FINAL
Environmental Assessment/ Overseas Environmental Assessment: Dismantling of the Destroyer Ex-FORREST SHERMAN (DD 931)

April 2014

Prepared by the
Department of the Navy
Naval Sea Systems Command

Environmental Assessment/Overseas Environmental Assessment for Dismantling of Destroyer Ex-FORREST SHERMAN (DD 931)

ABSTRACT

The United States (U.S.) Department of the Navy (DON or "The Navy") has prepared this Environmental Assessment/Overseas Environmental Assessment (EA/OEA) to evaluate the potential environmental effects of actions leading to the dismantling of the destroyer ex-FORREST SHERMAN. The ship is currently berthed at NAVSEA Inactive Ships On-site Maintenance Office (INACTSHIPMAINTO) Philadelphia, Pennsylvania (PA). The DON analyzed two Proposed Action Alternative dismantling locations: Brownsville, TX, and New Orleans, LA. The DON also analyzed the No-Action Alternative. All technically acceptable contractors regardless of their locations would be considered at the time of potential contract award.

The Proposed Action is to award a contract to a technically acceptable domestic ship dismantling company which would then tow ex-FORREST SHERMAN to its facility in order to dismantle and recycle her in accordance with applicable Federal, state and local laws and regulations.

The purpose for the proposed dismantlement of this vessel is to execute Chief of Naval Operations (CNO) policy for inactive ships stricken from the Naval Vessel Register and designated for disposal. The Proposed Action is needed to reduce the Navy's inactive ship inventory and eliminate costs associated with continuing to maintain the deteriorating ship in a safe stowage condition.

This EA/OEA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, 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, Executive Order (E.O.) 12114-Environmental Effects Abroad of Major Federal Actions, and Policies and Responsibilities for Implementation of NEPA within the DON, 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.

POINT OF CONTACT

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April 2014

EXECUTIVE SUMMARY

Introduction

This EA/OEA evaluates the potential environmental effects of actions leading to the dismantling of the destroyer ex-FORREST SHERMAN (DD 931), currently berthed at the Naval Sea Systems Command (NAVSEA) Inactive Ships On-Site Maintenance Office (INACTSHIPMAINTO) Philadelphia, Pennsylvania (PA). The Department of the Navy (DON, or "The Navy") has prepared this EA/OEA in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, 42 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, Executive Order (E.O.) 12114, Environmental Effects Abroad of Major Federal Actions, and the guidelines contained in the CNO Instruction (OPNAVINST) M-5090.1D, Environmental Readiness Program, January 10, 2014, which establishes procedures for environmental planning and compliance including implementation of the NEPA.

Purpose of and Need for the Proposed Action

The Proposed Action is to award a contract to a technically acceptable domestic ship dismantling company which would then tow ex-FORREST SHERMAN to its facility in order to dismantle and recycle her in accordance with applicable Federal, state and local laws and regulations.

Ex-FORREST SHERMAN was stricken from the Naval Vessel Register on July 27, 1990. There are no Navy requirements for the ship. The Proposed Action's purpose would be to execute Chief of Naval Operations (CNO) policy[1] for the disposal of inactive ships stricken from the Naval Vessel Register and specifically designated for disposal. The Proposed Action is needed to reduce the Navy's inactive ship inventory and eliminate costs associated with continuing to maintain ex-FORREST SHERMAN in a safe stowage condition.

Description of the Proposed Action

If the Navy decides to proceed with dismantling ex-FORREST SHERMAN, the Navy would enter into a contract for a series of actions including towing ex-FORREST SHERMAN from its current location at the NAVSEA Inactive Ships On-Site Maintenance Office (INACTSHIPMAINTO) Philadelphia, to a technically acceptable dismantling facility. The selected contractor would dispose of ex-FORREST SHERMAN by dismantling and recycling. Navy 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.

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 to move the vessel from storage berthing to a dismantling site. The NAVSEA dismantling contract

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

would require towing conducted by the selected contractor to meet Navy policy for safety, navigation, environmental, and other standards. Included in these requirements are the procedures in the National Marine Fisheries Service (NMFS) "Vessel Strike Avoidance Measures and Reporting for Mariners."

Two representative dismantling locations were selected for the evaluation of potential environmental effects in this EA/OEA; however, all technically acceptable contractors, regardless of location, would be considered at the time of potential contract award. Should the technically acceptable dismantling contractor be in a location other than Brownsville, TX, or New Orleans, LA, this EA/OEA would be supplemented to evaluate potential enviromnental impacts of implementing the proposed action at the selected facility including the towing route.

Brownsville, Texas, Alternative

The Brownsville, TX, alternative would be implemented at a dismantling facility that has the capability of dismantling a destroyer of this size without requiring construction of any new facilities or dredging. This representative facility is located approximately 1,923 nautical miles from INACTSHIPMAINTO Philadelphia.

New Orleans, LA, Alternative

The New Orleans, LA, alternative would be implemented at a dismantling facility that has the capability of dismantling a destroyer of this size without requiring construction of any new facilities or dredging. This representative facility is located approximately 1,678 nautical miles from INACTSHIPMAINTO Philadelphia.

No-Action Alternative

The No-Action Alternative includes continuous berthing of ex-FORREST SHERMAN at INACTSHIPMAINTO Philadelphia. 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). If the Federal Government is unable to award a dismantling contract, the No-Action Alternative would result by default. The No-Action Alternative does not meet the Proposed Action's purpose and need.

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-FORREST SHERMAN 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 U.S. Department of Defense (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 Navy has determined that this alternative is not reasonable due to the extensive presence of solid materials containing PCBs at levels which exceed USEPA limits for ocean disposal; consequently, ocean disposal via SINKEX would be prohibited.

- 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 there has been no foreign country interest in this class of ship for the past thirty years. Ex-FORREST SHERMAN is inoperable and obsolete.

- Title Transfer to the MARAD, DOT:
  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-FORREST SHERMAN is a destroyer, this alternative is not available.

- Artificial Reefing:
  The Navy has determined that this alternative is not feasible due to the extensive presence of solid materials containing PCBs at levels which exceed USEPA acceptable levels; consequently, ocean disposal by means of artificial reefing would be prohibited. Removal of these materials prior to artificial reefing of this vessel would not be practicable.

- Donation Transfer:
  Ex-FORREST SHERMAN was available for donation as a museum or memorial for nine years; unfortunately, the Navy never received a satisfactory ship donation application. The Navy considers any future effort to find a viable donee to be speculative. Therefore, this alternative is no longer considered feasible. The history of the Navy's efforts to find a donee is presented in Section 3.1.2.

Summary of Environmental Impacts

Under Section 106 of the NHPA, ex-FORREST SHERMAN is eligible for listing on the National Register of Historic Places (NRHP). Thus, dismantling her would result in an adverse effect on a cultural resource. However, compliance with a Memorandum of Agreement (included in Appendix B) would mitigate the adverse effect.

On August 10, 2012, the Inactive Ships Program began informal consultation with the National Marine Fisheries Service, National Oceanic and Atmospheric Administration, pursuant to Section7 (a)(2) of the Endangered Species Act to evaluate the level of risk to biota that would be associated with towing inactive vessels, including ex-FORREST SHERMAN, through the waters of the United States and overseas. This initial consultation had been preceded by research conducted by the Navy's subject matter experts on towing and the potential injuries to whales and other biota that could occur during the towing of ex-FORREST SHERMAN, or other Navy

inactive vessels. Table 3-1 presents a list of Endangered and Threatened Species developed by the Navy for the Proposed Action and presented to the NMFS as part of the Navy's consultation. These species may occur in the Atlantic and Gulf of Mexico Action Areas for the Proposed Action. On October 12, 2012, NMFS agreed with the Navy's finding that the Proposed Action of this EA/OEA may affect, but is not likely to adversely affect listed threatened or endangered species or critical habitats designated under the Endangered Species Act (ESA). NMFS also added the shortnose sturgeon and the Atlantic sturgeon to the list of potentially affected species. In addition, the Proposed Action would result in no reasonably foreseeable takes of marine mammals pursuant to the MMPA.

Thus, under NEPA the Proposed Action would not result in significant impacts to the environment, and under E.O. 12114, Environmental Effects Abroad of Major Federal Actions, the Proposed Action would not result in significant harm to the environment in international waters. The environmental consequences associated with implementation of the Proposed Action Alternatives are presented and compared in Table ES-1.

Table ES-1. Summary of NHPA and NEPA/E.O. 12114 Impacts

Resource Area	Brownsville, TX Alternative	New Orleans, LA Alternative	No-Action Alternative
Cultural Resources	• Adverse effect on the vessel; compliance with the ex-FORREST SHERMAN Memorandum of Agreement (MOA) in accordance with the NHPA will mitigate the adverse effect (see Appendix B) • No effects on other cultural resources	• Adverse effect on the vessel; compliance with the ex-FORREST SHERMAN MOA in accordance with the NHPA will mitigate the adverse effect • No effects on other cultural resources	• The No-Action Alternative results in retention of a cultural asset • No effects on other cultural resources
Water Resources: Water Quality	• No significant impacts to water quality	• No significant impacts to water quality	• No significant impacts to water quality
Water Resources: Sediment Quality	• No significant impacts to sediment quality	• No significant impacts to sediment quality	• No significant impacts to sediment quality
Biological Resources: Benthic Community	• No significant impacts to benthic biological resources	• No significant impacts to benthic biological resources	• No significant impacts to benthic biological resources
Biological Resources: Fish and Essential Fish Habitat	• No effect on Essential Fish Habitat • No significant impacts to Essential Fish Habitat	• No effect on Essential Fish Habitat • No significant impacts to Essential Fish Habitat	• No significant impacts to Essential Fish Habitat
Biological Resources: Marine Mammals	• No reasonably foreseeable takes of marine mammals • No significant impacts/no significant harm to marine mammals	• No reasonably foreseeable takes of marine mammals • No significant impacts/no significant harm to marine mammals	• No significant impacts to marine mammals

Biological Resources: Threatened and Endangered Species	• May affect, but not likely to adversely affect threatened/ endangered species during towing (see Table 3-1) • No effect to other threatened/ endangered species • No significant impacts/no significant harm to threatened/ endangered species	• May affect, but not likely to adversely affect threatened/ endangered species during towing (see Table 3-1) • No effect to other threatened/ endangered species • No significant impacts/no significant harm to threatened/ endangered species	• No significant impacts to threatened/ endangered species
Coastal Resources	• No effect on any land or water use or natural resource of the state's coastal zone • No significant impacts to coastal zone resources	• No effect on any land or water use or natural resource of the state's coastal zone • No significant impacts to coastal zone resources	• No significant impacts to coastal zone resources
Air Quality/Climate Change	• No significant impacts to air quality/climate change	• No significant impacts to air quality/climate change	• No significant impacts to air quality/climate change

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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
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
CNO	Chief of Naval Operations
CO	carbon monoxide
CO_2	carbon dioxide
CWA	Clean Water Act
cy	cubic yards
CZMA	Coastal Zone Management Act
DDE	dichlorodiphenyldichloroethylene
DD	destroyer
DDT	dichlorodiphenyltrichloroethane
DEM	Department of Environmental Management
DEP	Department of Environmental Protection
DO	dissolved oxygen
DOD	Department of Defense
DOI	Department of the Interior
DON	Department of the Navy
DOT	Department of Transportation
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
HAER	Historic American Engineering Record
INACTSHIPMAINTO	Inactive Ships Maintenance Office
km	kilometer
kph	kilometers per hour
LA	Louisiana
LCA	Louisiana Coastal Area
lbs	pounds
m	meter
m^2	square meter
MAFMC	Mid-Atlantic Fishery Management Council
MAIA	Mid-Atlantic Integrated Assessment
MARAD	Maritime Administration
MILCON	Military Construction
MLLW	mean lower low water
MOA	Memorandum of Agreement
mm	millimeter
MMPA	Marine Mammal Protection Act
mph	miles per hour
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NATO	North Atlantic Treaty Organization
NAVFAC	Naval Facilities Engineering Command
NAVSEA	Naval Sea Systems Command
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
NNSY	Norfolk Naval Shipyard
NO2	nitrogen dioxide
NOx	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NUWC	Naval Undersea Warfare Center
NWR	National Wildlife Refuge
O3	Ozone

OEA	Overseas Environmental Assessment
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
PCB	polychlorinated biphenyl
PEL	Probable Effects Level
PFBC	Pennsylvania Fish and Boat Commission
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
PNSHD	Philadelphia Naval Shipyard Historic District
ppm	parts per million
ppt	parts per thousand
RONA	Record of Non-Applicability
SAV	Submerged Aquatic Vegetation
SEA21I	Navy Inactive Ships Program Office
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
TBT	tributyltin
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
VA	Virginia
VOC	volatile organic compound
WMA	Wildlife Management Area
WQS	water quality standards
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter

1.0 PURPOSE AND NEED

1.1 Introduction

This Environmental Assessment/Overseas Environmental Assessment (EA/OEA) evaluates the potential environmental effects of actions leading to the dismantling of the destroyer ex-FORREST SHERMAN (DD 931) (Figure 1.1), currently berthed at the Naval Sea Systems Command (NAVSEA) Inactive Ships On-Site Maintenance Office (INACTSHIPMAINTO) Philadelphia, PA.

Figure 1.1 – Ex-FORREST SHERMAN (DD 931) at INACTSHIPMAINTO PHILADELPHIA

The Navy decommissioned USS FORREST SHERMAN on November 5, 1982, and struck her from the Naval Vessel Register on July 27, 1990, to be designated for disposal. Ex-FORREST SHERMAN was sold for scrap in 1993 to a shipyard in Massachusetts for dismantling. The ship was transferred to North Carolina in 1994 for dismantling, but due to non-performance of the company, the dismantling contract was terminated by the Defense Reutilization and Marketing Service whereby the title reverted back to the Navy in 1996. The Navy recovered the vessel and towed her to INACTSHIPMAINTO Philadelphia. In 2001, the Navy changed the vessel's disposition to donation hold status; however, no acceptable ship donation application was received. On July 22, 2010, the Navy removed the ship from donation hold and re-designated the ship for dismantling. The post-decommissioning history of ex-FORREST SHERMAN is presented in detail in Section 3.1.2.

Ex-FORREST SHERMAN is in poor condition with extensive surface corrosion and deterioration. The maintenance associated with keeping this ship in safe stowage condition is a burden on Navy resources because the ship is of no further use to the Navy. The Proposed Action fits NAVSEA's mission for the reduction of inactive ship inventory.

This EA/OEA presents an analysis of the potential environmental consequences that may result from implementation of the Proposed Action. The EA/OEA 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 U.S. Navy, NAVSEA, Navy Inactive Ships Program (SEA-21I). There are no cooperating agencies for the preparation of this EA/OEA.

1.2 Ship Dismantling 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 Navy has scrapped ships within the United States for the purpose of demilitarization and has no future plans to export ships for dismantling and recycling.

Contracts are awarded 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 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 dismantling of ex-FORREST SHERMAN would be overseen by Navy civilian personnel or independent contractor personnel separately contracted by the Navy to ensure contract compliance.

Since 1999, 64 ships have been successfully dismantled. The Navy's ship dismantling program has promoted local economic growth and has received wide congressional and public recognition.

1.3 Project Location

The destroyer ex-FORREST SHERMAN is currently berthed between Wharf E and 16th Street Wharf, INACTSHIPMAINTO Philadelphia (Figure 1.2). INACTSHIPMAINTO Philadelphia has been in continual use for storage of inactive ships for over sixty years. There are currently 26 vessels berthed at this facility.

INACTSHIPMAINTO Philadelphia 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, PA (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 her to its facility. Possible locations for dismantling are: Brownsville, Texas; and New Orleans, Louisiana.

