to whales and turtles are most often caused by vessel strike. This potential impact would be minimized by the low speed of the tugs along the channel and at the pier. The NMFS' "Vessel Strike Avoidance Measures and Reporting for Mariners" document to reduce the potential of vessel strikes to marine species would be followed. There would be no reasonably foreseeable takes on marine mammals and no effect on threatened and endangered species as a result of this alternative.

There is a very low probability that the piping plover, which winters on Texas sandy beaches, the brown pelican, whose habitat is mainly coastal and is rarely seen inland, and the bald eagle, which is delisted but still protected under the Migratory Treaty Act and the Bald and Golden Eagle Protection Act, could be harmed by ingestion of chemical contaminants released during dismantling activities. These contaminants, which if released into the water would occur in low concentrations, would not likely be transported to nearby beaches or other coastal habitats since the location of the Brownsville facilities are some distance inland on the BSC from the coastline. Additionally, the levels of hazardous substances if released into the aquatic environment would likely be very small and rapidly diluted to background levels. There would be no reasonably foreseeable takes of migratory birds, including bald eagles and no effect on piping plover and brown pelican.

There is almost no possibility that the West Indian manatee would be impacted by ship dismantling. Although the possibility exists that manatees could be found in the BSC, manatees are extremely rare in Texas. Contaminants that enter the water from ship dismantling could have harmful health effects on manatees if ingested. However, with low concentrations of contaminants, if any, that may be released into the water, and with the low probability the manatees would occur near the Brownsville recycling facilities, there would be no reasonably foreseeable takes of and no effect on manatees.

There would be no effect on the northern aplomado falcon, the ocelot, the American black bear, and the Gulf Coast jaguarondi from ship dismantling activities because their occupied habitats do not exist at the facility locations and their feeding preferences mostly preclude

aquatic prey species. There would also be no effect on Slender rush pea as their habitat does not exist at the facility locations.

Considering compliance with all Federal and state regulations, guidelines, and agreements, the removal of the vessel from INACTSHIPMAINTO Philadelphia, towing to a Brownsville, TX facility, and the subsequent dismantling/recycling activities are not expected to have significant impacts on biological resources.

3.3.3.3 No-Action Alternative

Under the No-Action Alternative, ex-FORRESTAL would not be removed from INACTSHIPMAINTO Philadelphia and there would be no significant biological resources impacts as a result of this action.

The vessel would continue to be maintained in a safe stowage condition (i.e., fire and flooding protection).

3.3.4 Impact Summary

Table 3-4. Biological Resource Impact Summary

Environmental Feature	Sparrows Point, MD, Alternative	Brownsville, TX, Alternative	No-Action Alternative
Wetlands	No impact	No impact	No significant impact
Benthic Communities	Temporary impacts	Temporary impacts	No significant impact
Fish and Essential Fish Habitat	Temporary impacts to unprotected fish; no effect on EFH	Temporary impacts to unprotected fish; no effect on EFH	No impact to fish; no effect on EFH
Protected Species	No effect and no reasonably foreseeable takes	No effect and no reasonably foreseeable takes	No effect and no reasonably foreseeable takes

3.4 Air Quality

3.4.1 Regulatory Setting

Air quality in a given location is defined by pollutant concentrations in the atmosphere and is generally expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). One aspect of significance is the concentration of a pollutant in comparison with the national and/or state ambient air quality standard. These standards represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare with a reasonable margin of safety. The national standards, established by the U.S. Environmental Protection Agency (EPA), are termed the National Ambient Air Quality Standards (NAAQS). The NAAQS represent maximum acceptable concentrations that generally may not be exceeded more than once per year, except the annual standards, which may never be exceeded. The six criteria pollutants are ozone (O_3), CO, NO_2, particulate matter (PM), SO_2, and lead (Pb).

The EPA designates all areas in the country as nonattainment, attainment, maintenance, or unclassifiable with respect to the NAAQS for each criteria pollutant:

- Areas that violate ambient air quality standards are designated as nonattainment areas;
- Areas that comply with Federal air quality standards are designated as attainment areas;
- Areas that have improved air quality from nonattainment to attainment are designated as maintenance areas;
- Areas that lack monitoring data to demonstrate attainment or nonattainment status are designated as unclassified and are considered to be in attainment for regulatory purposes.

Varying levels of nonattainment have been established for ozone, CO, and PM_{10} to indicate the severity of the air quality problem (i.e. the classifications runs from marginal to extreme for ozone; moderate to serious for CO).

The CAA requires each state to develop, adopt and implement a State Implementation Plan (SIP) to achieve, maintain, and enforce Federal air quality standards throughout the state. SIPs are developed on a pollutant-by-pollutant basis whenever one or more air quality standards are being violated (nonattainment). Under the EPA's General Conformity Rule (40 C.F.R. § 93), Federal agencies must determine whether the action either is exempt from a Conformity Determination or conforms to the applicable SIP. Actions are exempt when the total of all reasonable foreseeable direct and indirect emission would be: 1) less than the *de minimis* emission threshold, and 2) less than ten percent of the area's annual emission budget. If these conditions are met, the requirement for conformity determination is not applicable. In addition, the Conformity Determination Rule contains a number of specific Federal activities that are exempted from Conformity Determination because they will either result in no or *de minimis* increases in emissions (40 C.F.R. § 93(c)(2)).

3.4.2 Affected Environment

The air pollutants that are considered in this analysis include volatile organic compound (VOCs) and NO_x, which are precursors to ozone formation, as well as particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The following section summarizes the attainment status and local air quality for each alternative.

3.4.2.1 INACTSHIPMAINTO Philadelphia

INACTSHIPMAINTO Philadelphia is located within the PNBC, which is within the Philadelphia-Wilmington Intrastate Air Quality Control Region (AQCR). Pennsylvania has adopted all of the NAAQS standards as well as several standards of its own including beryllium, fluorides, and hydrogen sulfide. State standards, established by the Pennsylvania DEP, are termed the Pennsylvania Ambient Air Quality Standards.

The project area is classified as moderate nonattainment for the eight-hour ozone standard[11] and nonattainment for the $PM_{2.5}$ standard.[12] In addition, the Commonwealth of Pennsylvania is included in the Northeast Ozone Transport Region (U.S. Environmental Protection Agency June 5, 2009).

Pennsylvania has an EPA approved SIP that is comprised of state air pollution control regulations as well as plans detailing methods to be used to achieve or maintain compliance with the NAAQS. The EPA is currently proposing to extend the attainment date from June 15, 2010 to June 15, 2011 for the Delaware, Maryland, and Pennsylvania portions of the Philadelphia-Wilmington-Atlantic City nonattainment area (Philadelphia Area).

Existing stationary air emission sources in the vicinity of the INACTSHIPMAINTO consist of boilers, above-ground and underground storage tanks, emergency generators, paint spray booths, industrial furnaces, solvent cleaners, abrasive blast stations, plating operations, and fuel dispensing systems. Mobile emission sources include motor vehicles, trains and vessels.

3.4.2.2 Sparrows Point, Maryland

Sparrows Point Shipyard is located in Baltimore County, Maryland. Baltimore County is contained in the Metropolitan Baltimore Intrastate Air Quality Control Region (AQCR 115) #195. With respect to the one-hour ozone (O_3) standard (revoked as of June 25, 2005), AQCR 115 is classified as severe non-attainment. With respect to the new 8-hour ozone standard, AQCR 115 is classified as moderate non-attainment. For $PM_{2.5}$, AQCR 115 is classified as non-attainment.

Because AQCR 115 is classified as non-attainment with respect to the old one-hour ozone standard and had 1-hour design values greater than or equal to 0.121 ppm, it is categorized as "subpart 2" non-attainment with respect to the new 8-hour ozone standard. As such, the AQCR is subject to specific requirements that must be incorporated into SIPs for attaining the national ozone air quality standards. In addition, Maryland is considered part of the Ozone Transport Region (OTR). The OTR encompasses eleven northeast states and the District of Columbia, all of which have at least some areas not meeting the NAAQS for ozone. Because ozone attainment is a region-wide problem involving interstate transport of ozone precursors, projects located in all areas within the OTR must meet more stringent non-attainment new source review requirements. The applicable emissions thresholds triggering major new source review in the Metropolitan Baltimore Intrastate AQCR are 25 tons per year for either VOCs or NO_x.