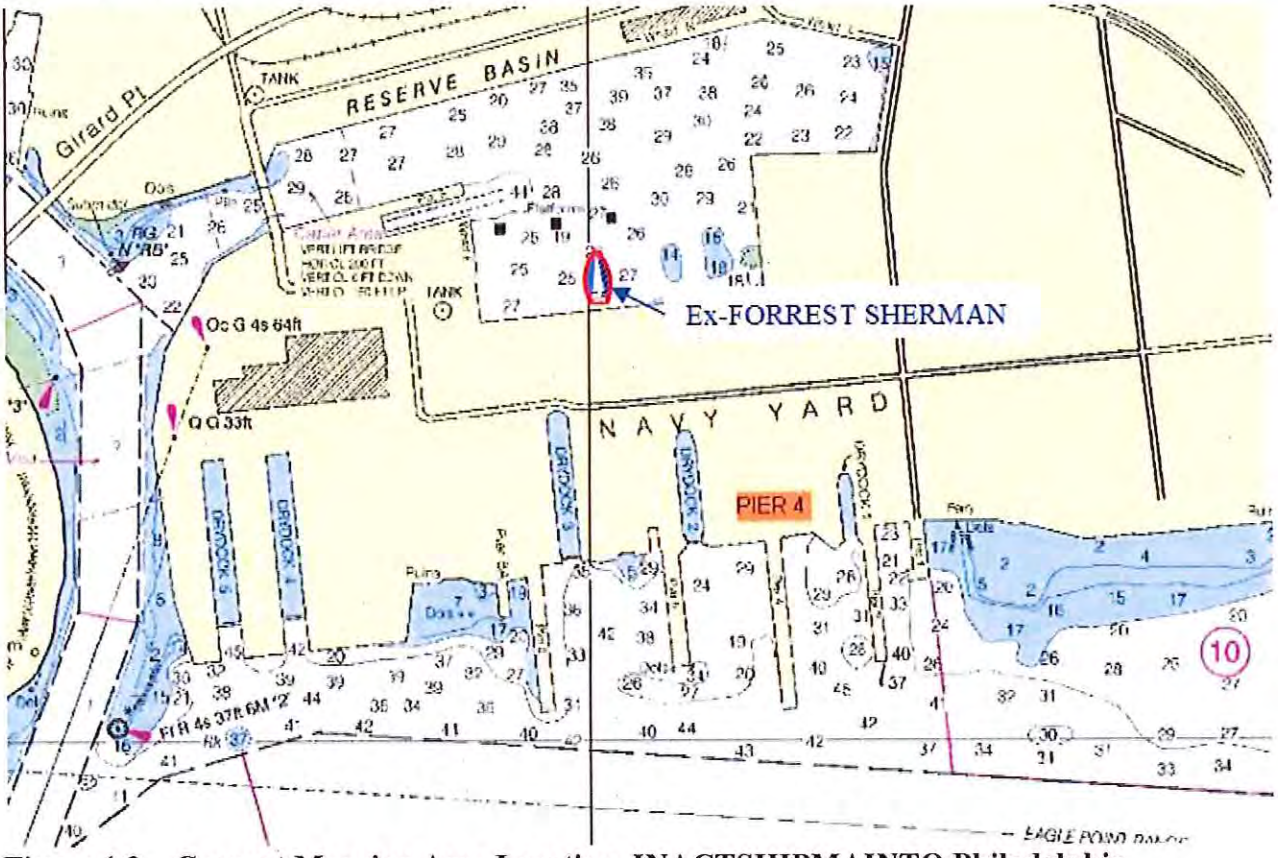

Figure 1.2 – Current Mooring Area Location, INACTSHIPMAINTO Philadelphia

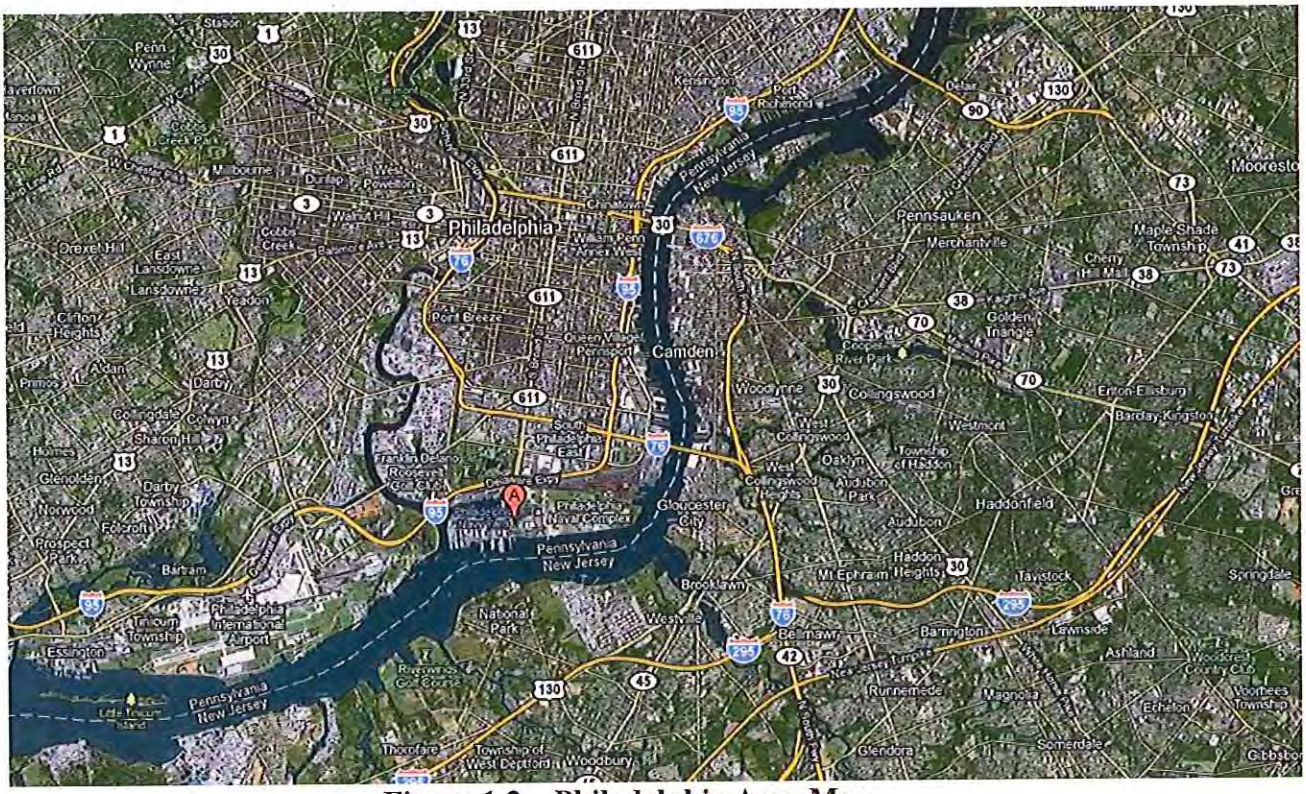

Figure 1.3 – Philadelphia Area Map

1.4 Purpose of and Need for the Proposed Action

The Proposed Action is to award a contract to a technically acceptable domestic ship dismantling company which would then tow ex-FORREST SHERMAN to its facility in order to dismantle and recycle her in accordance with applicable Federal, state and local laws and regulations.

The Proposed Action's purpose would be to execute Chief of Naval Operations (CNO) policy[2] for the disposal of inactive ships stricken from the Naval Vessel Register and specifically designated for disposal. The Proposed Action is needed to reduce the Navy's inactive ship inventory and eliminate costs associated with continuing to maintain ex-FORREST SHERMAN in a safe stowage condition.

1.5 History of Ex-FORREST SHERMAN Prior to Decommissioning

USS FORREST SHERMAN (DD 931), the first of her class of destroyers, was laid down on October 27, 1953, at Bath Iron Works Corporation in Bath, Maine. The ship was launched on February 5, 1955, by Mrs. Forrest P. Sherman, widow of Admiral Sherman, and commissioned on November 9, 1955, with Cdr. R. S. Crenshaw in command. The seventeen other destroyers of

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

her class were USS JOHN PAUL JONES (DD 932), USS BARRY (DD 933), USS DECATUR (DD 936), USS DAVIS (937), USS JONAS INGRAM (DD 938), USS MANLEY (DD 940), USS DUPONT (DD 941), USS BIGELOW (DD 942), USS BLANDY (DD 943), USS MULLINIX (DD 944), USS HULL (DD 945), USS EDSON (DD 946), USS SOMERS (DD-947), USS MORTON (DD 948), USS PARSONS (DD 949), USS RICHARD S. EDWARDS (DD 950), and USS TURNER JOY (CV 951).

USS FORREST SHERMAN was the first completely new destroyer built after World War II, and named for the then youngest CNO. After a year of initial training and fitting out, USS FORREST SHERMAN arrived at her home port of Newport, Rhode Island, January 15, 1957. Two days later she sailed for Washington, D.C., where she was open for public visiting during the week of the second inauguration of then-President Dwight D. Eisenhower. USS FORREST SHERMAN sailed on training and fleet exercises along the East Coast and in the Caribbean for six months, and then took part in the midshipman cruise to South America and the International Naval Review in Hampton Roads on June 12, 1957.

On September 3, 1957, USS FORREST SHERMAN sailed for NATO Operation Strikeback, screening a carrier striking group in exercises off Norway. Ports of call included Plymouth, England, and Copenhagen, Denmark, before returning to Narragansett Bay on October 22. As preparation for the first deployment to the Mediterranean, the vessel took part in amphibious exercises off Puerto Rico in July 1958 and arrived at Gibraltar on August 10, 1958. USS FORREST SHERMAN patrolled the eastern Mediterranean through the rest of the month and then sailed to join the 7th Fleet in its operations off Taiwan in support of the threatened islands of Quemoy and Matsu. Sailing eastward to be the first unit of her class to complete a cruise around the world, USS FORREST SHERMAN returned to Newport on November 11, 1958.

During the summer of 1959, USS FORREST SHERMAN joined in Operation Inland Seas, the cruise of a task force into the Great Lakes in celebration of the opening of the St. Lawrence Seaway. The vessel served as escort to the Royal Yacht HMY Britannia. She embarked with then-President Dwight D. Eisenhower and Queen Elizabeth II for a naval review on Lake St. Louis on June 26, then sailed on to entertain over 110,000 visitors at Great Lakes ports. Returning to Newport, USS FORREST SHERMAN took part in coastal exercises with the Atlantic Fleet, then underwent minor repairs and alterations in the Boston Naval Shipyard.

More training exercises began in 1960 for the vessel, and on March 21 she sailed on a 7-month cruise to the Mediterranean and duty with the 6th Fleet. En route home in October 1960, FORREST SHERMAN came to the aid of the Liberian freighter Allen Christensen who had a severely injured man onboard. Taking off the patient in a motor whaleboat at night, USS FORREST SHERMAN sped him to Bermuda, the site of the nearest hospital. The destroyer arrived at Newport on October 15 and a month later entered the Boston Naval Shipyard for a major overhaul, which lasted until 1961.

USS FORREST SHERMAN received four awards during her twenty-seven years of service. The two Armed Forces Expeditionary Medals commemorated service off Lebanon (August 20-28, 1958) and in the Taiwan Straits (September 20-27, 1958). The two Navy Expeditionary Service Medals commemorated service off Cuba (April 21-26, 1961) and with the Middle East Force and in the Indian Ocean (April 1-July 11, 1980). The Navy Unit Commendation

recognized a deployment to Northern Europe (May 5-September 1, 1970). She did not participate in two of the defining events of the Cold War period, which were the Cuban Missile Crisis (1962) and the Vietnam War (1965-1973).

USS FORREST SHERMAN was decommissioned on November 5, 1982, and stricken from the Naval Vessel Register on July 27, 1990. A detailed post-decommissioning history of ex-FORREST SHERMAN is presented in Section 3.1.2.

Ex-FORREST SHERMAN meets the criteria to be eligible for listing in the NRHP under 36 C.F.R. §60.4 Criterion C, as determined by the U.S. Department of the Interior's (DOI) Keeper of the National Register on August 19, 2010. Support for her eligibility includes: ex-FORREST SHERMAN is the first of her class and the bulk of the vessel's historic fabric and features have remained intact sufficiently enough to clearly "embody the distinctive characteristics of a type, period, and method of construction" for her class (NPS, 2010). The Navy initiated NHPA Section 106 consultation with the PA State Historic Preservation Office (PA SHPO) on September 9, 2010. The Advisory Council on Historic Preservation (ACHP) agreed to participate, at the Navy's request, after it was determined that the Proposed Action would have an adverse effect on the vessel. The ACHP was established in 1966 by the NHPA as an independent Federal agency and the only entity with the legal responsibility to encourage Federal agencies to factor historic preservation into Federal project requirements.

1.6 Applicability of NEPA and Executive Order 12114

The NEPA, as amended, 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 potential dismantlement of ex-FORREST SHERMAN is considered a "major Federal action" under NEPA. There is no applicable Categorical Exclusion (CATEX) for this action; the CATEX for decommissioning, disposal, or transfer of naval vessels (Number 22, "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") does not apply to the Proposed Action because of the ship's eligibility for listing in the NRHP. To satisfy 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 human environment. The potential towing of ex-FORREST SHERMAN to either of the representative dismantling facilities would bring the vessel outside 12 nm from shore; therefore, E.O. 12114 applies to this Proposed Action.

This EA/OEA documents the Navy's evaluation and assessment of the potential environmental impacts associated with the decision to dismantle ex-FORREST SHERMAN.

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

- The NEPA of 1969, as amended (42 United States Code (U.S.C.) §§ 4321-4370d);
- E.O. 12114, Environmental Effects Abroad of Major Federal Actions;

- The Council on Environmental Quality (CEQ) regulations implementing NEPA (40 C.F.R. §§ 1501-1508);
- Policies and Responsibilities for Implementation of NEPA within the DON, 32 C.F.R. Part 775; and
- Chief of Naval Operations Instruction (OPNAVINST) 5090.1D, The Navy Environmental Readiness Program Manual, January 10, 2014.

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

The NEPA, CEQ regulations, E.O. 12114 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. For this Proposed Action, no construction activities would be required. Two representative dismantling facility locations, based on existing dismantling contracts, have been preliminarily identified as potential locations where the decision to dismantle ex-FORREST SHERMAN could be accomplished. The two facilities are located in Brownsville, TX, and New Orleans, LA.

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

- Cultural Resources
- Water Resources
- Biological Resources
- Air Quality/Climate Change

The vessel would be towed to a dismantling facility that is closed to public access. The dismantling facility has existing capacity to undertake the dismantling project without any construction or modifications to facilities. Moreover, the Navy's dismantling contracts require that the dismantling facility obtain all applicable environmental and occupational health and safety permits prior to commencing the dismantling project. The resources that are not evaluated in detail in this EA/OEA are:

- Land Use (there will be no change in land use as a result of the Proposed Action);
- Geology, Soils (including wetlands) and Seismicity (there would be no effects to these resources and conditions);
- Socioeconomics (the project would not have an effect on the state, local and regional economies, 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 regulated 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 in which the dismantling would be conducted would be in compliance with applicable environmental statutes related to noise; the Navy is not conducting 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); and
- Aesthetics and Visual Resources (The vessel has not been recognized as having a significant aesthetic value that would be affected by its elimination from INACTSHIPMAINTO Philadelphia. Removal of ex-FORREST SHERMAN from INACTSHIPMAINTO Philadelphia would not significantly alter the visual character of INACTSHIPMAINTO, nor the Philadelphia Naval Shipyard Historic District (Number 99001579, December 22, 1999) in which it is located, as INACTSHIPMAINTO will continue to be used for storage of inactive ships. Iu addition, the Proposed Action would not affect the existing visual character or quality of the possible dismantling sites and their surroundings).

1.7 Intergovernmental Coordination

In order to identify permits, certifications, and/or determinations that may be required for the Proposed Action and all reasonably foreseeable, related actions, the EA/OEA intergovernmental coordination process included consideration of the following statutes and their respective implementing regulations. The statutes pertaining to the Proposed Action and all reasonably foreseeable, related actions include, but are not limited to:

- The 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);
- The Marine Mammal Protection Act of 1972 (16 U.S.C. §§ 1361-1407), as amended;
- Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544), as amended;
- E.O. 12114, Environmental Effects Abroad of Major Federal Actions; and
- E.O. 12372, Intergovernmental Review of Federal Programs.

As part of the NEPA compliance process, coordination with regulatory agencies was initiated to obtain regulatory input related to all Proposed Action alternatives and to clearly define their regulatory requirements. The Navy consulted with the following regulatory agencies: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), the Pennsylvania State Historic Preservation Office (PA SHPO) and the Pennsylvania Department of Environmental Protection (PADEP). The letter correspondence with these agencies is included in Appendix B.

The towing routes for the Proposed Action would take the vessel into the coastal zones of Texas and Louisiana. The vessel would be towed through existing shipping channels; however, no dredging or excavation is required to complete the tow to either representative facility.

This EA/OEA 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 by resource. Section 4 provides analysis of potential environmental impacts. Section 5 discusses the cumulative impacts on the environment resulting from past, present and reasonably foreseeable future actions. Section 6 discusses other NEPA considerations. Section 7 presents the conclusion. Section 8 provides a list of preparers, Section 9 provides persons and agencies contacted, and Section 10 lists references used in the preparation of this EA/OEA.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action is to award a contract to a technically acceptable domestic ship dismantling company which would then tow ex-FORREST SHERMAN to its facility in order to dismantle and recycle her in accordance with applicable Federal, state, and local laws and regulations. Ex-FORREST SHERMAN is currently berthed at the NAVSEA, INACTSHIPMAINTO Philadelphia. All technically acceptable contractors regardless of location would be considered at the time of potential contract award. However, for the purpose of conducting an analysis of the potential environmental impacts associated with implementing the Proposed Action, two representative private sector facility locations where ex-FORREST SHERMAN could be dismantled have been identified. These locations are in New Orleans, LA, and Brownsville, TX. Also analyzed are the towing routes to these facilities from Philadelphia, PA. In the event that the Navy decides to award a contract for this Proposed Action to a private-sector dismantler in a location other than New Orleans or Brownsville, the analysis of the towing routes would remain valid but may need to be supplemented.

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 Navy's 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 Proposed Action would include the following:

Towing

Ex-FORREST SHERMAN would be towed from her present location at INACTSHIPMAINTO Philadelphia to the dismantling contractor's facility. The contractor would be responsible for the tow. Towing would include a direct route from INACTSHIPMAINTO Philadelphia along the shipping channel of the Delaware River, to Delaware Bay and into the Atlantic Ocean then onwards to the entrance waters of the receiving facility port. 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.

To reach a dismantling location, ex-FORREST SHERMAN would be towed by a contractor from its berthing location at INACTSHIPMAINTO, Philadelphia. The tug and tow would travel at 10 knots or less. Towing would be conducted in accordance with the requirements of Appendix H of the U.S. Navy Towing Manual, SI746-AA-MAM-010, Rev. 3, July 2002. The Navy contractor would be responsible for making all applicable notifications with the towing activity and would adhere to all applicable safety and marine mammal/endangered species protection requirements for towing the inactive ship. The ballast tanks would be trimmed at INACTSHIPMAINTO Philadelphia in preparation for towing. Commercial pilots would be utilized for departures from and entries into ports.

Ex-FORREST SHERMAN is 418 feet (127 m) in length, with a beam of 45 ft (14 m) and light draft of 14.8 ft (4.5 m). The tow cable could be up to 2,000 ft (610 m) long, consisting of 2.25 inch (5.72 cm) diameter wire rope. While underway, the cable may dip 100 ft (30 m) below the surface; the tug would maintain approximately 75 tons (68 metric tons) of strain on the cable.

Navigation

Departing Philadelphia navigationally would not be a concern. The transit down the Delaware River is approximately 80 miles to the entrance from the INACTSHIPMAINTO Philadelphia 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. Three aircraft carriers larger than ex-FORREST SHERMAN have previously been towed successfully 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. From Delaware Bay, the tow would move offshore and transit to the receiving facility port in the open waters of the Atlantic Ocean and Gulf of Mexico. Additional information about the transit from the Delaware Bay onwards is described under each Proposed Action alternative description.

Figure 2.1 – Probable Tow Route: Departing INACTSHIPMAINTO Philadelphia

Dismantling Process

For the purposes of evaluating the potential effects of the Proposed Action, the dismantling actions would take place at one of two representative private sector facilities. Exact dismantling procedures vary somewhat among recycling facilities. However, for the purpose of this analysis, a general description of the dismantling process is provided below.

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. Recycling a ship while in the water (afloat method) 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 using the dry-dock method 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.

After their removal 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 also contain or be contaminated with hazardous materials, including asbestos, polychlorinated biphenyls (PCBs), oils, and fuels. Hazardous materials must be separated from the materials to be recycled. 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 re-melting firms or to scrap metal brokers. Other materials that are not recycled, including hazardous materials and other wastes, are disposed of according to applicable Federal, state, and local laws and regulations. The Navy and the MARAD work closely and cooperatively with the EPA and the Occupational Safety and Health Administration (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. Two applicable guides, EPA Ship Scrappers Guide and OSHA Safe Work Practices for Shipbreaking, can be found on the SEA21I website: www.navsea.navy.mil/team-Ships/inactiveships/default/aspx.

2.2 Proposed Action Alternatives

Due to the limited supply of government-owned vessels for dismantling, there are few recyclers and locations available in the United States; however, no new recycling facilities would be needed to fulfill the Proposed Action. The Proposed Action could be implemented at private sector facilities located in one of two representative locations: (1) Brownsville, TX or (2) New Orleans, LA (see Figure 2.2). As noted earlier, all technically acceptable contractors regardless of location would be considered at the time of potential contract award. 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 described in Section 2.5.

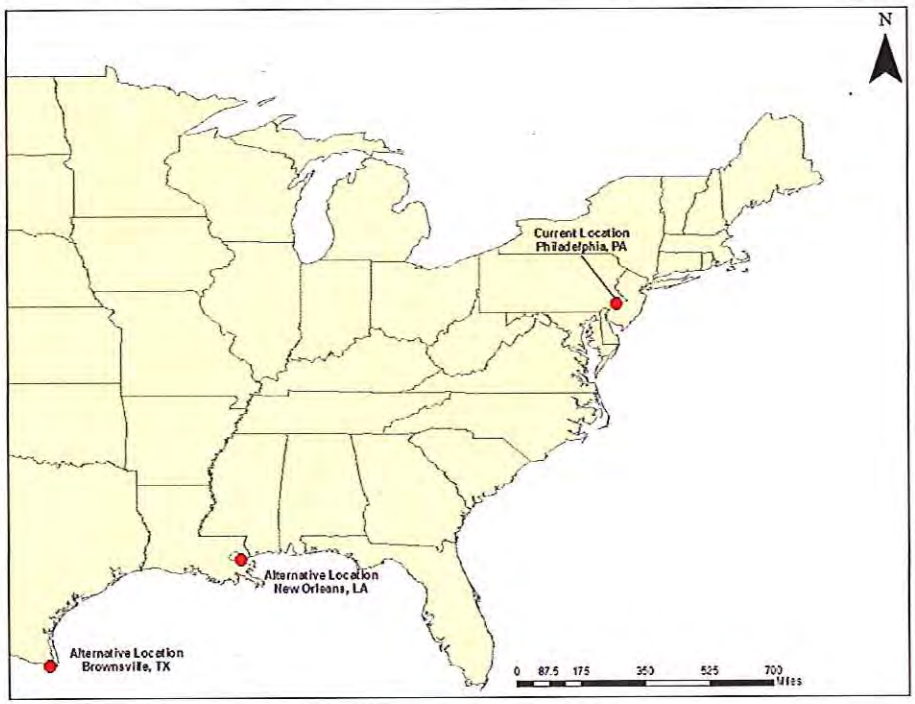

Figure 2.2 – Project Area Map with Alternatives

Alternatives Screening Criteria

Ex-FORREST SHERMAN has the following characteristics:

Length Overall: 418 ft 5 in (127.5 m)
Beam: 44 ft 11.5 in (13.7 m)
Draft: 17 ft 2 in (5.2 m) forward and 17 ft (5.2) aft

Current Displacement: 2,859 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-FORREST SHERMAN 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 Naval Vessel Register, one of which is dismantling. The following are five alternatives considered for ex-FORREST SHERMAN 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 U.S. Department of Defense (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 Navy has determined that this alternative is not reasonable due to the extensive presence of solid materials containing PCBs at levels which exceed USEPA limits for ocean disposal; consequently, ocean disposal via SINKEX would be prohibited.

- 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 there has been no foreign country interest in this class of ship for the past thirty years. Ex-FORREST SHERMAN is inoperable and obsolete.

- Title Transfer to the MARAD, DOT:
  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-FORREST SHERMAN is a destroyer, this alternative is not available.

- Artificial Reefing:
  The Navy has determined that this alternative is not feasible due to the extensive presence of solid materials containing PCBs at levels which exceed USEPA acceptable levels; consequently, ocean disposal by means of artificial reefing would be prohibited. Removal of these materials prior to artificial reefing of this vessel would not be practicable.

- Donation Transfer:
  Ex-FORREST SHERMAN was available for donation as a museum or memorial for nine years; unfortunately, the Navy never received a satisfactory ship donation application. The Navy considers any future effort to find a viable donee to be speculative. Therefore, this alternative is no longer considered feasible. The history of the Navy's efforts to find a donee is presented in Section 3.1.2.

2.3 Brownsville, TX, Alternative

This alternative would dismantle ex-FORREST SHERMAN at a facility in Brownsville, TX (Figure 2.3). This dismantling facility would have the capability of dismantling a destroyer of this size and would not require construction of any new facilities.

The towing to Brownsville would meet the requirements for safety, navigation, environmental, and other safeguards. A probable tow route is shown in Figures 2.4 and 2.5.

The navigational concerns of entering the Port of Brownsville are minimal. The Port of Brownsville is located three miles from Mexico, and two miles from Brownsville, the southernmost city in Texas. A seventeen-mile shipping channel connects the Port from the Gulf of Mexico at South Padre Island.

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 2.3 – Facilities along Brownsville, TX, Ship Channel (Center for Land Use Interpretation photograph)

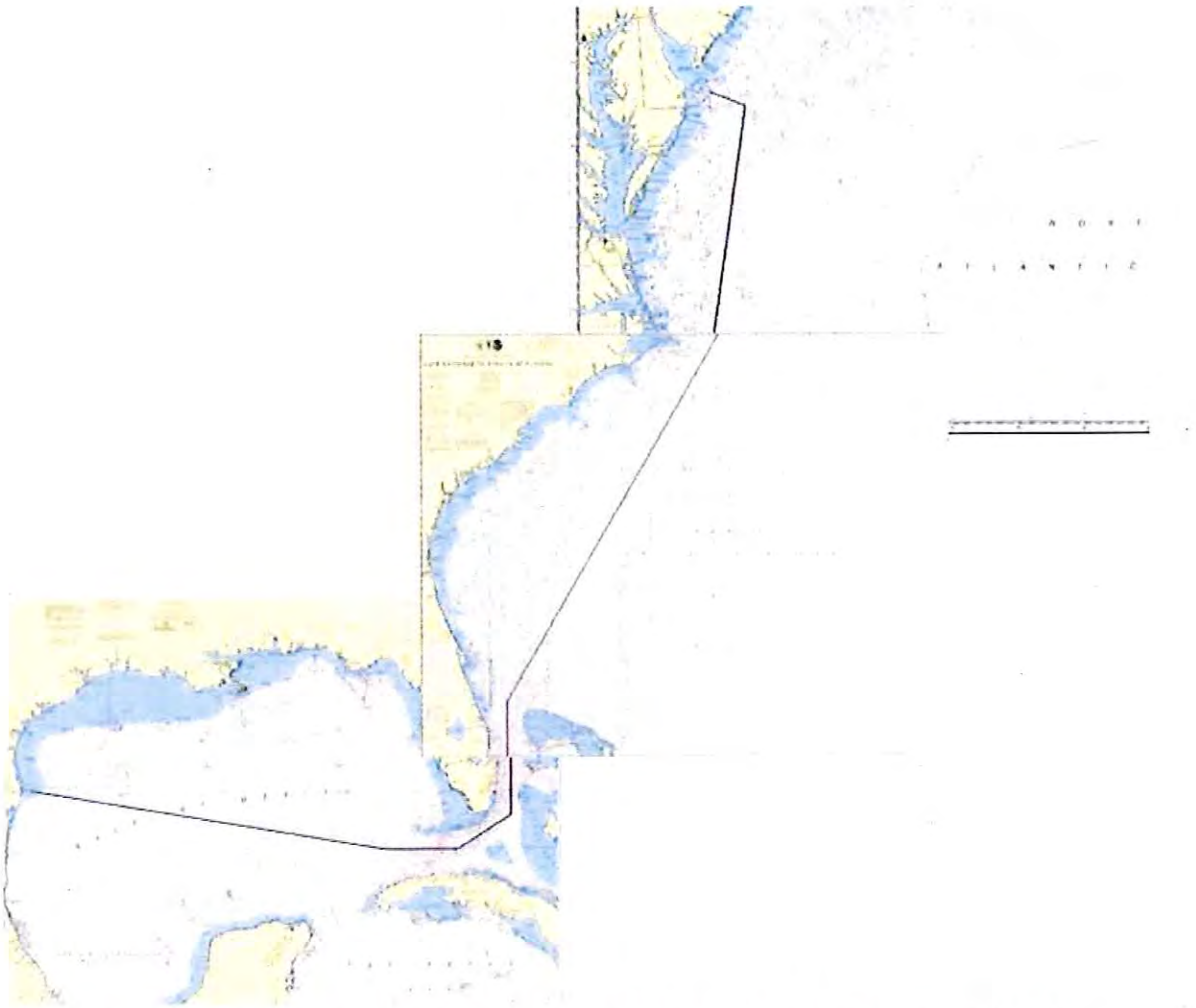

Figure 2.4 – Probable Tow Route from Delaware Bay to Brownsville, TX

Figure 2.5 – Probable Tow Route along channel to Brownsville, TX

2.4 New Orleans, LA, Alternative

This alternative would dismantle ex-FORREST SHERMAN at a facility in New Orleans, LA. The dismantling facility would have the capability of dismantling a destroyer of this size and would not require construction of any new facilities.

New Orleans is located on the banks of the Mississippi River, approximately 105 miles upriver from the Gulf of Mexico. The Port of New Orleans is the fifth largest port in the U.S. based on cargo handled, and the longest wharf in the world at two miles long.

The towing to New Orleans would meet the requirements for safety, navigation, environmental, and other safeguards. A possible tow route is shown in Figures 2.6 and 2.7.

The navigation concerns of approaching the recycling facilities are minimal. The transit from the channel entrance is approximately 105 miles. Navigationally, there are no bridges or cable across the Mississippi River below New Orleans, but three bridges and two cables cross the river in the vicinity of the dismantling facility. The lowest clearance of these is 135 ft. The majority of the transit via the Southwest Pass uses a deep water channel that has controlling depths at mean lower low water of 45 ft.