The Baltimore Nonattainment Area 8-Hour Ozone SIP was submitted to the EPA in July 2007. The plan presents air pollution control programs needed to attain the 8-hour ozone

[11] According to the 1997 8-hour ozone standard of 0.08 ppm, Philadelphia is classified as a moderate nonattainment area. In March 2008, EPA revised the ozone standard to 0.075 ppm. However, EPA has yet to designate areas based on the newer 8-hr ozone standard.

[12] Philadelphia is also a nonattainment area for $PM_{2.5}$ based on the 1997 PM standard ($PM_{2.5}$ 24-hour standard = 65 $\mu g/m^3$, $PM_{2.5}$ annual standard = 15 $\mu g/m^3$). In September 2006, EPA revised the PM standard to 35 $\mu g/m^3$ and 15 $\mu g/m^3$ for $PM_{2.5}$ 24-hour and $PM_{2.5}$ annual standard, respectively. No current designations are available from the EPA.

standard by June 15, 2010 [13] in the Baltimore metropolitan area. The Baltimore Nonattainment Area $PM_{2.5}$ SIP was submitted in March 2008. The Baltimore SIP states the non-road source controlled emissions budget for VOC is 12,566 tons per year, NO_x is 11,696 tons per year and $PM_{2.5}$ is 1,403 tons per year.

3.4.2.3 Brownsville, Texas

Ship recycling facilities are located in Cameron County within the EPA's Brownsville-Laredo AQCR. This region is one of a nationwide system of AQCRs established by the EPA for air quality planning purposes (40 C.F.R. Part 81) and is designated as AQCR No 213. The Brownsville-Laredo Intrastate AQCR includes the counties of Cameron, Hidalgo, Jim Hogg, Starr, Webb, Willacy, and Zapata. The entire AQCR 213 is designated by the EPA as being in attainment for all criteria pollutants, meeting all NAAQS standards, and is not subject to conformity determination.

3.4.3 Environmental Consequences

Estimated emissions from a proposed Federal action are typically compared with the relevant national and state standards to assess the potential for increases in pollutant concentrations. Impacts would occur if the action alternatives directly or indirectly produce emissions that would be the primary cause of, or would significantly contribute to, a violation of state or Federal ambient air quality standards. Emission thresholds associated with CAA conformity requirements are another means of assessing the significance of air quality impacts. A formal conformity determination is required for Federal actions occurring in nonattainment or maintenance areas when the total direct and indirect stationary and mobile source emissions of nonattainment pollutants or their precursors exceed thresholds or *de minimis* values (Table 3-5). A Record of Non-Applicability (RONA) is included as Appendix A of this EA.

Table 3-5. Applicable Criteria Pollutant *de minimis* Levels (Tons/Year) for Alternative Locations (40 C.F.R. § 93.153)

Location	VOC	NO_x	$PM_{2.5}$
Sparrows Point, MD	25[14]	25	100
Brownsville, TX	--	--	--
Philadelphia, PA (current location)	50	100	100

3.4.3.1 Sparrows Point, Maryland, Alternative

<u>INACTSHIPMAINTO Philadelphia</u>

The Proposed Action for the dismantling of ex-FORRESTAL would not result in significant impact to air quality as the action requires no construction work and no dredging. Ongoing operations at the PNBC would not increase as the ship will be removed. Therefore, there would be no increase in the number of automobiles at the site.

[13] The 2007 Baltimore Nonattainment Area 8-Hour Ozone SIP designated June 15, 2010 to be the attainment date for the Baltimore region. The State has not released updates to the SIP. The nonattainment status reflects the current EPA assessment.

[14] Under the 1-hour Ozone Standard, Baltimore was classified as a severe nonattainment area. The Maryland SIP continues to implement the ozone requirements based on the severe 1-hour Ozone Standard classification.

The towing of the ship qualifies as a "routine movement" by the EPA and is exempt from the requirements of the Conformity Determination Rule. According to 40 C.F.R. § 93.153(c), the Proposed Action qualifies as an action which would result in no emissions increase or an increase in emission that is clearly *de minimis*:

"(viii) Routine Movement of mobile assets, such as ships and aircraft, in homeport assignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul."

The towing operation would result in minimal and temporary increase of marine vessel emissions. No long-term increases in emission would occur as no new stationary sources are constructed. Therefore, no significant air quality impacts would occur with implementation of the Proposed Action.

Sparrows Point, Maryland

Ship recycling activities can generate air pollutants that are regulated by the CAA. If a ship recycling facility emits regulated amounts of air pollutants, it must obtain the appropriate operating or preconstruction permit and comply with all emissions requirements set forth in that permit. Specifically, torch cutting may generate large amounts of fumes and some or all of the following materials as particulates: manganese, nickel, chromium, iron, aluminum, asbestos, and lead. It may also initiate small fires when oil or sludge is ignited by the torch. These fires are usually short-lived, but may generate some intense black smoke. The cutting torches themselves can generate oxides of nitrogen (NO_x) and sulfur (SO_x), and the process of combustion produces carbon dioxide and carbon monoxide. In spite of these releases, air pollutants from metal cutting are not likely to have a major air quality impact (EPA, 2000).

Worker safety issues during metal cutting as a result of exposure to air contaminants, including metal fumes, particulates, and smoke may be substantial. These contaminants can have acute and chronic toxic effects on workers. OSHA has established exposure limits for various air contaminants that are considered toxic. If instantaneous monitoring is not feasible, the ceiling is a 15-minute time-weighted average exposure, which must not be exceeded at any time over a working day (EPA, 2000). Compliance with OSHA requirements will minimize impacts on worker safety.

In general, ship recycling activities could result in temporary minor, localized impacts to air quality. However, ship dismantling activities that comply with applicable rules and regulations would not significantly affect air quality. The Sparrows Point facility has all required permits.

Calculations of the emissions from the tugs result in significantly less than one ton per year for each of VOC, NO_x, and $PM_{2.5}$. The towing to Sparrows Point is less than the *de minimis* emission threshold, and less than ten percent of the area's annual emission budget. Therefore, a formal Conformity Determination is not triggered and the RONA applies.

3.4.3.2 Brownsville, Texas Alternative

INACTSHIPMAINTO Philadelphia

Similar to the Sparrows Point, MD, Alternative, the Brownsville, TX, Alternative requires removal of the vessel from INACTSHIPMAINTO Philadelphia through towing. Towing activity falls within the meaning of routine ship movement specifically exempted from the requirements of the General Conformity Rule (40 C.F.R. § 93.153(c)(2)(viii)). The environmental impacts at this location are described in Section 3.4.3.1 and are not repeated here.

Brownsville, Texas

Potential impacts to air quality for the Brownsville, TX Alternative are similar to those described under Sparrows Point, MD. The Proposed Action does not require construction activities, thus related air emissions would be expected to be *de minimis*. AQCR 213 is designated by the EPA as being in attainment for all criteria pollutants, meeting all NAAQS standards, and is not subject to conformity determination. Moreover, emission of fuel/petroleum/combustible gases from ship dismantling activities would be in compliance with all Federal and state permit requirements. Relevant air emissions would be localized and of short duration. Therefore, implementation of the Brownsville, TX, Alternative would not have a significant impact on air quality.

3.4.3.4 No-Action Alternative

The No-Action Alternative would leave ex-FORRESTAL at INACTSHIPMAINTO Philadelphia. Under the No-Action Alternative, the vessel would continue to be maintained in a safe stowage condition (i.e., fire and flooding protection). Therefore, no significant impacts to air quality would occur.

4 CUMULATIVE IMPACTS

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 C.F.R. § 1508.7). To be considered cumulative impacts, the effects must meet the following criteria: the effects would occur in a common locale or region; the effects would not be localized (i.e., they would contribute to effects of other actions); the effects would impact a particular resource in a similar manner; and the effects would be long term (short-term impacts would be temporary and would not typically contribute to significant cumulative impacts).

Federal regulations implementing NEPA (42 U.S.C. 4321 et seq.) and Navy Procedures for Implementing the NEPA (32 C.F.R. § 775), as described in OPNAVINST 5090.1C, require that the cumulative impacts of a Proposed Action be assessed. The CEQ regulations implementing the procedural provisions of the 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." (40 C.F.R. § 1508.7)

To analyze cumulative impacts, a cumulative impacts region must be identified for which the Proposed Action and other past, proposed, and reasonably foreseeable actions would be cumulatively recorded or experienced. Consequently, the region where cumulative impacts may occur includes INACTSHIPMAINTO Philadelphia, PA, and the surrounding area, as well as the two potential dismantling locations. Therefore, this analysis considers impacts arising from the Proposed Action combined with the impacts of other known past, present, and reasonably foreseeable future actions within the regions. Past, present, and reasonably foreseeable future actions in the cumulative impacts regions are briefly described below.

4.1 Projects near INACTSHIPMAINTO Philadelphia, PA, and Surrounding Area

The following sections provide general information regarding other projects located at INACTSHIPMAINTO Philadelphia and in the nearby area including Military Construction (MILCON) projects and other special projects funded by the Navy.

4.1.1 Past Projects

Hydraulic maintenance dredging of 130,000 cubic yards (cy) along the west side of Pier 4 occurred in January and February 2008. This action was covered by CATEX number 38 and signed in November 2007.

Rehabilitative Repairs to Wharf E, Wharf F, Pier F, and Quaywalls at Building 1000 and Admiral Peary Way were analyzed in an EA prepared in 2007. Work was completed in Fiscal Year (FY) 2008.

Hydraulic dredging of 100,000 cy along the east side of Pier 4 was covered under CATEX number 38 and signed in August 2009. Dredging was completed in September and October 2009.

Demolition of seven buildings in the PNBC is ongoing and approximately half completed as of March 2011. An EA was prepared in 2009 for this project with the FONSI signed in 2010.

4.1.2 Future Projects

Extensive repairs to Pier 4 are planned for FY 2012. Work includes replacing a section of the pier, timber piles and structural elements. This work will be covered under a separate NEPA document.

MILCON project P-205 for a large generator installation is slated for FY 2011 to FY 2013.

No significant or long-term cumulative impacts are expected from implementation of these projects. The P-205 generator would increase noise levels but would not have any significant long-term effects on the noise environment in the surrounding area.

4.2 Projects near Sparrows Point, MD, facilities

There have been dozens of vessels, including Navy, MARAD and commercial, dismantled at the Sparrows Point facility that is capable of dismantling three or more vessels at a time at two piers and a graving dock. Pier 3 improvements for future operations are a long-term project with construction scheduled to begin in summer 2011; it is currently in the permitting phase. The facility has proposed future dredging of its channel to maintenance depth but currently does not have a planned date. There is no known construction project in the nearby area that would have a significant impact on the project area.

4.3 Projects near Brownsville, TX, facility

There have been hundreds of vessels, including Navy, MARAD and commercial, dismantled along the BSC in the 7 slots that can dismantle up to 20 vessels at one time. There are current dismantling and recycling activities occurring under Navy and MARAD contracts. There is ongoing routine dredging of the BSC. There is no known construction project planned at the dismantling facilities, nor in the nearby area that would have a significant impact on the project area.

4.4 Environmental Analysis

The Proposed Action would not have the most extensive impact of the identified nearby projects and dismantling actions to the project area. Other projects planned in the same location are larger in scope than the Proposed Action, and will have their own NEPA analysis. Past pier-side dredging projects in the PNBC were found not to have a significant effect on the environment individually or cumulatively and thus did not require an EA or EIS. Below, cumulative impacts are discussed within each impact area. Due to the fact that ex-FORRESTAL would be towed and dismantled at a commercial facility with no construction or dredging required and the vessel would be closed to public access,

the project would have no impact on land use, geology, soils and seismicity, socioeconomics and environmental justice, transportation, noise, utilities, public health and safety, aesthetics and visual resources. Therefore, it would have no cumulative impacts on these resources when considered with other projects.

4.4.1 Cultural Resources

The cumulative consequences of other projects together with the Proposed Action would not significantly affect cultural resources besides the vessel itself. Ex-FORRESTAL is eligible for listing in the NRHP and has undergone the Section 106 process; the Navy has complied with the ACHP Program Comment. In addition, the Philadelphia Naval Shipyard Historic District (PNSHD) meets the criteria to be eligible for listing in the NRHP. The U.S. Navy would comply with the requirements of the PA SHPO for the PNSHD project. The ongoing building demolition project will result in permanent direct impact on Federal historic properties which are considered contributing elements to the PNSHD; however, through an MOA signed 13 August 2009 between the DON Navy Region Mid-Atlantic and the PA SHPO, mitigation measures are being implemented to reduce the impact on historical resources. There would be no impacts on cultural resources at either of the dismantling facility locations. As a result, the Proposed Action would not combine with impacts from other past and future projects in a manner that would create a cumulative impact.

4.4.2 Water Resources

The Proposed Action would cause temporary adverse impacts to water quality as a result of increased turbidity. However, when considered with the dredging projects, the Proposed Action would not significantly impact sediment or water quality. Towing procedures would be implemented to avoid sediment disturbance. Moreover, the past dredging projects in the PNBC qualified as a CATEX action with no significant environmental impacts. Therefore, the Proposed Action would not have any cumulative impact when considered with these projects.

Other projects in the region could produce minor discharges that would flow into surface drainages and eventually to the marine environment. However, these projects would also be required to comply with applicable Federal, state, and local regulations, as well as general and construction stormwater permits. These mandated requirements would reduce potential impacts on water quality to less than significant levels. Therefore, the cumulative impact on water resources would result from several actions whose individual effects would have been reduced to levels that are not significant. The Proposed Action and reasonably foreseeable projects would not likely be occurring at the same time in the same area. Therefore, the Proposed Action would not have any cumulative impact when considered with these projects.

4.4.3 Biological Resources

The Proposed Action would not be likely to adversely affect marine biological resources. Due to the limited scope and local area of the impacts associated with the other identified

projects there would be no significant cumulative impacts on biological resources. The Proposed Action and other projects would have the potential to temporarily affect marine species and their habitat including sea turtles and marine mammals, but there would be no significant impact on these species because they are highly mobile and able to avoid the disturbance area. Moreover, these projects would not likely be occurring at the same time in the same area. No significant in-water work is planned in the vicinity of the dismantling facility portions of the project area. No cumulative effects to EFH are anticipated because the PA project area is not classified as EFH by the NOAA, and the dismantling facilities are near, but not within, EFH designated areas. No cumulative impacts to biological resources are anticipated.

4.4.4 Air Quality

Impacts resulting from project emission sources, in combination with impacts from any past and reasonably foreseeable future projects, would not have any cumulative impacts. Temporary and minimum impact to air quality would occur during towing activities. However, the Proposed Action and reasonably foreseeable projects would not likely be occurring at the same time in the same area, so potential impacts would be moderated over time and space. Additionally, ambient air quality is expected to return to the original condition upon the completion of each project. As a result, the Proposed Action would not have cumulative impacts to air quality when considered with other activities in the project area.

5 OTHER CONSIDERATIONS REQUIRED BY NEPA

5.1 Possible Conflicts between the Proposed Action and the Objectives of Federal, State, Local, and Regional Land Use Plans, Policies, and Controls

Implementation of the Proposed Action would comply with existing Federal regulations state, regional, and local policies and programs. The Federal acts, Executive Orders (EOs), policies, and plans that apply include the following: NEPA; CAA and Federal General Conformity Rule; CWA; CZMA; ESA; MBTA and EO 13186; MMPA; NHPA; and EO 12372, Coordination with state and regional agencies. Applicable state, local, and regional plans, policies, and controls include: state Coastal Zone Management Programs; state ESAs; and the relevant AQCR rules and regulations.