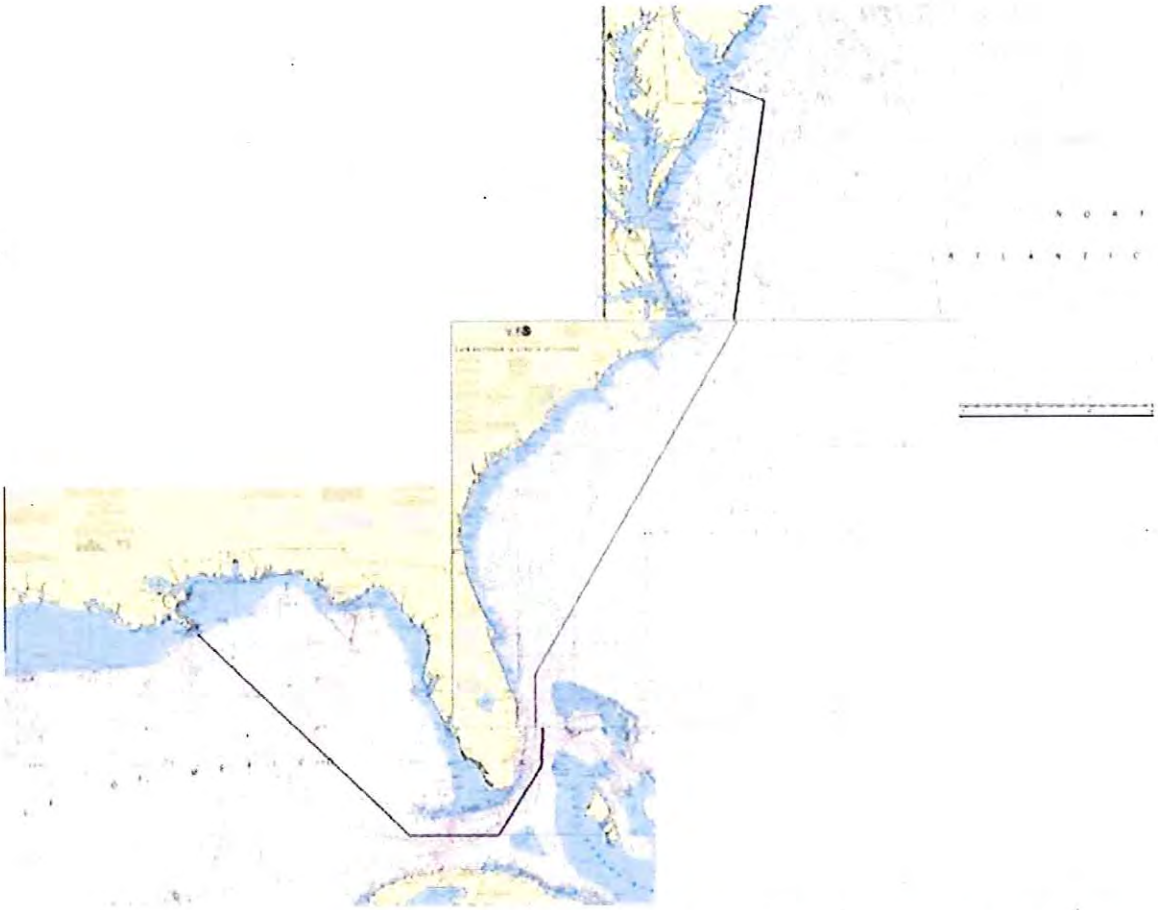

Figure 2.6 – Probable Tow Route from Delaware Bay to New Orleans, LA

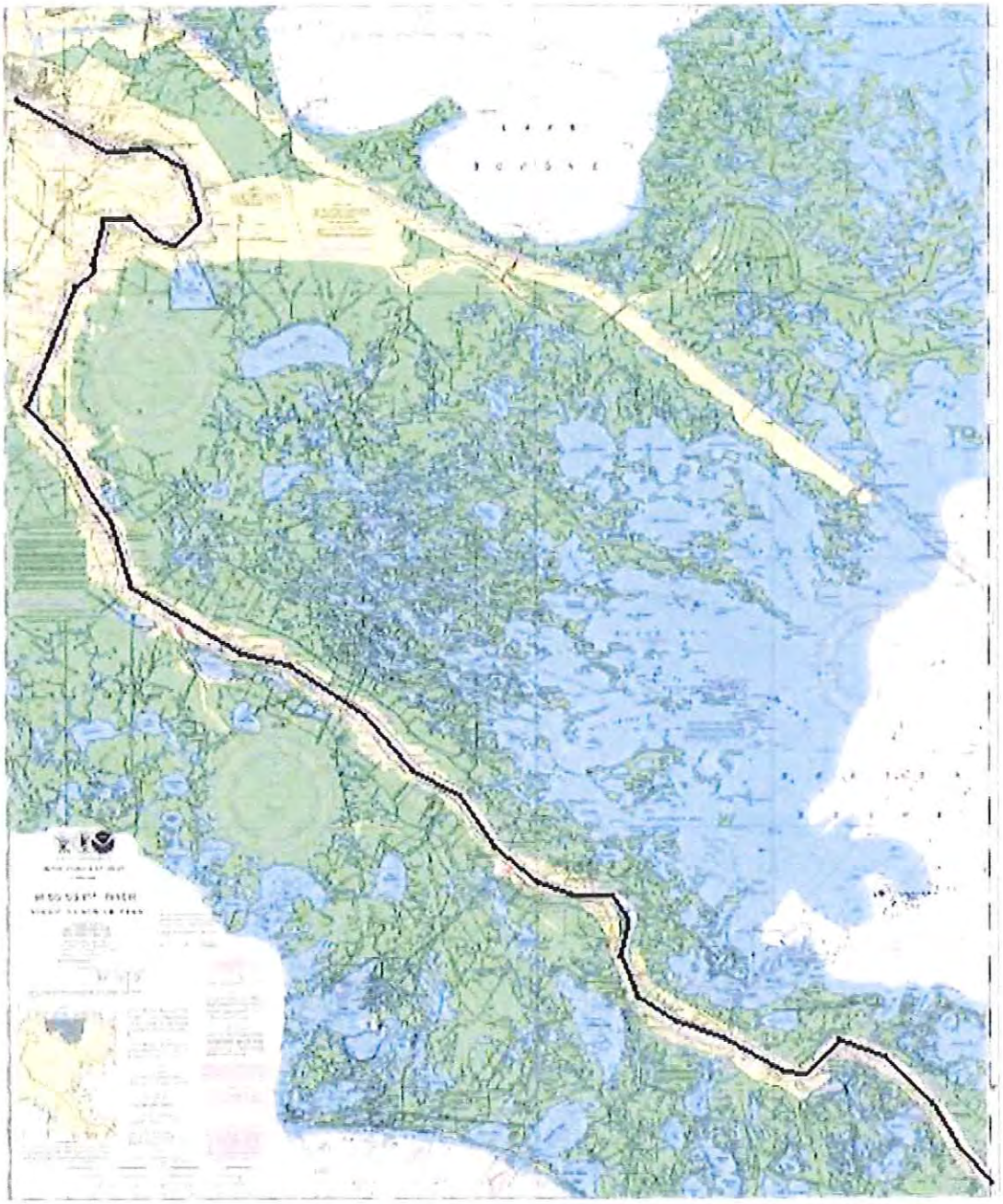

Figure 2.7 – Probable Tow Route up the Mississippi River to New Orleans, LA

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-FORREST SHERMAN at INACTSHIPMAINTO Philadelphia.

Ex-FORREST SHERMAN is in poor condition with extensive surface corrosion and deterioration. If the vessel is not removed from the inactive ship inventory, the ship would continue to be maintained in safe stowage (i.e., fire and flood protection).

The No-Action Alternative does not meet the Navy's operational need to reduce the Navy's inactive ship inventory and eliminate costs associated with continuing to maintain ex-FORREST SHERMAN in a safe stowage condition.

2.6 Summary of Impacts

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 4, Environmental Consequences.

Table 2-1. Summary of NHPA and NEPA/E.O. 12114 Impacts

Resource Area	Brownsville, TX Alternative	New Orleans, LA Alternative	No-Action Alternative
Cultural Resources	• Adverse effect on the vessel; compliance with the ex-FORREST SHERMAN Memorandum of Agreement (MOA) in accordance with the NHPA will mitigate the adverse effect (see Appendix B) • No effects on other cultural resources	• Adverse effect on the vessel; compliance with the ex-FORREST SHERMAN MOA in accordance with the NHPA will mitigate the adverse effect • No effects on other cultural resources	• The No-Action Alternative results in retention of a cultural asset • No effects on other cultural resources
Water Resources: Water Quality	• No significant impacts to water quality	• No significant impacts to water quality	• No significant impacts to water quality
Water Resources: Sediment Quality	• No significant impacts to sediment quality	• No significant impacts to sediment quality	• No significant impacts to sediment quality
Biological Resources: Benthic Community	• No significant impacts to benthic biological resources	• No significant impacts to benthic biological resources	• No significant impacts to benthic biological resources
Biological Resources: Fish and Essential Fish Habitat	• No effect on Essential Fish Habitat • No significant impacts to Essential Fish Habitat	• No effect on Essential Fish Habitat • No significant impacts to Essential Fish Habitat	• No significant impacts to Essential Fish Habitat
Biological Resources: Marine Mammals	• No reasonably foreseeable takes of marine mammals • No significant impacts/no significant harm to marine mammals	• No reasonably foreseeable takes of marine mammals • No significant impacts/no significant harm to marine mammals	• No significant impacts to marine mammals

Biological Resources: Threatened and Endangered Species	• May affect, but not likely to adversely affect threatened/ endangered species during towing (see Table 3-1) • No effect to other threatened/ endangered species • No significant impacts/no significant harm to threatened/ endangered species	• May affect, but not likely to adversely affect threatened/ endangered species during towing (see Table 3-1) • No effect to other threatened/ endangered species • No significant impacts/no significant harm to threatened/ endangered species	• No significant impacts to threatened/ endangered species
Coastal Resources	• No effect on any land or water use or natural resource of the state's coastal zone • No significant impacts to coastal zone resources	• No effect on any land or water use or natural resource of the state's coastal zone • No significant impacts to coastal zone resources	• No significant impacts to coastal zone resources
Air Quality/Climate Change	• No significant impacts to air quality/climate change	• No significant impacts to air quality/climate change	• No significant impacts to air quality/climate change

3.0 AFFECTED ENVIRONMENT

This chapter discusses the resources that are present during the phases of operation for each Proposed Action Alternative. Each action alternative begins at INACTSHIPMAINTO Philadelphia. Thus, the first phase of each action alternative is a departure from INACTSHIPMAINTO Philadelphia and towing through the shipping channels of the Delaware River. The second phase is the transit from the Delaware River and Delaware Bay into the open ocean. The third phase is towing in the shipping channels of the destination port and dismantling facility.

Transiting the open ocean does not have an effect on sediments, wetlands, or benthic habitats. Therefore, these resources will not be discussed further. Other than the ship itself, the only cultural resources which may occur at sea are ship or airplane wreck sites, which are avoided using standard navigational practices. Transiting the open ocean could affect water quality, protected species, and air quality, and is analyzed in the sections below. Discussion of the affected environment in the vicinity of the two destination locations is also presented.

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 listed or 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 require Federal agencies to identify, evaluate, inventory, and protect historic properties 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 the Interior (DOI) through the National Parks Service (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 in the NRHP, would prepare a Determination of Eligibility or Determination of Ineligibility document and consult with the appropriate SHPO.[1]

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 an historic property.

3.1.2 Post-Decommissioning History

The Navy decommissioned USS FORREST SHERMAN on November 5, 1982, and struck her from the Naval Vessel Register on July 27, 1990, designating her for disposal. Ex-FORREST SHERMAN was sold for scrap in 1993 to a shipyard in Massachusetts for dismantling. The ship was transferred to North Carolina in 1994 for dismantling, but due to non-performance of the company, the dismantling contract was terminated by the Defense Reutilization and Marketing Service whereby the title reverted back to the Navy in 1996. The Navy recovered the vessel and towed her to the INACTSHIPMAINTO Philadelphia.

In June 2001, the ship was designated for donation. According to the *Federal Register* notice published on September 11, 2001 (Vol. 66, No. 176), the Navy advertised the availability of ex-FORREST SHERMAN for donation as a museum/memorial under the authority of 10 U.S.C. § 7306 Over the ensuing eight years, the Navy did not receive a satisfactory ship donation application.

On June 15, 2009, the Navy re-advertised the availability of ex-FORREST SHERMAN for donation in the *Federal Register*, with a request that interested organizations submit a letter of intent and executive summary of proposed plans within 60 days. This *Federal Register* notice advised that if no responses were received, the Navy reserved the right to remove the ship from donation hold consideration and proceed with disposal of the ship. No responses were received from any organization.

OPNAVINST 4770.5G policy provides that "Vessels will not be typically retained in a donation hold status beyond two years" unless authorized by ASN (RDA)[2] with concurrence from OPNAV Warfare Integration (N8F). The designation of ships on donation hold may be extended on an annual basis at the Ship Disposition Review conference based on the existence of viable donation interest and demonstration by the prospective donee to NAVSEA that measurable progress is being made toward submitting a donation application that meets the minimum NAVSEA requirements."

[1] Ex-FORREST SHERMAN was evaluated under 36 C.F.R. Part 800, not the Program Comment issued on March 15, 2010.
[2] Assistant Secretary of the Navy for Research, Development and Acquisition

On April 2, 2010, the Secretary of the Navy notified the House and Senate Committees on Armed Services and the Defense Committees on Appropriations that the Navy had removed ex-FORREST SHERMAN (DD 931) from donation hold and that the ship could be scrapped. No objections from any member of Congress were received. On July 22, 2010, the Navy designated ex-FORREST SHERMAN for disposal by dismantling.

3.1.3 Memorandum of Agreement to Fulfill Section 106 Responsibilities

Ex-FORREST SHERMAN is eligible for listing in the NRHP. The Determination of Eligibility notification document, developed by the Keeper of the National Register on August 19, 2010, summarizes the historical significance of ex-FORREST SHERMAN. The Navy consulted with the PA SHPO, the ACHP, and other consulting parties, which resulted in a signed MOA, dated March 2, 2011, with terms that would fulfill the Navy's Section 106 responsibilities (see section 3.1.4, Environmental Consequences, below, and Appendix B).

In accordance with the MOA, additional time was provided to allow a potential donee to satisfy certain milestones. Potential donees were required to: 1) show proof of 25% firm financing (as defined in the Ship Donation contract) and a permanent berthing location within three months of the agreement's execution date; (2) show proof of 50% firm financing and a permanent berthing location within 6 months of the agreement's execution date, and 3) show 100% firm financing, an updated financial plan, and a permanent berthing location within 12 months of the agreement's execution date. A donee that could demonstrate that it had satisfied the milestones did not come forward which enabled the Navy to proceed with the proposed disposal of the vessel.

3.1.4 INACTSHIPMAINTO Philadelphia

Ex-FORREST SHERMAN is currently berthed at INACTSHIPMAINTO Philadelphia, which is within the Philadelphia Naval Shipyard Historic District (PNSHD). The PNSHD is listed in 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).

3.1.5 Brownsville, TX

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, all of which MARAD has under contract and one of which the Navy has a current contract for aircraft carrier dismantling. The dismantling facilities are not listed in the NRHP.

3.1.6 New Orleans, LA

The dismantling company in New Orleans has been in operation for over 100 years, though it had to relocate its facility due to hurricane Katrina and the resulting closure of the Mississippi River-Gulf Outlet. The facility is in an industrial area and does not operate under any

restrictions pertaining to historic or cultural resources. The dismantling facility is not listed in the NRHP.

3.2 Water Resources

This section describes the existing water resource conditions, including sediment quality in the project area. Surface water includes oceans, 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.

3.2.1 Water Resources Regulations

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 EPA. 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 water bodies 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."

Federal jurisdiction regarding water quality extends from 3 to 200 nm along the east coast of the United States would begin 9 nm from shore and extend out to 200 nm for Texas and the west coast of Florida within the Gulf of Mexico. These standards and guidelines are mainly the responsibility of the EPA, specifically ocean discharge provisions of the CWA (33 U.S.C. §1251 et seq.) Ocean discharges may not result in "unreasonable degradation of the marine environment" (CWA, Section 403). Specifically, disposal may not result in (1) unacceptable negative effects on human health; (2) unacceptable negative effects on the marine ecosystem; (3) unacceptable negative persistent or permanent effects due to the particular volumes or concentrations of the dumped materials; and (4) unacceptable negative effects on the ocean for other uses as a result of direct environmental impact (40 C.F.R. § 125.122.)

Section 307(c) of the Coastal Zone Management Act (CZMA) requires that any Federal action 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 applicable state coastal zone management program. The states of Pennsylvania, Texas, and Louisiana have prepared federally-approved Coastal Management Programs (CMPs).

3.2.2 Water Resources—Affected Environment (Ocean)

The following sections discuss existing conditions in the Atlantic Ocean and Gulf of Mexico, and have been excerpted from the AFST EIS/OEIS (Navy, 2008).