5.1.1 Federal Acts, Executive Orders, Policies, and Plans

National Environmental Policy Act

This EA has been prepared in accordance with the NEPA of 1969, 42 U.S.C. §§ 4321-4370d, as implemented by the Council on Environmental Quality (CEQ) regulations, 40 C.F.R. §§1500-1508, and the Department of the Navy regulations for implementing NEPA (32 C.F.R. § 775), and Chief of Naval Operations Instruction (OPNAVINST) 5090.1C CH-3 Chapter 5, Procedures for Implementing the National Environmental Policy Act. EO 11991 of 24 May 1977 directed the CEQ to issue regulations for procedural provisions of the NEPA; these are binding for all Federal agencies.

The NEPA, and the implementing regulations promulgated by the CEQ, requires that environmental information is made available to decision makers and citizens before making decisions and taking major Federal actions, and that the NEPA process should identify and assess reasonable alternatives to Proposed Actions to avoid or minimize adverse environmental effects.

Clean Water Act

The Federal CWA was enacted as an amendment to the Federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the U.S. The CWA includes programs addressing both point source and nonpoint source pollution, and empowers the states to set state-specific water quality standards and to issue permits containing effluent limitations for point source discharges. Pennsylvania, Texas, and Maryland are the delegated permit authorities in the project area. The states administer point source discharges of pollutants through an EPA-approved Program. Indirect industrial discharges of effluent to publicly owned treatment works are subject to pretreatment standards promulgated by the EPA and the state.

Clean Air Act and General Conformity Rule

The CAA of 1955 and subsequent amendments specify regulations for control of the nation's air quality. Federal and state ambient air standards (NAAQS) have been established for each criteria pollutant: SO2, CO, PM10 and PM2.5, NO2, lead, and O3. National emissions standards were set for individual sources of hazardous air pollutants as well as regulation of mobile sources of air emissions and a permit program for stationary sources. The results of the air quality analysis determined that the emissions

associated with the Proposed Action would not contribute to an exceedance of an ambient air quality standard.

Achieving CAA standards is the responsibility of the states. Each state must develop SIPs that outline to the EPA how it will achieve and maintain the standards. SIPs implement CAA programs such as the Title V operating permit, new source performance standards (NSPS), new source review, and national emission standards for hazardous air pollutants (NESHAPs) at the state and local level. States may require pollution control and prevention standards that are more stringent than those mandated by the EPA, but may not allow measures that are less stringent. Federal agencies must comply with the requirements of Federal, state, interstate, and local air pollution regulations.

The CAA requires Federal actions to conform to the goals of the applicable SIP before proceeding with the action. The DON has determined that this Proposed Action would conform to the SIPs. A Record of Non-Applicability (RONA) is included as Appendix A of this EA.

Coastal Zone Management Act

The CZMA of 1972 requires that Federal actions that affect any land or water use or natural resource of the coastal zone must be consistent to the maximum extent practicable with the state program. State CZMA programs include point and non-point source pollution control, flood control, sediment control, grading control, and stormwater runoff control. Pennsylvania, Texas, and Maryland have prepared Federally-approved coastal management programs (CMP), which are known as the Pennsylvania Coastal Zone Management Program (PACMP), Texas Coastal Management Program, and Maryland Coastal Management Program respectively. Pursuant to Section 307(c) of the CZMA, the removal of ex-FORRESTAL from Pennsylvania falls under the coastal consistency negative determination (CCND) for vessel movements at INACTSHIPMAINTO Philadelphia dated February 1, 2011 (see Appendix B). The Navy has determined that the Proposed Action would be consistent to the maximum extent practicable with the enforceable policies of the PACMP and dismantling facility permits and practices already established.

Endangered Species Act

The ESA of 1973 and subsequent amendments provide for the protection of threatened and endangered species of fish, wildlife, and plants and their habitats. The act requires Federal agencies to ensure that no agency action is likely to jeopardize the continued existence of endangered or threatened species. The ESA prohibits Federal agencies from taking any action that would adversely affect any endangered or threatened species, or critical habitat. The ESA prohibits all persons subject to U.S. jurisdiction, including Federal agencies, from "taking" endangered species. The taking prohibition includes any harm or harassment, and applies within the U.S. and on the high seas. Although the Navy is not required by law to protect state listed rare and endangered species, Navy policy encourages cooperation with states and territories to protect such species. The Navy has concluded that the Proposed Action would have no effect on threatened or endangered species.

National Historic Preservation Act

The NHPA was passed in 1966 to provide for the protection, enhancement, and preservation of those properties that possess significant architectural, archaeological, historical, or cultural characteristics. 36 C.F.R. Part 800 further defined the obligations of Federal agencies concerning this act.

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties qualifying for inclusion in or eligible for listing in the NRHP and afford the Council a reasonable opportunity to comment on such undertakings. An undertaking is defined as a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval. The governor of each state or territory appoints a SHPO who is responsible for administering cultural resources programs within a given jurisdiction, and the Navy initiates consultation procedures with the respective SHPO in accordance with the NHPA. The Proposed Action would not adversely affect any cultural resources besides the vessel itself, which has already gone through the Section 106 process.

Migratory Bird Treaty Act

Marine birds are protected under the MBTA and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, which direct Federal agencies to avoid or minimize adverse effects on migratory birds, to protect their habitats, and to consider effects on migratory birds in NEPA documents. The Navy has determined that the Proposed Action would result in no reasonably foreseeable takes and no effect on migratory birds.

Marine Mammal Protection Act

The 1972 MMPA established a Federal responsibility to conserve marine mammals with management vested in the Department of the Interior for sea otter, walrus, polar bear, dugong, and manatee. The Department of Commerce is responsible for cetaceans and pinnipeds, other than the walrus. With certain specified exceptions, the Act establishes a moratorium on the taking and importation of marine mammals as well as products taken from them, and establishes procedures for waiving the moratorium and transferring management responsibility to the states. The law authorized the establishment of a Marine Mammal Commission with specific advisory and research duties.

The analysis provided in this EA concludes the Proposed Action would have no reasonably foreseeable takes of marine mammals (i.e., cause harm or harassment, of any marine mammals). The Proposed Action would comply with the MMPA.

Executive Order 12372

EO 12372, Intergovernmental Review of Federal Programs, was issued in 1982 in order to foster an intergovernmental partnership and a strengthened federalism by relying on state and local processes for the state and local government coordination and review of proposed Federal financial assistance and direct Federal development.

The DON pursues close and harmonious planning relations with local and regional agencies and planning commissions of adjacent cities, counties, and states for cooperation and resolution of mutual land use and environment related problems. In preparing this EA, relevant data from state, regional, and local agencies were reviewed in order to determine regional and local conditions associated with the Proposed Action. With respect to the Proposed Action, no mutual land use or environmental issues require resolution.

5.1.2 State, Local, and Regional Plans, Policies, and Controls

Pennsylvania Coastal Act

The Navy has an approved coastal consistency negative determination (CCND) from the PA DEP. Thus, the project is consistent with the state CMP.

State Endangered Species Acts

Although state ESA's do not apply to Federal actions, some state-listed species are addressed in this document. The Navy has concluded that there would be no effect from the Proposed Action on species covered under the state ESAs.

Air Quality Management District Rules and Regulations

The Proposed Action air emissions would comply with all applicable AQCR rules and regulations.

5.2 Energy Requirements and Conservation Potential of Alternatives Including the Proposed Action and All Mitigation Measures Being Considered

The Proposed Action would not result in any additional energy requirements above the current routine operations of the dismantling facilities. Therefore, no mitigation and/or monitoring measures will be implemented.

5.3 Irreversible or Irretrievable Commitment of Natural or Depletable Resources

The NEPA requires an analysis of significant, irreversible effects resulting from implementation of a Proposed Action. Resources that are irreversibly or irretrievably committed to a project are those that are typically used on a long-term or permanent basis; however, those used on a short-term basis that cannot be recovered (e.g., non-renewable resources such as metal, wood, fuel, paper, and other natural or cultural resources) are also irretrievable. Human labor is also considered an irretrievable resource. All such resources are irretrievable in that they are used for one project and thus become unavailable for other purposes. An impact that falls under the category of the irreversible of irretrievable commitment of resources is the destruction of natural resources that could limit the range of potential uses of that resource.

Implementation of the Proposed Action would result in an irreversible commitment of fuel for tug vehicles and dismantling, human labor, and other resources. These commitments of resources are neither unusual nor unexpected, given the nature of the action.

The Proposed Action would not result in the destruction of environmental resources such that the range of potential uses of the environment would be limited, nor affect the biodiversity of the region.

5.4 Relationship between Local Short-Term Use of the Human Environment and Maintenance and Enhancement of Long-Term Natural Resource Productivity

The NEPA requires consideration of the relationship between short-term use of the environment and the impacts that such use could have on the maintenance and enhancement of long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. Such impacts include the possibility that choosing one option could reduce future flexibility to pursue other options, or that choosing a certain use could eliminate the possibility of other uses at the site.

Implementation of the Proposed Action would not result in any such environmental impacts because it would not pose long-term risks to health, safety, or the general welfare of the communities surrounding the project area that would significantly narrow the range of future beneficial uses. In addition, biological productivity would not be affected as implementation of the Proposed Action would not result in cumulative impacts to any biological resources.

5.5 Means to Mitigate and/or Monitor Adverse Environmental Impacts

The Proposed Action would result in only one potentially significant environmental impact: the dismantling of the vessel. Therefore, the only mitigation and/or monitoring measures that will be implemented are to comply with the ACHP Program Comment.

5.6 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 immitigable impacts; therefore, there are no probable adverse environmental effects that cannot be avoided or are not amenable to mitigate.

6 CONCLUSION

Overall, no significant environmental impacts are expected to occur as a result of the Proposed Action. Ex-FORRESTAL is eligible for listing in the National Register of Historic Places. Through compliance with the ACHP Program Comment, the Navy has completed its obligations under Section 106 of the NHPA. The Proposed Action would comply with all Federal and state regulations, guidelines, and agreements. Either of the proposed action alternatives is environmentally equal and there is no preferred alternative location. Additionally, based on the findings from this EA, preparation of a Finding of No Significant Impact (FONSI) is recommended.

7 PREPARERS

This EA has been prepared by the United States (U.S.) Department of the Navy (DON), under the direction of the Naval Sea Systems Command, NAVSEA 21, PMS 333, Inactive Ships Program, NAVFAC MIDLANT, and BMT Designers & Planners Inc. Members of the EX-FORRESTAL TEAM professional staff who contributed to the preparation of this document are listed below:

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8 PERSONS AND AGENCIES CONTACTED

Christopher Harding, NEPA and Cultural Resources Manager, Public Works Department – Pennsylvania, NAVFAC MIDLANT

John G. Bulman, Vice President, Sparrows Point Shipyard LLC

9 REFERENCES

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APPENDICES

APPENDIX A
RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

APPENDIX A
RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

NAVY INACTIVE SHIPS PROGRAM
DISMANTLING OF THE SUPERCARRIER EX-FORRESTAL (AVT-59)

Introduction

The U.S. Environmental Protection Agency (EPA) published *Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule*, in the 30 November 1993, Federal Register (40 C.F.R. Parts 51 and 93). The U.S. Navy published *Clean Air Act (CAA) General Conformity Guidance* in OPNAVINST 5090.1C (Appendix F) dated 30 October 2007. These publications provide implementing guidance to document CAA Conformity Determination requirements.

Federal regulations prohibit any Department, Agency, or instrumentality of the Federal Government to engage, support, provide financial assistance, license to permit, or approve any activity that does not conform to an applicable implementation plan. It is the responsibility of the Federal agency to determine whether a Federal action conforms to the applicable implementation plan before the action is taken (40 C.F.R. Part 1 51.850(a)).

Federal actions may be exempt from a formal Conformity Determination if: (1) the actions fit within one of the exemption categories or (2) their emissions do not exceed designated *de minimis* levels for criteria pollutants (40 C.F.R. § 93.153(c)). The exemption categories apply to actions that would result in no emission increase or an increase in emission that is clearly *de minimis*.

Proposed Action

Action Proponent: Naval Sea Systems Command, NAVSEA 21, PMS333, Inactive Ships Program. Ex-FORRESTAL is wholly owned by the Department of Navy (DON). The Inactive Ships Program Manager is responsible for management of the vessel.

Location: The aircraft carrier ex-FORRESTAL is currently moored at the east side of Pier Four, INACTSHIPMAINTO Philadelphia. INACTSHIPMAINTO is located in the Philadelphia Naval Business Center (PNBC) on League Island on the north side of the Delaware River and East of the Schuylkill River, at their meeting point in Philadelphia County, Pennsylvania.

Proposed Action Name: Dismantling of the aircraft carrier ex-FORRESTAL (AVT-59).

Proposed Action and Emission Summary:
The purpose of the Proposed Action is to dispose of ex-FORRESTAL by dismantling. Three alternatives, including the no-action alternative, are under consideration. The two action alternatives would not require construction of new facilities because the existing facilities have the capability of dismantling a carrier of this size. As an inactive ship, ex-FORRESTAL would be towed from its current location in INACTSHIPMAINTO

Philadelphia, PA, to the dismantling facility; no dredging is required. Each alternative is briefly discussed below.

Sparrows Point, MD, Alternative. This alternative would dismantle ex-FORRESTAL at a facility in Sparrows Point, MD. The vessel would be towed from its current location to the facility in Sparrows Point, MD. The vessel will be dismantled in accordance with applicable Federal, state and local laws and regulations.

Brownsville, TX, Alternative. This alternative would dismantle ex-FORRESTAL at a facility in Brownsville, TX. The vessel would be towed from its current location to a facility in Brownsville, TX. The vessel will be dismantled in accordance with applicable Federal, state and local laws and regulations.

No-Action Alternative. The No-Action alternative includes continued berthing of ex-FORRESTAL at INACTSHIPMAINTO Philadelphia, PA. Under the No-Action Alternative, existing conditions would remain unchanged and no emissions would be generated to trigger a Conformity Determination.

Pursuant to the National Ambient Air Quality Standards (NAAQS), Table 1 summarizes the attainment status for each alternative. Table 2 presents the *de minimis* levels for the applicable criteria pollutants.

Table 1. Attainment Status for Alternative Locations

Location	Attainment Status for Criteria Pollutants[15]
Sparrows Point, MD, Alternative	Severe nonattainment for one-hour ozone standard, moderate nonattainment for the eight-hour ozone standard and nonattainment for the PM2.5 standard.
Brownsville, TX, Alternative	Attainment for all criteria pollutants
INACTSHIPMAINTO Philadelphia[16]	Moderate nonattainment for the eight-hour ozone standard[17] and nonattainment for the PM2.5 standard.[18]

[15] The six criteria pollutants are ozone (O_3), CO, NO_2, PM, SO_2, and lead (Pb).

[16] The no-action alternative would not trigger a conformity review. The information is presented here because the two action alternatives require the towing of the vessel from INACTSHIPMAINTO Philadelphia

[17] According to the 1997 8-hour ozone standard of 0.08 ppm, Philadelphia is classified as a moderate nonattainment area. In March 2008, the EPA revised the ozone standard to 0.075 ppm. However, the EPA has yet to designate areas based on the newer 8-hr ozone standard.

[18] In September 2006, the EPA revised the PM standard to 35 µg/ m3 and 15 µg/m3 for PM2.5 24-hour and PM2.5 annual standard, respectively. The current designation for Philadelphia is nonattainment.

Table 2. Applicable Criteria Pollutant *de minimis* Levels (Tons/Year) for Alternative Locations (40 C.F.R. § 93.153)

Location	VOC[19]	NOx	$PM_{2.5}$
Sparrows Point, MD, Alternative	25[20]	25	100
Brownsville, TX, Alternative	--	--	--
INACTSHIPMAINTO Philadelphia[21]	50[22]	100	100

In addition, the Baltimore SIP states the non-road source controlled emissions budget for VOC is 12,566 tons per year, NO_x is 11,696 tons per year and $PM_{2.5}$ is 1,403 tons per year.