Atlantic Ocean, Offshore of the Northeastern United States

The waters of the Study Area undergo an annual cycle of temperature change. The region from the MAB [*the Mid-Atlantic Bite from Massachusetts to North Carolina*] to the Grand Banks exhibits the highest interannual variability in sea surface temperature (SST) anywhere in the North Atlantic Ocean. There is more than a 20°C (68°F) temperature flux throughout the year along the shore. During most of the year, there is a clear north–to-south gradient of increasing temperatures on the sea surface, with temperatures ranging in winter from 8°C (46.4°F) in the northern part of the Study Area to 20°C (68°F) in the south while in summer the temperature range is slightly smaller, from about 16°C (60.8°F) near the Bay of Fundy to 26°C (78.8°F) in the southernmost part of the Study Area. The fall and spring exhibit intermediate temperature ranges between the winter and summer extremes. An annual phenomenon particularly important to the MAB is the formation of the cold pool. This mass of cooler water is found on the continental shelf in summer and stretches from the Gulf of Maine, along the outer edge of Georges Bank, southwest to Cape Hatteras. The cold pool becomes identifiable as thermal stratification begins in spring and persists until early fall when normal seasonal mixing occurs and homogenizes the water column. The cold pool usually exists near the seafloor between the 40- and 100-m (131- and 328-ft) isobaths and extends up into the water column for about 35 m (115 ft) to the bottom of the seasonal thermocline. The cold pool usually represents about 30 percent of the volume of shelf water. Minimum temperatures for the cold pool occur in early spring and summer and range from 1.1° to 4.7°C (34.0° to 40.5°F). During the summer, when the water column is stratified, surface salinities generally increase from shore to the shelf break and from north to south in the Study Area. Average surface salinities range from 32 to 34 practical salinity units (psu) throughout much of the Study Area. Bottom salinities typically only vary by 3 psu. There is a pronounced salinity minimum (32 psu) on the southern flank of Georges Bank, located throughout the water column over the 60- to 70-m (197- to 230-ft) isobath, and which is associated with 7°C (44.6°F) water. On the north flank and northeast peak, low-salinity water is confined to the near surface over the shelf break. The disparity of these two features suggests that the origin of the freshwater on the south flank was from a Scotian Shelf Water crossover event onto the southern northeast peak.

Atlantic Ocean, Offshore of the Southeastern United States

The salinity over the continental shelf ranges from 28 to 36 parts per thousand (ppt), with lower salinities found near the coast, and the highest salinities found near the continental shelf break. Salinities are highest in continental shelf waters during winter and lowest in the spring. Variability in this area is due to the intrusion of saltier water (greater than 35 ppt) from the continental slope waters and freshwater input from coastal sources. Continental slope waters in the vicinity of Virginia maintain a fairly uniform salinity range (32 to 36 ppt) throughout the year, with pockets of high-salinity water (38 ppt) near the Gulf Stream in the fall. Below 300 m (984 ft), the vertical distribution of salinity does not appear to vary, remaining fairly consistent at 34 ppt to approximately 1,000 m (3,280 ft). There are distinct differences in temperature stratification between summer and winter in these waters.. In the winter, the water column is vertically well-mixed, with average water temperatures of 14°C (57°F) at the surface and 11°C (52°F) at depth. The water column in August is vertically stratified, with 25°C (77°F) water near the surface and 10°C (50°F) water at depths greater than 200 m (656 ft). Summer temperature profiles indicate strong stratification. Surface temperatures average 25°C (77°F) while temperatures at a depth of 200 m (650 ft) average 12°C (54°F). Winter profiles are more constant, averaging 50°F (10°C) throughout the inshore water column and about 23°C (73°F) throughout

the offshore water column. The waters of the vicinity of the south Atlantic from Charleston, SC, to Jacksonville, FL follow an annual temperature cycle. Temperatures in this region vary between 19° and 29°C (70° and 90°F). This region has the greatest deviation in temperature in winter, with temperatures varying between 19° and 24°C (70° and 80°F). The cooler water temperatures occur along the coast from Charleston, South Carolina, northward. The most stable temperatures occur during summer, with water temperature throughout the region at 27° to 28°C (81° to 82°F), with some intrusion of warmer water, about 29°C (84°F), around the Gulf Stream.

3.2.3 Water Resources – Affected Environment - INACTSHIPMAINTO Philadelphia

Water Quality

INACTSHIPMAINTO Philadelphia is within the PNBC that lies on the boundary between two watersheds. The Schuylkill River watershed encompasses 2,000 square miles in southeastern PA 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 Philadelphia 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 Philadelphia.

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 PA.

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 silt, clay and sand. Bulk sediment analyses found no frequent occurrences or high concentrations of pesticides, PCBs or volatile and semi-volatile organics. Sediment organic contaminants including 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 criterion 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). 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 PADEP general permit for beneficial criteria value (USACE, 2009).

3.2.4 Water Resources -- Affected Environment, Brownsville, TX

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 Ship 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 hyper saline 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 Ship Channel (BSC). Tides in the Laguna Madre are minimal. Ecologically, the Laguna is characterized as exhibiting hyper saline conditions, barren shorelines with extensive wind-tidal flats, extensive submerged seagrass meadows, and a highly productive fin fishery (TCEQ, 2008).

The BSC is listed as having impairment for bacteria in a 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[3]. The ship channel also exhibits depressed dissolved oxygen (DO) based on screening levels (TCEQ, 2010). TMDLs have 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).

3.2.5 Water Resources -- Affected Environment, New Orleans, LA

Water Quality

The Port of New Orleans is in the Lower Mississippi River Basin within the greater Mississippi River Delta Plain. The Mississippi River Delta Plain is a low-lying area, dissected by natural bayous and man-made canals. The Mississippi River itself flows from Lake Itasca in northern Minnesota for approximately 2,350 miles to the Gulf of Mexico. It is the dominant watershed in North America, and drains 41 percent of the continental U.S. Most of the river and its floodplain have been extensively modified for commercial navigation and other human developments. Coastal traffic in the greater New Orleans area is particularly heavy.

Ambient water quality in the Lower Mississippi River Basin is considered to be fair to poor (EPA, 2008). Heavy development, a loss of coastal wetlands, drainage from the Mississippi River basin, and industrial activities along the coast have all contributed to a significant level of water contamination in this region. The majority of LA's coastal lands had been significantly

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

altered from their natural state resulting in salt water intrusion from the Gulf of Mexico which enters the coastal waters causing heavy damage to freshwater ecosystems (USACE, 2004).

Elevated levels of nutrients such as nitrogen and phosphorus are frequently found within the lower Mississippi watershed due to excessive agricultural runoff from the Midwest. The presence of fecal coliform bacteria has been a problem in the Mississippi River since the 1970s. Fecal coliform gets into surface water via sewage water discharge from municipal sewage systems and rural septic systems as well as animal waste management systems located throughout the watershed. The portion of the Mississippi River and surrounding waterways where the New Orleans recycling facility is located is listed on the 303(d) list of federally impaired waters for elevated levels of fecal coliform (LDEQ, 2010).

Sediment Quality

The entire area of Mississippi River Basin is the product of sediment deposition. As alluvial deposition occurs in deep water, large volumes of sediment are required to create land area; consequently, land is being lost in this delta more rapidly than it is being created.

Sediment quality in the Gulf of Mexico Region is rated poor (EPA, 2008). The sediment contaminants measured in Gulf Coast waters included elevated levels of metals, pesticides, PCB, and, occasionally, PAHs. Within the Mississippi River and its adjacent waterways, both modern and older, banned pesticides are found within the water and sediments. DDT and its breakdown components as well as atrazine are regularly found in water and sediment samples throughout the lower Mississippi River.

3.3 Biological Resources

Biological resources consist of native and nonnative plant and animal species and the habitats in which they occur. This project would be conducted entirely in-water and all considered alternatives are at hard shorelines developed with piers and other industrial facilities. Thus, the biological resources analysis will only focus on riverine or marine resources that may have contact with the vessel during the Proposed Action.

3.3.1 Regulatory Setting

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. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) defines "Essential Fish Habitat," as discussed below.

3.3.2 Affected Environment

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.

The potential effects on biological resources along the towing routes are described in the following Section 3.3.2.1. The potential effects on biological resources at the berthing location, INACTSHIPMAINTO Philadelphia, and each potential dismantling location are presented in subsequent sections that address, for each location: benthic communities; fish and Essential Fish Habitat (EFH); and threatened and endangered (T&E) species.

3.3.2.1 Biological Resources Along Towing Routes

After departing Philadelphia, ex-FORREST SHERMAN would transit to either New Orleans, LA, or Brownsville, TX. From Philadelphia, she would head east from Delaware Bay until beyond the main axis of the Gulf Stream before turning south/southwest. She would pass through the Straits of Florida and head west/northwest crossing the Gulf of Mexico to reach either potential dismantling location.

The primary issue regarding the effects of towing on biological resources is vessel movement that could result in collision between the tug, the tow cable or towed vessel, and marine mammals or sea turtles. Preventing collision with marine mammals and sea turtles would depend on detecting the animal in time to take effective action. The NOAA "Vessel Strike Avoidance Measures" are based upon sighting animals and taking action to avoid them, including maneuvering and shifting engines into neutral. In the case of a tug and tow, the ability to take such actions is considerably constrained. Additionally, it is difficult to sight whales or sea turtles during period of poor visibility especially at night.

Table 3-1 presents a list of Endangered and Threatened Species in the Atlantic Ocean and Gulf of Mexico potentially affected by the Proposed Action. This list includes the species of marine mammals and sea turtles identified by the Navy in its request for informal consultation, and the species of sturgeon that NMFS included in its response to the Navy.

Table 3-1. Threatened and Endangered Species That May Occur in the Atlantic Ocean and Gulf of Mexico

Common name	Scientific name	Status	Occurrence	
			Gulf of Mexico	Atlantic
Marine mammals				
Blue whale	*Balaenoptera musculus*	Endangered	X	X
Fin whale	*Balaenoptera physalus*	Endangered	X	X
Humpback whale	*Megaptera novaeangliae*	Endangered	X	X
North Atlantic right whale	*Eubalaena glacialis*	Endangered		X
Sei whale	*Balaenoptera borealis*	Endangered	X	X
Sperm whale	*Physeter macrocephalus*	Endangered	X	X
Sea turtles				
Green turtle	*Chelonia mydas*	Endangered/ Threatened[1]	X	X
Hawksbill turtle	*Eretmochelys imbricate*	Endangered	X	X
Kemp's ridley turtle	*Lepidochelys kempii*	Endangered	X	X
Leatherback turtle	*Dermochelys coriacea*	Endangered	X	X
Loggerhead turtle	*Caretta caretta*	Endangered/ Threatened[2]	X	X
Olive ridley turtle	*Lepidochelys olivacea*	Threatened	X	X[3]
Sturgeon				
Atlantic sturgeon	*Acipenser oxyrinchus*	Endangered		X
Shortnose sturgeon	*Acipenser brevisrostrum*	Endangered		X

[1] As a species, the green turtle is listed as threatened, but the Florida and Mexican Pacific coast nesting populations are listed as endangered.

[2] Nine distinct population segments exist for loggerhead sea turtles. The North Pacific Ocean, South Pacific Ocean, North Indian Ocean, Northeast Atlantic Ocean, and Mediterranean Sea distinct population segments of the loggerhead sea turtle are listed as endangered. The Southeast Indo-Pacific Ocean, Southwest Indian Ocean, Northwest Atlantic Ocean, and South Atlantic Ocean distinct population segments are listed as threatened.

[3] Occurs south of Florida.

3.3.2.2 INACTSHIPMAINTO Philadelphia

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 a 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. 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 macro invertebrates were observed in the project area during site inspections for wharf repairs in 2007.

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*), only a minor amount of fishing occurs. Most commercial fishing occurs approximately fifty-three miles south of INACTSHIPMAINTO Philadelphia 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 INACTSHIPMAINTO Philadelphia. 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.

Threatened and Endangered Species

According to the USFWS, seventeen Federal T&E species occur in PA. Because the Proposed Action will take place entirely in water, T&E land- and wetland-based and avian species would not be affected. Table 3-2 lists the T&E species in the project area that could potentially be affected by the Proposed Action.

Table 3-2. Threatened and Endangered Species List for PA Location

Common Name	Scientific Name	Status	Listing
FISH			
Shortnose sturgeon	*Acipenser brevirostrum*	E	Federal, Commonwealth of PA
Atlantic sturgeon	*Acipenser oxyrhynchus*	E	Federal, Commonwealth of PA
Eastern mudminnow	*Umbra pygmaea*	E	Commonwealth of PA
Threespine stickleback	*Gasterosteus aculeatus*	C	Commonwealth of PA
REPTILES			
Red-bellied turtle	*Pseudemys rubriventris*	T	Commonwealth of PA
AMPHIBIANS			
New Jersey chorus frog	*Pseudacris feriarum kalmi*	E	Commonwealth of PA
Coastal Plain leopard frog	*Rana utricularia*	E	Commonwealth of PA

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 Philadelphia). Due to high salinity, occurrence of shortnose sturgeon is 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 poor water quality in the project area. 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 PA'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 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 area.

Incidental occurrences of other federally protected species have been noted in this area. A beluga whale was spotted in the Delaware River during the spring 2005 shad migration. However, similar sightings are considered rare and are not expected to occur during the Proposed Action.

3.3.2.3 Brownsville, TX

Benthic communities

Benthic communities near ship recycling facilities along the Brownsville Ship Channel (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*) is also considered abundant in the Laguna Madre, using the estuary during all life stages. Bay squid (*Lolliguncula brevis*), though not found in large numbers, is 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. EFH for any managed invertebrate species is discussed below.

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 is 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).

Threatened and Endangered Species and Marine Mammals

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). Because the Proposed Action will take place entirely in water, T&E land- and wetland-based and avian species would not be affected. Table 3-3 lists the T&E species in the project area that could potentially be affected by the Proposed Action.

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

Common Name	Scientific Name	Status	Listing
MAMMALS			
West Indian Manatee	*Trichechus manatus*	E	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

E = Endangered, T = Threatened

West Indian manatees are found in rivers, estuaries, and coastal areas of the tropical and subtropical New World from the southeastern U.S. 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. Although the possibility exists that manatees could be found in the Brownsville Ship Canal, it is especially unlikely that manatees would occur in a developed area with limited food resources.

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).

Sea turtles may be found along the transit route, but are not expected in the vicinity of the dismantling facility.

3.3.2.4 New Orleans, LA

Benthic communities

Benthic communities in the waters surrounding the New Orleans recycling facility will be similar to communities found in other Gulf coast estuaries including those described for Texas waters in Sections 3.2.2.2. Nonetheless, descriptions of the benthos are available for Lake Pontchartrain and Chandeleur/Breton Sounds, providing area-specific information about benthic community composition (Nelson, 1992). As in other estuaries, salinity is an important factor influencing species distributions. Lake Pontchartrain is characterized as having only a mixing (salinity from 0.5 to 25 ppt) zone, while Chandeleur/Breton Sounds contain both mixing and seawater (>25 ppt) zones (Nelson, 1992).

White shrimp (*Penaeus setiferus*) are considered highly abundant in Lake Pontchartrain and less numerous but common in Chandeleur/Breton Sounds (Nelson, 1992). Common rangia (*Rangia cuneata*) are abundant in Lake Pontchartrain and are found in lower numbers in the higher salinity waters of Chandeleur/Breton Sounds. Brown shrimp (*Penaeus aztecus*) and blue crabs (*Callinectes sapidus*) are considered abundant in water bodies throughout the region (Nelson, 1992). American oysters (*Crassostrea virginica*), grass shrimp (*Palaemonetes pugio*), and pink shrimp (*Penaeus duorarum*) are also found throughout the region and are considered abundant in the higher salinity zones (Nelson, 1992). Bay squid (*Lolliguncula brevis*) are common in both mixed and seawater zones, and Gulf stone crabs (*Menippe adina*) are common in the Sounds but rare in Lake Pontchartrain. Hard clams (*Mercenaria* species) and bay scallops (*Argopecten irradians*) are both present in Chandeleur/Breton Sounds; hard clams are common and bay scallops rare (Nelson, 1992). Several of these invertebrates are targeted by commercial fisheries in the Gulf of Mexico. EFH for any managed invertebrate species is discussed below.

Native SAV that are found in Lake Pontchartrain include wild celery (*Vallisneria americana*), wigeongrass (*Ruppia maritima*), southern naiad (*Najas quadalupensis*), and slender pondweed (*Potamogeton pusillus*). The nonindigenous macrophyte, Eurasian milfoil (*Myriophyllum spicatum*), was introduced into the Lake in 1978. This exotic plant is widespread in fresh waters throughout the eastern US and Canada. It can tolerate salinities as high as 14 ppt, and has been replacing native SAV in Lake Pontchartrain, especially widgeon grass.