The Proposed Action is subject to the General Conformity Rule because the project area is within nonattainment areas and the Proposed Action will cause air pollutant emissions. However, the Proposed Action does not require construction, and the air pollutant emissions from towing are temporary and clearly *de minimis*. Moreover, the dismantling activities will not be conducted at INACTSHIPMAINTO Philadelphia. Brownsville, TX dismantling facilities are located in an attainment area. According to 40 C.F.R. § 93.153(c), the Proposed Action qualifies for the following exemption category for Philadelphia:

"(vii) Routine Movement of mobile assets, such as ships and aircraft, in homeport assignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul."

The Sparrows Point facility is within a nonattainment area. Calculations of the emissions from the tugs result in significantly less than one ton per year for each of VOC, NO_x, and $PM_{2.5}$. The towing to Sparrows Point is less than the *de minimis* emission threshold, and less than ten percent of the area's annual emission budget.

In summary, the Philadelphia location is in a nonattainment area, but the Navy is exempt from preparing a conformity determination because the action falls within one of the exemption categories. The Texas location is in an attainment area; therefore, the CAA General Conformity Rule does not apply to the proposed action. Finally, the General Conformity Rule does not apply to the Maryland location because emissions from the towing action are considered *de minimis*.

Affected Air Basin: Philadelphia is part of the Southeast Pennsylvania Air Basin.

Date RONA prepared: 1 June 2011

Proposed Action Exemption

[19] VOCs and NOx are precursors to the formation of ozone.

[20] Under the 1-hour Ozone Standard, Baltimore was classified as a severe nonattainment area. The Maryland SIP continues to implement the ozone requirements based on the severe 1-hour Ozone Standard classification.

[21] The no-action alternative would not trigger a conformity review. The information is presented for reference purpose.

[22] The Commonwealth of Pennsylvania is included in the Northeast Ozone Transport Region. Thus, the VOC and NOx criteria for ozone transport region should be used.

The Proposed Action is located within a nonattainment area; therefore, the Proposed Action is not exempt from the General Conformity Rule. However, per 40 C.F.R. § 93.153(c) the proposed action at Philadelphia qualifies as a "routine movement" and fits within one of the EPA's exemption categories. Additionally, the towing to Sparrows Point is less than the *de minimis* emission threshold, and less than ten percent of the area's annual emission budget. Brownsville, TX is in an attainment area. Therefore, the Proposed Action is exempt from Conformity Determination requirements.

Attainment Area Status and Emission Evaluation Conclusion

INACTSHIPMAINTO Philadelphia and Sparrows Point are in moderate nonattainment areas for the 8-hour Ozone standard; VOCs and NOx are precursors to the formation of ozone. Moreover, Philadelphia and Sparrows Point are in nonattainment areas for $PM_{2.5}$.

The U.S. Navy concludes that the conformity requirements do not apply to the Proposed Action. At INACTSHIPMAINTO Philadelphia, the removal of the vessel is considered a "routine movement" which would result in a temporary increase of marine vessel emissions that are clearly *de minimis*. Moreover, the vessel emissions emitted during tow to Sparrows Point fall well below the *de minimis* thresholds. 40 C.F.R. § 93.153(c) supports the conclusion that the *de minimis* thresholds for applicable criteria pollutants would not be exceeded nor would the projected emissions be regionally significant (i.e. greater than 10 percent of the air basin's emission budget) as a result of implementation of the Proposed Action. Therefore, the U.S. Navy concludes that further formal Conformity Determination procedures are not required, resulting in this RONA.

RONA Approval

To the best of my knowledge, the information presented in this Record of Non-Applicability is correct and accurate and I concur with the finding that the Proposed Action does not require a formal Conformity Determination.

C. R. Pietras
CAPT USN
Naval Sea Systems Command

7/25/11
Date

APPENDIX B
REGULATORY CORRESPONDENCE

SHPO

DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEM COMMAND
1333 ISAAC HULL AVENUE
WASHINGTON NAVY YARD DC 20376

IN REPLY REFER TO
4770
Ser 333/123
30 June 2010

Nancy Schamu, Executive Director
National Conference of State Historic Preservation Officers
Suite 342
Hall of the States
444 N. Capitol St. NW
Washington, DC 20001

Dear Ms. Schamu:

On March 5, 2010, the Advisory Council on Historic Preservation issued a Program Comment for the Department of the Navy setting forth the way in which the Navy will comply with Section 106 of the National Historic Preservation Act, with regard to determining the eligibility of vessels with the potential for listing in the National Register of Historic Places (NRHP), and the treatment of adverse effects that may result from certain methods of final disposition.

In accordance with the Program Comment's procedures for participation by historic preservation stakeholders, the Navy will provide statements of eligibility or ineligibility for listing in the NRHP to the National Conference of State Historic Preservation Officers (NCSHPO), in addition to placing them on the Navy's web site. The Navy will solicit written comments on those statements of eligibility or ineligibility for listing in the NRHP from historic preservation stakeholders via its web site. Historic preservation stakeholders will have sixty days from the time the list is published to provide their comments. The Navy will notify historic preservation stakeholders, including the Historic Naval Ships Association (HNSA) and other Veterans affiliated organizations, at the beginning of the sixty-day period.

The NCSHPO and the copy-to addresses of this letter are invited to submit written comments on the following ships and the Navy's determinations of eligibility:

- Ex-FORRESTAL (AVT 59), located in Philadelphia, PA, is eligible for listing on the NRHP.
- Ex-SARATOGA (CV 60), located in Newport, RI, is not eligible.

- Ex-RANGER (CV 61), located in Bremerton, WA, is eligible.
- Ex-INDEPENDENCE (CV 62), located in Bremerton, WA, is not eligible.
- Ex-KITTY HAWK (CV 63), located in Bremerton, WA, is eligible.
- Ex-CONSTELLATION (CV 64), located in Bremerton, WA, is eligible.
- USNS MOUNT BAKER (AE 34), an active ship based on the east coast that scheduled for inactivation on August 2, 2010, is not eligible.

The Naval History and Heritage Command's determinations of eligibility or ineligibility for these ships are available at www.navsea.navy.mil/teamships/Inactiveships/Historic/Historic.aspx.

Sincerely,

Glen Clark
Deputy Program Manager
Navy Inactive Ships Program, PMS 333

Copy to:
Historic Naval Ships Association
USS Forrestal Association, Inc.
USS Saratoga Association, Inc.
USS Ranger Reunion Association, Inc.
USS Ranger Foundation, Inc.
USS Independence CV 62 Association, Inc.
USS Kitty Hawk CVA/CV-63 Veterans Association, Inc.
USS Constellation CVA/CV 64 Association, Inc.
AE/AOE Sailors Association, Inc.

COASTAL CONSISTENCY NEGATIVE DETERMINATION

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER PLANNING OFFICE

February 1, 2011

Chris Harding, PMP
NEPA and Cultural Resources Manager
Public Works Department - Pennsylvania
4921 South Broad Street
Building 1
Philadelphia, PA 19112

Re: CZM File No. CZ7:FDP

Dear Mr. Harding:

On January 28, 2011, the Pennsylvania Coastal Resources Management (CRM) Program received your Federal Coastal Consistency Negative Determination for the U.S. Navy's proposal for the movement of vessels to and from the NAVSEA inactive ships on site maintenance office at the Philadelphia Naval Yard Annex. It was sent to this office as required under the Federal Coastal Zone Management Act of 1972, as amended, and regulation 15 CFR Part 930 Subpart C – Consistency for Federal Agency Activities.

We concur with your determination that this proposed federal activity is consistent with Pennsylvania's CRM Program.

Sincerely,

Donovan J. Houck
Environmental Planner
Coastal Resources Management Program

Enclosure

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC
PUBLIC WORKS DEPARTMENT PENNSYLVANIA
4921 SOUTH BROAD STREET
PHILADELPHIA, PA 19112-1387

Received
JAN 28 2011
Water Planning Office
DEP

IN REPLY REFER TO:
5090
SER PRP4/1081
24 JAN 2011

Mr. Donovan Houck
Department of Environmental Protection
Water Planning Office
400 Market Street, 2nd Floor
Harrisburg, PA 17105-2063

Mr. Houck:

SUBJECT: COASTAL CONSISTENCY GENERAL NEGATIVE DETERMINATION FOR THE MOVEMENT OF VESSELS TO AND FROM NAVSEA INACTIVE SHIPS ON-SITE MAINTENACE OFFICE, PHILADELPHIA, PENNSYLVANIA

In accordance with Section 307 (c) (1) of the Federal Coastal Zone Management Act of 1972 as amended, enclosed is the Federal Coastal Consistency General Negative Determination (CCND) for the movement of vessels to and from the NAVSEA Inactive Ships On-Site Maintenance Office in Philadelphia, PA.