Benthic communities in canals near the New Orleans recycling facility are subjected to a range of environmental stressors. Shipping traffic and frequent maintenance dredging disrupt the benthos and increase turbidity and sedimentation. Storm damage and sediment transport from Hurricanes Katrina and Rita have also likely impacted the benthos. Seasonal hypoxic events associated with the Mississippi River discharge are a well-known phenomenon in the region that impacts fish and benthos throughout large areas of the inner continental shelf.

Fish and Essential Fish Habitat

Gulf menhaden (*Brevoortia patronus*), bay anchovy (*Anchoa mitchilli*), and Atlantic croaker (*Micropogonias undulatus*) are abundant and considered dominant throughout the region. Other fish considered abundant or common in Lake Pontchartrain and Chandeleur/Breton Sounds include hardhead catfish (*Arius felis*), silversides (*Menidia* species), pinfish (*Lagodon rhomboides*), sand seatrout (*Cynoscion arenarius*), striped mullet (*Mugil cephalus*), bull shark (*Carcharhinus leucas*), gizzard shad (*Dorosoma cepedianum*), sheepshead minnow (*Cyprinodon variegatus*), gulf killifish (*Fundulus grandis*), crevalle jack (*Caranx hippos*), sheepshead (*Archosargus probatocephalus*), silver perch (*Bairdiella chrysoura*), spotted seatrout (*Cynoscion nebulosus*), spot (*Leiostomus xanthurus*), black drum (*Pogonias cromis*), red drum (*Sciaenops ocellatus*), and southern flounder (*Paralichthys lethostigma*) (Nelson, 1992). Spanish mackerel (*Scomberomorus maculatus*), Florida pompano (*Trachinotus carolinus*), and gray snapper (*Lutjanus griseus*) are considered common in the Sounds but are rare or absent in the Lake. Bluefish (*Pomatomus saltatrix*) are also occasionally encountered in the Sounds. Conversely, code goby (*Gobiosoma robustum*), tarpon (*Megalops atlanticus*), Alabama shad (*Alosa alabamae*), and yellowfin menhaden (*Brevoortia smithi*) can be found in the Lake but are considered rare or absent offshore (Nelson, 1992). Relatively high numbers of several additional species from Lake Pontchartrain include rainwater killifish (*Lucania parva*), naked goby (*Gobiosoma bosc*), Gulf pipefish (*Syngnathus scovelli*), and clown goby (*Microgobius gulosus*).

The waters surrounding the New Orleans recycling facility are part of the Gulf of Mexico, the major water body analyzed by the GMFMC for EFH. As discussed under Section 3.3.2.2, the GMFMC has designated the entire Gulf of Mexico 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). However, stone crab and spiny lobster are not evident in Lake Pontchartrain or Chandeleur/Breton Sounds (Nelson, 1992). White shrimp, pink shrimp, brown shrimp, gulf stone crab, gray snapper, red drum, and Spanish mackerel are all discussed above.

Threatened and Endangered Species and Marine Mammals

According to the USFWS, there are 19 animal and 3 plants that are federally listed as T&E species in LA. The Orleans Parish, where the facility is located, has three listed animal species. The St. Bernard Parish, the adjoining parish and along the proposed tow route, has eight listed species. There is critical habitat for Gulf sturgeon in both parishes. Because the Proposed Action will take place entirely in water, T&E land- and wetland-based and avian species would not be affected. Table 3-4 lists the T&E species in the project area that could potentially be affected by the Proposed Action..

Table 3-4. Threatened and Endangered Species List surrounding New Orleans, LA

Common Name	Scientific Name	Status	Listing
Orleans Parish			
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	T	Federal, LA
Pallid sturgeon	*Scaphirhynchus albus*	E	Federal, LA
West Indian manatee	*Trichechus manatus*	E	Federal, LA
St. Bernard Parish			
Gulf sturgeon	*Acipenser oxyrinchus desotoi*	T	Federal, LA

Common Name	Scientific Name	Status	Listing
Pallid sturgeon	*Scaphirhynchus albus*	E	Federal, LA
West Indian manatee	*Trichechus manatus*	E	Federal, LA
Loggerhead sea turtle	*Caretta caretta*	T	Federal, LA
Green sea turtle	*Chelonia mydas*	T	Federal, LA
Leatherback sea turtle	*Dermochelys coricea*	E	Federal, LA
Hawksbill sea turtle	*Eretmochelys imbricata*	E	Federal, LA

E = Endangered, T = Threatened

The gulf sturgeon was once widely distributed throughout the coastal rivers of the northeastern Gulf of Mexico, including the states of Louisiana, Mississippi, Alabama, and Florida. The present range extends from Lake Pontchartrain and the Pearl River system in LA and Mississippi east to the Suwannee River in Florida. Its habitat is in saltwater, except during the spawning season when it is found in major rivers that empty into the Gulf of Mexico. In LA, most records of the gulf sturgeon have been in the Pearl, Bogue Chitto and Tchefuncte rivers in St. Tammany and Washington parishes, although it is likely to be found in any large river in the Lake Pontchartrain drainage.

The pallid sturgeon population size in the largest segments of the range, the Mississippi River, is unknown. Natural reproduction is evident in some areas along the Missouri, Mississippi, and Atchafalaya rivers, but natural recruitment continues to be limited throughout the range. The species prefers the main channels of excessively turbid rivers in areas with strong currents over firm sandy bottoms.

Loggerheads in LA have been found throughout the coastal region, but nesting has only been recorded on the Chandeleur Islands. Green sea turtle sightings in the state are relatively rare, with most sightings from the eastern coast; there are no nesting records for LA. Leatherbacks are the most migratory and wide-ranging of sea turtle species. Hawksbills are one of the most infrequently encountered in LA and other coastal regions of the Gulf of Mexico; because of its inclination to nest in small isolated areas, there are no reliable estimates of historic or current abundance. Sea turtles may be found along the transit route, but are not expected in the vicinity of the dismantling facility.

3.4 Air Quality/Climate Change

The air pollutants that are considered in this analysis include volatile organic compound (VOCs) and NOx, which are precursors to ozone formation, as well as particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The environmental impacts to air quality and effects on climate change associated with commercial activity are not discussed in detail because the commercial facility would be expected to be operating under existing Federal, state, and local permits for air quality, and no new construction would be required.

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 (µg/m3). 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 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)). Table 3-5 presents the criteria pollutant *de minimis* levels for the relevant locations included in this EA/OEA.

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

Location	VOC	NOx	$PM_{2.5}$
Brownsville, TX	--	--	--
New Orleans, LA	--	--	--
Philadelphia, PA	50	100	100

3.4.2. INACTSHIPMAINTO Philadelphia

INACTSHIPMAINTO Philadelphia is located in the PNBC, which is within the Philadelphia-Wilmington Intrastate Air Quality Control Region (AQCR). The Commonwealth of 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 PADEP, are termed the Pennsylvania Ambient Air Quality Standards.

The project area is classified as moderate nonattainment for the eight-hour ozone standard[4] and nonattainment for the PM2.5 standard.[5] In addition, the Commonwealth of Pennsylvania is included in the Northeast Ozone Transport Region (EPA, 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.

3.4.3 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 the Conformity Rule does not apply.

3.4.4 New Orleans, LA

The Orleans Parish is within the Southern LA-Southeast Texas Interstate AQCR. It is one of four parishes that make up the New Orleans air quality planning region in southeast LA. Orleans Parish is currently in attainment of the NAAQS standards for all criteria pollutants and the conformity rule does not apply.

3.4.5 Offshore Towing Routes

The CAA does not extend beyond 12 nm for territorial waters. For the purpose of this analysis, compliance with air quality regulations is a consideration only within the 12 nm limit of Louisiana, Florida, or Texas.

[4] 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.

[5] In September 2006, 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.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter evaluates the potential for the proposed action to result in environmental consequences to cultural resources, water resources, biological resource, and air resources.

4.1 Cultural Resources

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."

Although archaeological sites or archaeologically sensitive areas have been identified at the PA Naval Business Center, there is a low probability for archaeological value at INACTSHIPMAINTO Philadelphia given the level of development at the site.

Prior to proposed dismantling of the vessel, the Navy would follow the MOA stipulations to mitigate the adverse effect resulting from the Federal undertaking. Pursuant to the MOA, the Navy would allow certain ship museums to remove equipment and materials from the vessel to enhance their museum displays before a dismantling contract is awarded for ex-FORREST SHERMAN. Further, the dismantling contract would have requirements for the contractor to: (1) remove the stern of the ship's hull with its name to be set aside for a material donation donee; (2) remove the port and starboard stern hull numbers to be set aside for a material donation donee.

Moreover, the removal of ex-FORREST SHERMAN from INACTSHIPMAINTO Philadelphia would not affect INACTSHIPMAINTO's context or integrity within PNSHD as INACTSHIPMAINTO will continue to be used for storage of inactive ships.

Mitigation measures to be implemented after award of the dismantling contract would include: (1) Within one year after the dismantling contract is awarded, a material donation donee must obtain records of the vessel in existence at the Washington National Records Center; and (2) Within a year after the dismantling contract is awarded, the Navy is expected to transfer to the National Archives and Records Administration (NARA) an Historic American Engineering Record (HAER) of the FORREST SHERMAN class of destroyers prepared in accordance with the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation, Level 2. The ex-TURNER JOY (DD 951), an existing museum ship, was used as the principal model for this HAER report since this vessel is in the same class as, and in better condition than, ex-FORREST SHERMAN.

Therefore, pursuant to NHPA, the Navy has concluded that the Proposed Action would have an adverse effect on ex-FORREST SHERMAN; however, the Navy will implement measures to mitigate this adverse effect. In accordance with NEPA, the Proposed Action would have no significant impact on other cultural resources at INACTSHIPMAINTO Philadelphia.

4.1.1 Brownsville, TX, Alternative

The relocation of the ex-FORREST SHERMAN does not require dredging, so there would be no impact on any submerged maritime archaeological sites. The Navy's dismantling contract has a

clause that requires the contractor to comply with all applicable Federal, state and local environmental and safety and health laws and regulations. The dismantling/recycling would occur at an existing industrial facility that is capable of the operation with current operational credentials and permitting that would allow them to conduct the dismantling in their normal course of business. Therefore, it is not anticipated that the contractor would need to obtain any additional regulatory permits in order to perform the requirements of the contract.

Therefore, pursuant to NHPA, the Navy has determined that implementing the Proposed Alternative at a facility near Brownsville, TX, would have no effect on cultural resources. In accordance with NEPA, the Navy has determined that this alternative would have no significant impact on other cultural resources at the dismantling facility.

4.1.2 New Orleans, LA, Alternative

If the Proposed Alternative were implemented at a facility in near New Orleans, LA, the potential impacts on cultural resources would be exactly the same as under the Brownsville, TX, alternative. Thus, pursuant to NHPA, the Navy has determined that implementing the Proposed Alternative at a facility near New Orleans, LA, would have no effect on cultural resources. In accordance with NEPA, the Navy has determined that this alternative would have no significant impact on other cultural resources at the dismantling facility.

4.1.3 No-Action Alternative

Under the No-Action Alternative, the ship would remain in INACTSHIPMAINTO Philadelphia, and the cultural resource would be retained. The ship would remain in a safe stowage condition (i.e., fire and flooding protection). No significant impacts would occur.

4.2 Water Resources

4.2.1 INACTSHIPMAINTO Philadelphia and Towing in Open Ocean

The Proposed Action does not require dredging or a discharge permit, thus the impact on water resources would be minor and temporary from towing within the vicinity of INACTSHIPMAINTO Philadelphia. Potential impacts include bottom sediment disturbance and surface water turbidity resulting from towing operations. In general, vessel operation may cause sediment resuspension through the generation of surface wakes and propeller wash.

Towing ex-FORREST SHERMAN in the open ocean will not affect open ocean conditions and will not cause any significant impact thereof. The departure of the vessel from its berth at INACTSHIPMAINTO Philadelphia could pose a slight risk to water quality if toxic levels of contamination from exfoliating paint chips on vessel hulls are released into the environment due to scouring. In accordance with the U.S. Navy Towing Manual, low towing speeds would help reduce scouring of the hull by the water, which would help minimize impacts to water quality from paint chips and other pollutants alike. Towing procedures and safety measures would be implemented to minimize potential for collision or grounding of the vessel during transport. Following the removal of the ship, the water quality of the project area would return to ambient pre-removal conditions. Therefore, there will be no significant impacts to water resources in the Philadelphia area.

The Navy evaluated whether the proposed action would affect coastal zone resources, and on January 24, 2011, the Department of the Navy announced its determination to the Commonwealth of Pennsylvania that no coastal zone management consistency determination would be required for movement of vessels to and from INACTSHIPMAINTO Philadelphia. On, February 1, 2011, the Pennsylvania Department of Environmental Protection concurred with the Navy's determination (see Appendix B).

In accordance with the CZMA, the Navy has determined that the Proposed Action would have no effect on any land or water use or natural resource of Philadelphia's coastal zone. Further, in accordance with NEPA, the Proposed Action would not have a significant impact on water resources in the Philadelphia area or during towing in the open ocean.

4.2.2 Brownsville, TX, Alternative

Potential impacts to water resources from towing the vessel to Brownsville, TX, are similar to those described under INACTSHIPMAINTO Philadelphia.

While there is the potential for bottom sediment disturbance and surface water turbidity, the Proposed Action is not expected to adversely impact water and sediment quality. Any impacts are expected to be minor and temporary.

Further, the Navy's dismantling contract has a clause that requires the contractor to comply with all applicable Federal, state, and local environmental and safety and health laws and regulations, which would include ascertaining all of the necessary regulatory permits associated with protecting the environment. The dismantling/recycling would occur at an existing industrial facility that is capable of the operations. Therefore, it is not anticipated that the contractor would need to obtain any additional regulatory permits in order to perform the requirements of the contract.

The towing route would take the vessel into the coastal zone of Texas; however, because no dredging or construction would be required for the Proposed Action, including the towing in the Brownsville Ship Channel, no coastal zone management consistency review would be required by the State of Texas (State of Texas, 2014)(See Appendix B).

Therefore, in accordance with the CZMA, the Navy has determined that the Proposed Action would have no effect on any land or water use or natural resource of Texas' coastal zone. Further, in accordance with NEPA, the Proposed Action would not have a significant impact on water resources at the Brownsville, TX, alternative location.

4.2.3 New Orleans, LA, Alternative

Potential impacts to water resources from towing the vessel to New Orleans, LA, are similar to those described under INACTSHIPMAINTO Philadelphia. Any impacts to bottom sediment disturbance and surface water turbidity are expected to be minor and temporary.

Further, the Navy's dismantling contract has a clause that requires the contractor to comply with all applicable Federal, state, and local environmental and safety and health laws and regulations, which would include ascertaining all of the necessary regulatory permits associated with protecting the environment. The dismantling/recycling would occur at an existing industrial

facility that is capable of the operations. Therefore, it is not anticipated that the contractor would need to obtain any additional regulatory permits in order to perform the requirements of the contract.

The towing route would take the vessel into the coastal zone of Louisiana; however, because no dredging or construction would be required for the Proposed Action, including the towing, no coastal zone management consistency review would be required by the State of Louisiana (State of Louisiana, 2014) (See Appendix B.)

Therefore, in accordance with the CZMA, the Navy has determined that the Proposed Action would have no effect on any land or water use or natural resource of Louisiana's coastal zone. Further, in accordance with NEPA, the Proposed Action would not have a significant impact on water resources at the New Orleans, LA, alternative location.

4.2.4 No-Action Alternative

Under the No-Action Alternative, ex-FORREST SHERMAN would not be contracted to be dismantled and would not be removed from INACTSHIPMAINTO Philadelphia. Under NEPA, no significant impacts to water resources would occur.

4.3 Biological Resources

4.3.1 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, would be able to flee the area during towing. Approximately 18,800 ft^2 (1,746 m^2) of benthic habitat would be opened to sunlight as a result of the removal of the vessel, which is a potentially beneficial impact

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 minor to no 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 ambient poor water quality conditions. The towing of the vessel would result in minor to no impacts; the approvals, inspections, and special procedures associated with maintaining a license to tow, as well as compliance with U. S. Coast Guard requirements, would further reduce the potential for impacts. The removal of ex-FORREST SHERMAN from her berth would not require any dredging; therefore, any impacts to nearby benthic communities would be temporary and minor.

There are no known threatened or endangered species associated with the benthic community near INACTSHIPMAINTO Philadelphia. In accordance with NEPA, the Navy has determined that the Proposed Action would have no significant impact on benthic communities at this location.

Essential Fish Habitat

The facility and surrounding area is not classified as EFH by NMFS/NOAA. Minor 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 to support fish habitat.

Therefore, in accordance with the Magnuson-Stevens Act (MSA), the Navy has determined that the Proposed Action would have no effect on EFH. Pursuant to NEPA, the Proposed Action would have no significant impact on EFH at this location.

Threatened and Endangered Species and Marine Mammals

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 Philadelphia, the occurrence of shortnose sturgeon is rare. Further, the vessel will be towed at a relatively low speed (10 kts or less) which will enable the fish to move out of the vessel's tow path.

The presence of marine mammals in the Delaware River typically follows the migration of anadromous fish species such as shad. However, observances of marine mammals in the Delaware River are very rare. Therefore, given the unlikelihood of their presence, and the slow tow speeds to be used during this portion of the towing route, which will enable the species to move out of the vessel's tow path, the Navy has concluded that the Proposed Action would result in no reasonably foreseeable takes of marine mammals in this location.

Therefore, pursuant to its informal consultation with NMFS under section 7 of the ESA, the Navy has determined that the Proposed Action may affect but will not adversely affect Atlantic and shortnose sturgeon in the vicinity of INACTSHIPMAINTO Philadelphia. The Proposed Action would have no effect on other threatened or endangered species in the vicinity of INACTSHIPMAINTO Philadelphia as listed in Table 3-2. Further, under the MMPA, the Navy has determined that the Proposed Action would not result in reasonably foreseeable takes of marine mammals in this location. In accordance with NEPA, the Proposed Action would have no significant impact on threatened or endangered species or marine mammals. See Table 4-1 which presents a summary of the biological resource impact conclusions under NEPA, MMPA, MSA and ESA from the disembarking location at Philadelphia, PA, towing in the open ocean, and the Proposed Action representative dismantling locations.

4.3.2 Towing in Open Ocean

Towing ex-FORREST SHERMAN to a dismantling facility location does include the risk of vessel strikes to manatees, whales, sea turtles, and sturgeon species. Manatees are highly vulnerable to vessel strikes. Small whales and delphinids are much less vulnerable to vessel strikes because of their behaviors and agility; on the other hand, large whales basking at the surface and sea turtles are most vulnerable to vessel strikes in the open ocean. As manatees spend most of their time near shore and the Proposed Action would occur offshore or in designated shipping channels, under the ESA, the Proposed Action would have no effect on manatees and under the MMPA no reasonably foreseeable takes. Thus, the discussion on

environmental consequences to biota from towing focuses mainly on potential impacts to large whales and sea turtles.

Vessel speed, size, and mass are all important factors in determining potential impacts of a vessel strike to marine mammals. Preventing vessel strikes would depend on detecting an animal on collision course in time to take effective action. Effective actions recommended in the NOAA/NMFS *Vessel Strike Avoidance Measures for Mariners* include maneuvering and shifting engines into neutral. In the case of a tug and tow, the ability to take such actions is considerably constrained. Additionally, it is difficult to sight whales or sea turtles during periods of poor visibility especially at night. Sighting sea turtles may be difficult even under ideal circumstances, but secondary indicators such as floating mats of vegetation or debris are useful substitutes. However, for this Proposed Action, the tug and tow would be conducted at a relatively low speed (less than 10 kts) which would reduce the chance that a fatal strike would occur (Vanderlaan and Taggart, 2007, in NUWC, 2012). Tugboat operators would be required to follow the NOAA/NMFS *Vessel Strike Avoidance Measures and Reporting for Mariners* to reduce the potential of vessel strikes to marine species. Navigational lookouts would be alert for marine mammals entering the line of travel for the vessel.

Despite the practical difficulty of implementing vessel strike avoidance measures at a moment's notice, the chance of an encounter along the proposed tow routes resulting in serious injury is extremely remote (NUWC, 2012). The most susceptible species are North Atlantic right whales and sperm whales that may be present at the surface. Further, all species of sea turtles are considered vulnerable.

On August 10, 2012, the Inactive Ships Program began informal consultation with the National Marine Fisheries Service, National Oceanic and Atmospheric Administration, pursuant to Section7 (a)(2) of the Endangered Species Act to evaluate the level of risk to biota that would be associated with towing inactive vessels, including ex-FORREST SHERMAN, through the waters of the United States and overseas.[6] This initial consultation had been preceded by research conducted by the Navy's subject matter experts on towing and the potential injuries to whales and other biota that could be encountered during the towing of ex-FORREST SHERMAN.

The letter of opinion from NMFS, responding to the Navy's initiation of informal consultation was obtained on October 10, 2012. The NMFS concluded that:

> . . .while ESA-listed species are present in the action area, the low speed of the tugs and Ocean and Gulf of Mexico tows along with the relatively short periods they will be transiting habitats, and the low density of listed species, reduce the likelihood for vessel strike or encounter with the tow cable such that the risk is *discountable* [emphasis added]. Considering information provided by NAVSEA and our analysis on potential impacts to Atlantic and shortnose sturgeon, NMFS concurs with the NAVSEA determination that towing of the two decommissioned ships* from berthing locations to dismantling locations along the proposed routes are not likely to adversely affect ESA-listed species.

[6] The research paper on endangered species conducted by the Navy Undersea Warfare Center Division, Newport, RI, for the Inactive Ships Program, "Biological Analysis for Species Listed Under the Endangered Species Act in the Atlantic Ocean, Gulf of Mexico, and Pacific Ocean," September 2012 as well as the official correspondence between the Navy and the NMFS is included in Appendix B.

Additionally, designated critical habitat would not be adversely affected or modified (see Table 3-1).
(*referring to ex-FORREST SHERMAN)

Pursuant to the informal consultation held between the Navy and NMFS under Section 7 of the ESA, to reduce the potential for a vessel strikes to protected species, the Navy would employ the following mitigation measures as part of the Proposed Action:

- When towing within North Atlantic right whale seasonal habitat areas, the tug and tow will transit at speeds of 10 kts or less in accordance with 50 CFR 224.105, 9 December 2008, Speed restrictions to protect North Atlantic Right Whales.
- Whenever marine mammals or sea turtles are sighted, the tug's crew will increase vigilance and take reasonable and prudent actions to avoid collisions and other activities that might result in close interactions between the vessels and animals. Actions may include changing speed and/or direction as dictated by environmental and other conditions (e.g., safety, weather).

The NFMS concurrence letter received by the Inactive Ships Program on October 10, 2012, also requests that, should it be determined during towing that unanticipated behavioral harassment or injury of threatened or endangered species has occurred, NAVSEA shall re-initiate consultation with NMFS Office of Protected Resources, Endangered Species Act Interagency Cooperation Division, to develop and implement mitigation to avoid additional take or initiate formal consultation in accordance with ESA Section 7(a)(2).

Minor to no impact is anticipated for mobile fish species that can readily avoid the temporary disturbance that may occur because of towing activities. Therefore, in accordance with the Magnuson-Stevens Act (MSA), the Navy has determined that the Proposed Action would have no effect on EFH in the open ocean.

During towing in the open ocean, pursuant to Section 7 of the ESA, towing may affect, but is not likely to adversely affect whales (Blue whale, *Balaenoptera musculus*; Fin whale, *Balaenoptera physalus*; Humpback whale, *Megaptera novaeangliae*; North American right whale,, *Eubalaena glacialis*; Sei whale, *Balaenoptera borealis*, Sperm whale, *Physeter macrocephalus*), sea turtles (Green turtle, *Chelonia mydas*; Hawksbill turtle, *Eretmochelys imbricate*; Kemp's Ridley Turtle, *Lepidochelys kempii*; Leatherback turtle, *Demochelys coriacea*; Loggerhead turtle, *Caretta caretta*; and Olive aridley turtle, *Lepidochelys olivacea*) and sturgeon species (Atlantic sturgeon (*Acpenser oxyrinchus*) and Shortnose sturgeon (*Acipenser brisrostrum*) as listed in Table 3-1. For all other threatened or endangered species that may be present along the towing routes, there would be no effect under Section 7 of the ESA (See Tables 3-2, 3-3, and 3-4). Under the MSA, the towing portion of the Proposed Action would have no effect on EFH in the open ocean of the Atlantic and Gulf of Mexico. Under MMPA, there would be no foreseeable takes of marine mammals. Pursuant to NEPA and E.O. 12114, the Proposed Action, subject to the mitigation actions described above, would have no significant impact to, and would not result in significant harm to marine mammals, sea turtles, and sturgeon species during towing in the open ocean of the Atlantic or the Gulf of Mexico.

See Table 4-1 which presents a summary of the biological resource impact conclusions under NEPA, MMPA, MSA and ESA from the disembarking location at Philadelphia, PA, towing in the open ocean, and the Proposed Action representative dismantling locations.

4.3.3 Brownsville, Texas, Alternative

Benthic communities

Potential direct impacts to benthic communities may result from effects of propeller wash of towing vessels and exposure to contaminants. Turbidity and siltation associated with propeller wash would be minor, local and transient and minimized by the very slow speeds of the towed vessels near shore. Moreover, approvals, inspections, licenses and other procedures required for towing would minimize the risk of the towboat or another vessel from being involved in a collision during towing to the facility.

Further, the Navy's dismantling contracts require that the dismantling facility obtain all applicable environmental and occupational health and safety permits prior to commencing the dismantling project.

The Navy has determined that implementing the Proposed Action at a facility located near Brownsville, TX, would have no significant impact to benthic communities under NEPA.

Fish and Essential Fish Habitat

Contaminant exposures and re-suspended sediments are potential impacts to fish. Minor 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.

Potential impacts to EFH would be as described above for 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. The vessel is not expected to come in contact with the EFH during the tow.

Further, the Navy's dismantling contracts require that the dismantling facility obtain all applicable environmental and occupational health and safety permits prior to commencing the dismantling project. The dismantling facility does not require new construction and it would have sufficient capacity to undertake the dismantling project.

Therefore, the Navy has determined that implementing the Proposed Action at a facility located near Brownsville, TX, would have no effect on EFH as defined by the MSA and no significant impact on EFH under NEPA.

Threatened and Endangered Species and Marine Mammals

There is a low possibility that the West Indian manatee, an endangered species known occasionally to inhabit the Texas Gulf Coast near Brownsville (see Table 3-3) could be impacted by towing the ship in the direction of the BSC. It would be especially unusual for manatees to occur in the BSC due to its high level of development and limited food resources (vegetation) for

the manatees. Thus, with the low probability the manatees would occur near the Brownville, TX, recycling facility, pursuant to the ESA, there would be no effect on West Indian manatee and under the MMPA no reasonably foreseeable takes.

Pursuant to informal consultation held between the Navy and NMFS under Section 7 of the ESA, to reduce the potential for a vessel strike to protected species, the Navy would employ the following mitigation measures as part of the Proposed Action:

- When towing within North Atlantic right whale seasonal habitat areas, the tug and tow will transit at speeds of 10 kts or less in accordance with 50 CFR 224.105, 9 December 2008, Speed restrictions to protect North Atlantic Right Whales.
- Whenever marine mammals or sea turtles are sighted, the tug's crew will increase vigilance and take reasonable and prudent actions to avoid collisions and other activities that might result in close interactions between the vessels and animals. Actions may include changing speed and/or direction as dictated by environmental and other conditions (e.g., safety, weather).

The NFMS concurrence letter received by the Inactive Ships Program on October 10, 2012, also requests that, should it be determined during towing that unanticipated behavioral harassment or injury of threatened or endangered species has occurred, NAVSEA shall re-initiate consultation with NMFS Office of Protected Resources, Endangered Species Act Interagency Cooperation Division, to develop and implement mitigation to avoid additional take or initiate formal consultation in accordance with ESA Section 7(a)(2).

Therefore, pursuant to its informal consultation with NMFS under section 7 of the ESA, the Navy has determined that the Proposed Action may affect but will not adversely certain species of whales (Blue whale, *Balaenoptera musculus*; Fin whale, *Balaenoptera physalus*; Humpback whale, *Megaptera novaeangliae*; North American right whale, *Eubalaena glacialis*; Sei whale, *Balaenoptera borealis*; Sperm whale, *Physeter macrocephalus*); and sea turtles (Green turtle, *Chelonia mydas*; Hawksbill turtle, *Eretmochelys imbricate*; Kemp's Ridley Turtle, *Lepidochelys kempii*; Leatherback turtle, *Demochelys coriacea*; Loggerhead turtle, *Caretta caretta*; and Olive ridley turtle, *Lepidochelys olivacea*) in the vicinity of a disposal facility located near Brownsville, TX. There would be no effect of the Proposed Action on other threatened or endangered species in the vicinity of Brownsville, TX, as listed in Table 3-3. Further, under the MMPA, the Navy has determined that the Proposed Action would not result in reasonably foreseeable takes of marine mammals in this location. Pursuant to NEPA and E.O. 12114, the Proposed Action, would have no significant impact to marine mammals or sea turtles in the vicinity of Brownsville, TX.

4.3.4 New Orleans, LA, Alternative

Benthic communities

Potential direct impacts to benthic communities may result from effects of propeller wash of towing vessels and exposure to contaminants. Turbidity and siltation associated with propeller wash would be minor, local and transient and minimized by the very slow speeds of the towed vessels near shore. Moreover, approvals, inspections, licenses and other procedures required for

towing would minimize the risk of the towboat or another vessel from being involved in a collision during towing to the facility.

Further, the Navy's dismantling contracts require that the dismantling facility obtain all applicable environmental and occupational health and safety permits prior to commencing the dismantling project.

The Navy has determined that implementing the Proposed Action at a facility located near New Orleans, LA, would have no significant impact to benthic communities under NEPA.

Fish and Essential Fish Habitat

Considerations regarding impacts to fish resources are the same as those described above for benthos; no significant impact to fish would occur if the Proposed Action were implemented at a facility located near New Orleans. EFH has been designated in the Gulf of Mexico waters offshore from the New Orleans recycling facility. Exposure to contaminants and suspended sediments from propeller wash would be the key considerations. The dismantling facility does not require new construction and it would have sufficient capacity to undertake the dismantling project. Any impacts to nearby EFH from implementing the Proposed Action at a facility near New Orleans would be temporary and minor.

Therefore, in accordance with the MSA, the Navy has determined that implementing the Proposed Action at a facility located near New Orleans, LA, would have no effect on EFH as defined by the MSA. Further, pursuant to NEPA, this alternative would have no significant impact on EFH.

Threatened and Endangered Species and marine mammals

There is a low possibility that the West Indian manatee, an endangered species known to inhabit Orleans and St. Bernard's Parishes in Louisiana (see Table 3-4) could be impacted by towing the ship to the New Orleans facility. Although the possibility exists that manatees could be found in the Inner Harbor Navigation Canal near the recycling facility, as there have been increased sighting of manatees on the northern Gulf of Mexico, it is rare that manatees would occur in a developed area of New Orleans with limited food resources (vegetation) for the manatees. With little probability that manatees would occur near the New Orleans recycling facility, pursuant to the ESA, there would be no effect on West Indian manatee and under the MMPA no reasonably foreseeable takes. The facility's compliance with permit requirements to avoid or reduce hazardous waste discharges would help ensure that there would be no effects on the Gulf sturgeon, a threatened species, and the pallid sturgeon, an endangered species, which are potential inhabitants of Orleans and St. Bernard's Parishes.