The Department of the Navy has determined that the proposed action would not affect the coastal zone and therefore does not require a consistency determination. This CCND is being submitted in compliance with the Office of the Chief of Naval Operations Instruction (OPNAVINST) 5090.1C.

The attached Federal CCGND addresses the enforceable policies of the Commonwealth of Pennsylvania's Coastal Resources Management Program.

Should you have any questions concerning this issue, our point of contact is Mr. Chris Harding at (215) 897-8048.

Sincerely,

JAMES L. COLTER
Installation Environnemental Program Director
Public Works Department - Pennsylvania

Enclosure

DEPARTMENT OF THE NAVY
RECORD OF GENERAL NEGATIVE DETERMINATION OF EFFECT
IN ACCORDANCE WITH THE
COASTAL ZONE MANAGEMENT ACT
FOR
Movement of Vessels
to and from
NAVSEA Inactive Ships On-Site Maintenance Office, Philadelphia, Pennsylvania

Federal Agency Action: The Navy proposes to relocate numerous vessels to and from NAVSEA Inactive Ships On-Site Maintenance Office (INACTSHIPMAINTO), Philadelphia, PA over the next ten years. Vessels would relocate to the facility for temporary storage and would be removed from the facility for donation or dismantling. Vessel relocation would likely require the vessels be towed. The routes to be taken will follow established shipping routes used by commercial vessels. The number of vessel movements is expected to be five to ten per year. The towing of the vessels is an activity that conforms in all respects with the myriad day-to-day vessel traffic in the Port of Philadelphia. Ranking in 2007 as the 23rd busiest U.S. port, dozens of vessel movements occur daily to and from the Port of Philadelphia. Compared to the large number of vessel movements, the proposed action is a minor action and conforms to normal vessel traffic.

INACTSHIPMAINTO is located in the Philadelphia Naval Business Center (PNBC) on League Island on the north side of the Delaware River and East of the Schuylkill River, at their meeting point in Philadelphia County, Pennsylvania. INACTSHIPMAINTO has been in continual use for inactive ships for over sixty years. There are currently 20 vessels moored at this facility.

Under the proposed action, neither construction of new facilities nor modifications to the existing facilities would be required. Moreover, no dredging would be required. All vessels would be towed, moored, and maintained in a condition satisfactory to the Secretary of the Navy.

The vessels are non-operational (no propeller rotation or water intakes/discharges) and, due to the size of the vessels, the use of several assist tug boats would be required in transit along the Delaware River.

Purpose: The purpose of the proposed action is to relocate the vessels to and from INACTSHIPMAINTO. The project is needed to temporarily store inactive vessels that are decommissioned and awaiting final disposal.

Background: The Coastal Zone Management Act of 1972 (CZMA), codified in 16 U.S. Code section 1451 et seq., and administered by the Secretary of Commerce through the Office of Coastal Resources Management of the National Oceanic and Atmospheric Administration, established a comprehensive regulatory scheme for effective management, beneficial use, protection, and development of the coastal zone and its

natural resources. CZMA encourages coastal states and provides a mechanism for them to develop, obtain federal approval for, and implement a broad-based coastal management program (CMP).

Federal approval of a state CMP triggers for federal executive agencies an obligation, under CZMA section 307, to make coastal consistency determinations for their activities. Section 307 applies to federal agency activity in a state's coastal zone and also to federal agency activity outside the coastal zone, if the activity affects a land or water use in or natural resources of the coastal zone. Federal agency activity includes activity performed by a federal agency, approved by a federal agency, or for which a federal agency provides financial assistance. Such activity, whether direct, indirect, or cumulative, must be demonstrated to be consistent with the enforceable policies of the state's CMP, that is, fully consistent with those policies, unless full consistency is otherwise prohibited by federal law. There are no categorical exemptions to or exclusions from section 307.

Pennsylvania has a federally approved Coastal Resources Management Program (CRMP). The 11 enforceable policies of Pennsylvania's CRMP are: (1) Coastal Hazard Areas; (2) Dredging and Soil Disposal; (3) Fisheries Management; (4) Wetlands; (5) Public Access for Recreation; (6) Historic Sites and Structures; (7) Port Activities; (8) Energy Facility Siting; (9) Intergovernmental Coordination; (10) Public Involvement; and (11) Ocean Resources.

The Pennsylvania Coastal Program was approved in 1980 and is comprised of two coastal areas: the 63-mile Lake Erie shoreline and the 57-mile stretch of coastline along the Delaware Estuary. The Delaware Estuary Coastal Zone lies within Bucks, Philadelphia, and Delaware counties. The boundary of the Delaware Estuary Coastal Zone:

1. Extends to the boundary with New Jersey in the Delaware River.
2. Extends from 1/8 to over 3-1/2 miles inland from the banks of the Delaware. This area includes wetlands and floodplains in which the state can manage activities with direct and significant impacts on coastal waters.
3. Extends on land and in water from the upper extent of tidal influence near Morrisville, Pennsylvania, including all tidal tributaries to the border with Delaware.

The boundary excludes lands the use of which is by law subject solely to the discretion of or which is held in trust by the federal government, its officers or agents.

This General Negative Determination is submitted under CZMA and its implementing regulations, and Chief of Naval Operations Instruction 5090.1C, "Navy Environmental Readiness Program Manual."

Environmental Assessments have recently been drafted to study all of the environmental aspects and issues related to specific vessel relocations.

The PA SHPO is being coordinated with for two vessels that are eligible for listing in the National Register of Historic Places (NRHP). The analyses provided below addresses the proposed action.

Coastal Effects: To assist you with your review of the proposed project, the following information is provided:

Coastal Hazard Areas: This program, based on Pennsylvania's Bluff Recession and Setback Act (25 PA. Code Ch. 85), which contains six policies: (1) Erosion Control/Setback; (2) Erosion Control/Structures; (3) Stormwater Management; (4) Technical Assistance; (5) Floodplains; and (6) Direct Action. The proposed relocations to and from INACTSHIPMAINTO would not impact soil erosion and sedimentation.

The Navy anticipates no net change in stormwater during and after relocation activities.

The proposed action would have no impact on floodplains. The proposed activity would have no effect on a use or natural resources covered by this policy.

Dredging and Spoil Disposal: This program is based on Pennsylvania's Dam Safety and Encroachment Act (32 P.S. Sections 693.1 et seq.) The proposed action would not include any dredging or spoils disposal. The proposed activity would have no effect on a use or natural resources covered by this policy.

Fisheries Management: This program is based on the Fish Law 1959, the Clean Streams Law, and the Pennsylvania Constitution, Article I (25 Pa. Code Chapters 16, 92, 93 and 96). It ensures the support of fish life by controlling waste discharges from point or nonpoint sources, augments native fish stocks and ensures introduction of appropriate species to the Commonwealth's coastal waters, and ensures access to support demands of anglers and boaters. No direct or indirect impacts on water bodies would occur as a result of ship relocations. Implementation of the proposed action would have no effect on fisheries management. The proposed activity would have no effect on a use or natural resources covered by this policy.

Wetlands: This program is based on a number of Pennsylvania laws, including the Solid Waste Management Act, (35 P.S. Sections 6018.10-6018.1003), Pennsylvania Constitution, Article I, Section 27, the Dam Safety and Encroachments Act, (32 P.S. Sections 693.1 et seq.); the Clean Streams Law, (35 P.S. Sections 691.1 et seq.); and the Storm Water Management Act, (32 P.S. Sections 680.1 et seq. No wetlands have been identified at the project site or in the immediate vicinity. Therefore, the proposed activity would have no effect on a use or natural resource covered by this policy.

Public Access for Recreation: This program is based on the Pennsylvania Constitution, Article J, Section 27, and an Interagency agreement through a Memorandum of Understanding between the Pennsylvania Department of Environmental Protection and the Department of Community and Economic Development. It is meant to address the demand for public recreational access to Commonwealth coastal areas. The access

provisions of this policy are meant to allow access to resources within the Commonwealth's coastal zone. Navy property is not considered part of the Commonwealth's coastal zone and is not publicly accessible. Therefore, this activity would have no effect on a use or natural resource covered by this policy..

Historic Sites and Structures: This program is based on Pennsylvania's Historic Preservation Act, (71 P.S. Sections 1047.1(a) et seq.), which seeks to preserve and protect significant sites and structures. Some of the vessels being towed from INACTSHIPMAINTO may be eligible for listing in the NRHP. In those instances, the Navy will provide proper notice to the Pennsylvania State Historic Preservation Office. The vessels will be moored to existing piers and/or anchored together with existing vessels and no land activities are proposed. This activity would have no effect on a use or natural resource covered by this policy.

Port Activities: This program is not based on any regulatory enactment. Its purpose is to actively attract and encourage the siting of port dependent economic activities in the coastal area, and to use the Commonwealth's fiscal and other pertinent resources to support long-range, comprehensive planning for the future development and growth of the Port of Erie and the Pennsylvania Ports of the Delaware Estuary. The vessels would not be used for port activities. Because the policy relates to encouragement of civilian port dependent economic activities, the proposed activity would have no effect on a use or natural resource covered by this policy

Vessel Traffic: Currently, there are 39 non-retention inactive ships in the NAVSEA Inactive Fleet Inventory (DON, 2010). Therefore, even if a majority of these vessels came from and to INACTSHIPMAINTO, the number of vessel tows would be minimal and would not adversely affect vessel traffic in the INACTSHIPMAINTO area. The proposed activity would have no effect on a use or natural resources covered by this policy.

Energy Facilities Siting: This program is based on a number of laws, including the Municipal Waste Planning, Recycling and Waste Reduction Act (53 P.S. §4000.101-4000.1904); the Pennsylvania Constitution, Article I, Section 27,; the Solid Waste Management Act, (35 P.S. §§6018.101-6018.003); the Air Pollution Control Act, (35 P.S. Sections 4001 et seq.); the Clean Streams Law, (35 P.S. Sections 691.1 et seq.); and the Dam Safety Act (32 P.S. Sections 693.1 et seq.). No energy facilities are proposed for this project. Therefore, the proposed activity would have no effect on a use or natural resource covered by this policy.

Intergovernmental Coordination: This program is based on a number of laws, including Pennsylvania's Air Pollution Control Act (35 P.S. Sections 4001 et seq.), the Solid Waste Management Act, (35 P.S. Sections 6018.101-6018.1003), the Sewage Facilities Act (35 P.S. Sections 750.1 et seq.); and the Clean Streams Law, (35 P.S. Sections 691.1 et seq.) Its purpose is to ensure that all state actions in the coastal zones are consistent with the CRMP enforceable policies, and to adopt and incorporate into the CZMP the federal requirements of the Clean Water Act and Clean Air Act. The proposed activity would

have no effect on a use or natural resource covered by this policy and would meet all requirements of the Federal Clean Water Act, Clean Air Act, and National Historic Preservation Act.

Public Involvement: This program is based on Pennsylvania's Open Meeting Law (65 P.S. Sections 261 *et seq.*). It requires the Coastal Resources Management Program to provide citizens, special interest groups, and all other segments of the public with opportunities for early and continuous involvement and participation in the commonwealth's coastal resources management program. As such, the proposed activity would have no effect on a use or natural resource covered by this policy.
Public scoping and comment is not required as part of the proposed action. The public would be notified of specific vessel movements of the proposed action through publication of applicable Notices of Availability in the *Philadelphia Intelligencer*.

Ocean Resources: This program is based on a number of laws, including The Noxious Weeds Control Law, (3 P.S. Section 255.1 et seq.); the Clean Streams Law (35 P.S. Section 691.1 et seq.); the Dam Safety and Encroachments Act (32 P.S. Sections 693.1 et seq.), Aquacultural Development Law, (3 P.C.S. Sections 4201 et seq.), and the Environmental Rights Amendment (Pennsylvania Constitution, Article I, Section 27). Its purpose is to actively assist in preventing aquatic nuisance species from being introduced into, spread within, or transferred out of the coastal zones to other waters/watersheds of the Commonwealth. The proposed action would not promote, introduce or transfer any aquatic nuisance species into coastal zones or other waters of the Commonwealth of Pennsylvania. As such, the proposed activity would have no effect on a use or natural resource covered by this policy.

Conclusion: Based on the foregoing analysis, the proposed federal activity would have no effect on any coastal use or resource of the State of Pennsylvania. The proposed action is consistent with the applicable enforceable policies of Pennsylvania's Coastal Resources Management Plan.

JAMES L. COLTER
Installation Environmental Program Director
Navy Region, Mid-Atlantic
By direction of the Commander

24 JAN 2011
Date

Attachment: 1 map

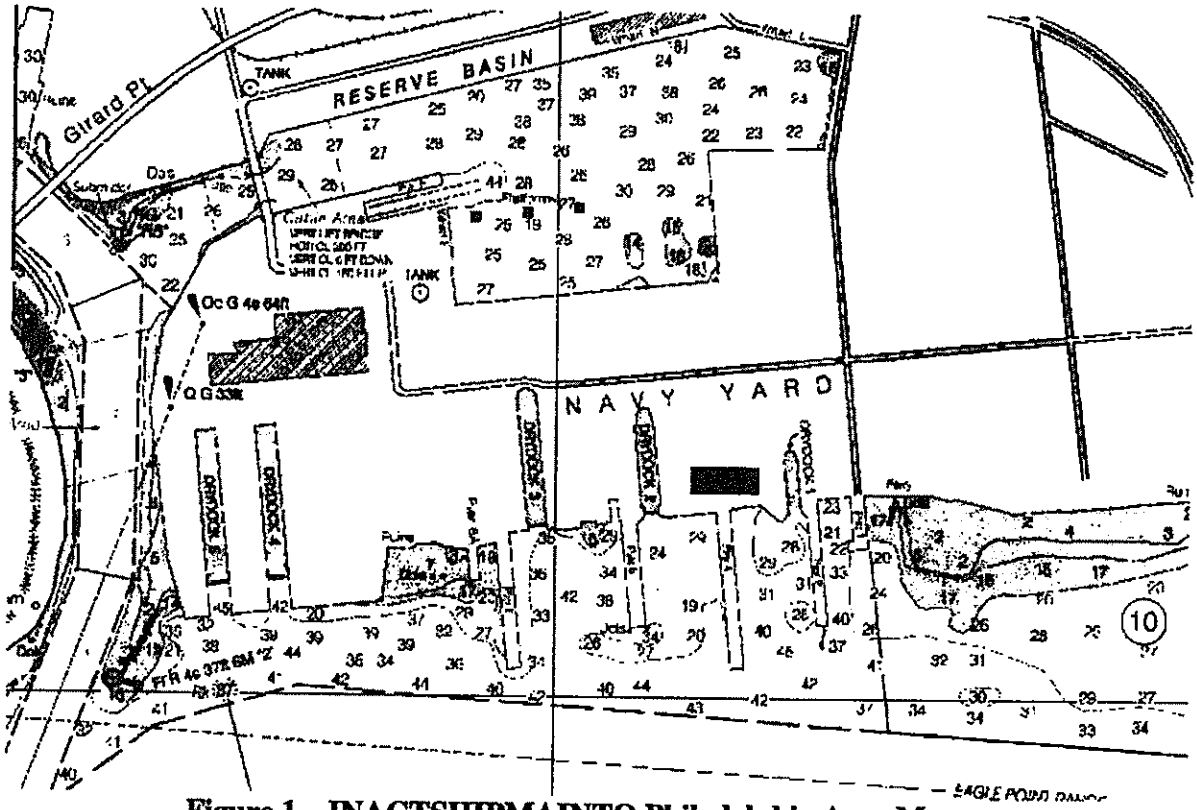

Figure 1 – INACTSHIPMAINTO Philadelphia Area Map