Pursuant to informal consultation held between the Navy and NMFS under Section 7 of the ESA, to reduce the potential for a vessel strike to protected species, the Navy would employ the following mitigation measures as part of the Proposed Action:

- When towing within North Atlantic right whale seasonal habitat areas, the tug and tow will transit at speeds of 10 kts or less in accordance with 50 CFR 224.105, 9 December 2008, Speed restrictions to protect North Atlantic Right Whales.
- Whenever marine mammals or sea turtles are sighted, the tug's crew will increase vigilance and take reasonable and prudent actions to avoid collisions and other activities that might result in close interactions between the vessels and animals. Actions may include changing speed and/or direction as dictated by environmental and other conditions (e.g., safety, weather).

The NFMS concurrence letter received by the Inactive Ships Program on October 10, 2012, also requests that, should it be determined during towing that unanticipated behavioral harassment or injury of threatened or endangered species has occurred, NAVSEA shall re-initiate consultation with NMFS Office of Protected Resources, Endangered Species Act Interagency Cooperation Division, to develop and implement mitigation to avoid additional take or initiate formal consultation in accordance with ESA Section 7(a)(2).

Therefore, pursuant to its informal consultation with NMFS under section 7 of the ESA, the Navy has determined that the Proposed Action may affect but will not adversely certain species of whales (Blue whale, *Balaenoptera musculus*; Fin whale, *Balaenoptera physalus*; Humpback whale, *Megaptera novaeangliae*; North American right whale, *Eubalaena glacialis*; Sei whale, *Balaenoptera borealis*; Sperm whale, *Physeter macrocephalus*) and sea turtles (Green turtle, *Chelonia mydas*; Hawksbill turtle, *Eretmochelys imbricate*; Kemp's Ridley Turtle, *Lepidochelys kempii*; Leatherback turtle, *Demochelys coriacea*; Loggerhead turtle, *Caretta caretta;* Olive ridley turtle, *Demochelys olivacea)* in the vicinity of a disposal facility located near New Orleans, LA. There would be no effect of the Proposed Action on other threatened or endangered species in the vicinity of New Orleans, as listed in Table 3-4. Furthermore, under the MMPA, the Navy has determined that the Proposed Action would not result in reasonably foreseeable takes of marine mammals. Pursuant to NEPA and E.O. 12114, the Proposed Action, subject to the mitigation actions described above, would have no significant impact to marine mammals or sea turtles in the vicinity of the New Orleans facility.

4.3.5 No-Action Alternative

Under the No-Action Alternative, the ex-FORREST SHERMAN would not be removed from INACTSHIPMAINTO Philadelphia. The vessel would continue to be maintained in a safe stowage condition (i.e., fire and flooding protection). There would be no significant impacts to biological resources under NEPA.

4.3.6 Impact Summary

Table 4-1. Biological Resource Impact Summary by Location

Resource Area	Brownsville, TX	New Orleans, LA	INACTSHIPMAINTO Philadelphia	Open Ocean
Benthic Community	Temporary impacts; no significant impacts	Temporary impacts; no significant impacts	No significant impacts	N/A
Fish and Essential Fish Habitat	Temporary impacts to fish; no effect on EFH; no significant impacts; no significant harm	Temporary impacts to fish; no effect on EFH; no significant impacts; no significant harm	No significant impacts	Temporary impacts to fish; no effect on EFH; no significant impacts; no significant harm
Threatened & Endangered Species/Marine Mammals	May affect, but not likely to adversely affect threatened and endangered species; no reasonably foreseeable takes of marine mammals; no significant impacts; no significant harm	May affect, but not likely to adversely affect threatened and endangered species; no reasonably foreseeable takes of marine mammals; no significant impacts; no significant harm	May affect, but not likely to adversely affect shortnose sturgeon; no reasonably foreseeable takes of marine mammals; no significant impacts	May affect, but not likely to adversely affect threatened and endangered species; no reasonably foreseeable takes of marine mammals; no significant impacts; no significant harm

4.4 Air Resources

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 4-2). A Record of Non-Applicability (RONA) is included as Appendix A of this EA/OEA which covers the INACTSHIPMAINTO Philadelphia, Brownsville, TX, and New Orleans, LA, locations. Only the Philadelphia location is in an area which is in non-attainment for criteria pollutants. However, the RONA concluded that a conformity review prepared pursuant to the CAA for the Proposed Action is not required.

4.4.1 INACTSHIPMAINTO Philadelphia

Ongoing operations at the PNBC would not increase since the vessel would be removed from this location. There would be no increase in the air quality impacts at the site.

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 a minor but temporary increase of marine vessel emissions. No long-term increases in emission would occur as no new stationary sources are constructed. Therefore, in accordance with NEPA, the Proposed Action would have no significant impact on air quality.

4.4.2 Brownsville, TX

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 Proposed Action does not require construction activities. Moreover, the facility would be in compliance with all Federal and state permit requirements. Relevant air emissions, including greenhouse gas emissions, would be localized and of short duration.

Therefore, in accordance with NEPA, the Proposed Action would have no significant impact on air quality if implemented at a facility located near Brownsville, TX.

4.4.3 New Orleans, LA

Similar to the Brownsville, TX, alternative, the New Orleans alternative requires removal of the vessel from INACTSHIPMAINTO Philadelphia through towing. Towing activity falls within the meaning of "routine ship movement," which is 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.

Potential impacts to air quality for the New Orleans, LA, alternative are similar to those described for the Brownsville, TX alternative. Therefore, in accordance with NEPA, the Proposed Action would have no significant impact on air quality if implemented at a facility located near New Orleans, LA.

4.4.4 No-Action Alternative

The No-Action Alternative would leave the ex-FORREST SHERMAN 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). The No-Action Alternative would not result in a significant impact on air quality under NEPA.

5.0 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 5090.1D, 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 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 region are briefly described below.

5.1 Projects near INACTSHIPMAINTO Philadelphia and Surrounding Area

The Proposed Action would result in lesser environmental impact compared with the impacts from nearby identified projects and dismantling actions. Other projects underway at INACTSHIPMAINTO Philadelphia 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 impact on the environment individually or cumulatively and thus did not require an EA or EIS.

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.

5.1.1 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 OPNAVNIST 5090.1C, Change 1, NEPA Categorical Exclusion (CATEX) Number 38 and signed in November 2007.

Rehabilitative Repairs to Wharf E, Wharf F, Pier F, and Quay walls 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 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.

Extensive repairs to Pier 4 are underway. 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 underway.

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.

5.1.2 Future Projects

There are no planned construction activities to expand the Navy's presence at INACTHIPMAINTO Philadelphia. Only INACTSHIPMAINTO, the Navy's Ship System Engineering Station (NAVSSES), and the Propeller Shop and Foundry remain in operation within the PNSHD. The INACTSHIPMAINTO facility is expected to continue in operation into the indefinite future and may require periodic maintenance. The remainder of the entire former Philadelphia Navy Yard is rapidly becoming a commercial industrial park, a process that began under the Department of Defense Base Realignment and Closure Program in 1991.

5.2 Projects near Brownsville, TX, facilities

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.

5.3 Projects near New Orleans, LA, facility

There have been hundreds of vessels, including Navy, MARAD and commercial, dismantled at the New Orleans facility which has been in operation since 1900. There is no known construction project planned at the dismantling facility, nor in the nearby area that would have a significant impact on the project area.

5.4 Cumulative Impacts by Environmental Resource

Ex-FORREST SHERMAN would be towed and dismantled at a commercial facility with no construction 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. The sections below evaluate potential cumulative impacts for the resources analyzed in this EA: Cultural, water, biological, and air resources.

5.4.1 Cultural Resources

The cumulative consequences of other projects together with the Proposed Action would not affect cultural resources besides the vessel itself. Ex-FORREST SHERMAN is eligible for listing in the NRHP and has undergone the NHPA Section 106 process, which concluded with an MOA to mitigate the effects of the Proposed Action. In addition, PNSHD meets the criteria to be eligible for listing in the NRHP; a Historic American Engineering Record for the Philadelphia Navy Yard was prepared in 1968, and a Historic American Engineering Record for the FORREST SHERMAN class of destroyers was prepared in 2011.

The Navy would comply with the requirements of the PA SHPO for the PNSHD project. The ongoing building demolition project would have an effect on Federal historic properties which are considered contributing elements to the PNSHD; however, through an MOA signed August 13, 2009, between the DON Navy Region Mid-Atlantic and the PA SHPO, mitigation measures are being implemented to reduce the impact on historical resources at PNSHD. Ex-FORREST SHERMAN is not a contributing element to the PNSHD, and removal from her berth at INACTSHIPMAINTO Philadelphia would not result in a significant change in the landscape of the PNSHD. There would be no impacts on cultural resources at any of the representative dismantling facilities. 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.

5.4.2 Water Resources

The Proposed Action would cause temporary impacts to water quality in shipping channels and the open ocean as a result of increased turbidity. However, when compared with typical marine dredging projects, the Proposed Action would not significantly impact sediment or water quality. The towing procedures would be implemented to avoid sediment disturbance. Therefore, the Proposed Action would not have any cumulative impact to water resources when considered with these projects.

Other projects in the vicinity of INACTSHIPMAINTO Philadelphia, Brownsville, TX, or New Orleans, LA, 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 storm water 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.

5.4.3 Biological Resources

The Proposed Action would not 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 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 ex-FORREST SHERMAN's berth nor at dismantling facilities. No cumulative effects to endangered species due to towing are anticipated because the Proposed Action, pursuant to the Navy's consultation with NMFS, would utilize mitigation practices to avoid a take or otherwise cause harm to marine mammals.. The INACTSHIPMAINTO Philadelphia 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.

5.4.4 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 on air quality nor would global climate change be affected. 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.

6.0 OTHER CONSIDERATIONS REQUIRED BY NEPA

6.1 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.

6.1.1 Federal Acts, Executive Orders, Policies, and Plans

National Environmental Policy Act

This EA/OEA 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 DON regulations for implementing NEPA (32 C.F.R. § 775), and Chief of Naval Operations Instruction (OPNAVINST) 5090.1C, Change 1, 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 (CWA)

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. Pemsylvania, Texas, and Louisiana are the delegated permit authorities in the project area.

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: SO_2, CO, PM_{10} and $PM_{2.5}$, NO_2, lead, and O_3. 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 a violation of an ambient air quality standard.

Achieving CAA standards is the responsibility of the states. Each state must develop State Implementation Plans (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/OEA.

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 storm water runoff control. Pennsylvania, Texas, and Louisiana have prepared federally-approved coastal management programs (CMP), which are known as the Pennsylvania Coastal Zone Management Program (PACMP), TX Coastal Management Program, LA Coastal Resources Program, respectively. Pursuant to Section 307(c) of the CZMA, the removal of the ex-FORREST SHERMAN from PA 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. The Navy received written concurrence from the States of Louisiana and Texas for coastal consistency negative determinations in April 2014 (State of Louisiana, 2014; State of Texas, 2014).

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 not adversely affect 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.

Marine Mammal Protection Act

The 1972 MMPA established a Federal responsibility to conserve marine mammals with management vested in the DOI 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/OEA concludes the Proposed Action would have no reasonably foreseeable takes of manatees or other marine mammals (i.e., cause harm or harassment, of any marine mammals). The Proposed Action would comply with the MMPA.

Executive Order 12114—Environmental Effects Abroad of Major Federal Actions

This Executive Order requires Federal agencies with facilities located outside the United States to consider the impact of major actions on the environment. E.O. 12114 identifies four categories of "major" actions and requires Federal agencies with facilities overseas to establish procedures, in consultation with the Department of State and Council on Environmental Quality, for implementation. This Order furthers the purpose of the National Environmental Policy Act with respect to the environment outside the United States, its territories and possessions.

Executive Order 12372-- Intergovernmental Review of Federal Programs

This Executive Order 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/OEA, 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.

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

PA Coastal Zone Management Act

The Navy has an approved coastal consistency negative determination (CCND) from the PADEP. The Navy has concluded that this project is consistent with the Pennsylvania CMP and the CCND.

TX, LA Coastal Zone Management Acts

Towing ex-FORREST SHERMAN towards a dismantling location either in the vicinity of Brownsville, TX, or New Orleans, LA, would place the vessel nearby the coasts of either state. However, towing would occur within established shipping channels which would not affect jurisdictional coastal zone resources. The Navy received written concurrence from the States of Louisiana and Texas for coastal consistency negative determinations in April 2014 (State of Louisiana, 2014; State of Texas, 2014).

State Endangered Species Acts

Although state ESAs 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.

6.2 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.

6.3 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 towing 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.

6.4 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.

6.5 Means to Mitigate and/or Monitor Adverse Environmental Impacts

The Proposed Action would result in a potentially significant environmental impact: the dismantling of the vessel. In addition, the towing portion of the Proposed Action may affect, but is not likely to adversely affect, certain threatened and endangered species (see Table 3-1). Mitigation measures to minimize risk of impacts to marine mammals and endangered species during towing were also identified in the impact analysis. Mitigation measures discussed throughout the document are summarized below.

Cultural Resources

Pursuant to the MOA (see Appendix B), the Navy will allow certain ship museums to remove equipment and materials from the vessel to enhance their museum displays before a dismantling contract is awarded for ex-FORREST SHERMAN. Further, the dismantling contract will have requirements for the contractor to: (1) remove the stern of the ship's hull with its name to be set aside for a material donation donee; (2) remove the port and starboard stern hull numbers to be set aside for a material donation donee (donation procedures are available at: www.navsea.navy.mil/teamships/Inactiveships/Donation/pdf/material_donation_pdfs/Material_Donation_Procedures.pdf).

Mitigation measures to be implemented after award of the dismantling contract include: (1) Within a year after the dismantling contract is awarded, a material donation donee must obtain records of the vessel in existence at the Washington National Records Center; and (2) the Navy will transfer to the National Archives and Records Administration an Historic American Engineering Record (HAER) of the FORREST SHERMAN class of destroyers in accordance with the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation, Level 2. The ex-TURNER JOY (DD-951), an existing museum ship, was used as the best model for this HAER report since this vessel is in the same class as, and in better condition than, ex-FORREST SHERMAN.

Biological Resources

The towing portion of the Proposed Action alternatives has been determined to have the potential to affect, but not adversely affect, certain threatened and endangered species that may be encountered en route from INACTSHIPMAINTO Philadelphia to a dismantling facility. (See Table 3-1.) To reduce the potential for a vessel strikes to protected species, the Navy would employ the following minimization measures as part of the Proposed Action:

- When towing within North Atlantic right whale seasonal habitat areas, the tug and tow will transit at speeds of 10 kts or less in accordance with 50 CFR 224.105, 9 December 2008, Speed restrictions to protect North Atlantic Right Whales.
- Whenever marine mammals or sea turtles are sighted, the tug's crew will increase vigilance and take reasonable and prudent actions to avoid collisions and other activities that might result in close interactions between the vessels and animals. Actions may include changing speed and/or direction as dictated by environmental and other conditions (e.g., safety, weather).

The NFMS concurrence letter received by the Inactive Ships Program on October 10, 2012, also requests that, should it be determined during towing that unanticipated behavioral harassment or injury of threatened or endangered species has occurred, NAVSEA shall re-initiate consultation with NMFS Office of Protected Resources, Endangered Species Act Interagency Cooperation Division, to develop and implement mitigation to avoid additional take or initiate formal consultation in accordance with ESA Section 7(a)(2).

6.6 Any Probable Adverse Environmental Effects That Cannot Be Avoided and Are Not Amenable to Mitigation

This EA/OEA 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.

7.0 CONCLUSION

The towing portion of the Proposed Action may affect, but is not likely to adversely affect, animals protected under the MMPA and the ESA (see Table 3-1); however, no significant environmental impacts to any other resource area are expected to occur as a result of the Proposed Action with implementation of mitigation actions. Ex-FORREST SHERMAN is eligible for listing in the National Register of Historic Places, and dismantling her would have an adverse effect on her cultural value. Through consultation with the PA SHPO and ACHP, an MOA was established and implemented as mitigation for vessel disposal. The Proposed Action would comply with all Federal and state regulations, guidelines, and agreements. The two Proposed Action alternatives are environmentally equal and there is no preferred action alternative location. Based on the findings from this EA/OEA, preparation of a Finding of No Significant Impact /Finding of No Significant Harm (FONSI/FONSH) is recommended.

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