APPENDIX I
Geographic Information System Data Sources

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Draft
Environmental Impact Statement/Overseas Environmental Impact Statement
Atlantic Fleet Training and Testing

TABLE OF CONTENTS

APPENDIX I GEOGRAPHIC INFORMATION SYSTEM DATA SOURCES I-1

List of Figures

This section does not contain figures.

List of Tables

Table I-1: Data Sources by Feature/Layer I-1

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Appendix I
Geographic Information System Data Sources

Table I-1: Data Sources by Feature/Layer

Feature/Layer	*Applicable Figures*	*Data Source References*
AFTT Study Area	Multiple Figures (Global)	Department of the Navy (2016) Navy POC: Jonathan Crain Jonathan.crain@navy.mil
Military Training/Range/Operation Areas	Multiple Figures (Global)	Department of the Navy (2016) Navy POC: David Urbik David.urbik@navy.mil
Special Use Airspace	Multiple Figures (Global)	NGA Digital Aeronautical Flight Information File (DAFIF) (2010).
Large Marine Ecosystems	Multiple Figures (Global)	NOAA-Fisheries, US LME Program, Narragansett Laboratory Kenneth.Sherman@NOAA.gov www.lme.noaa.gov
Open Ocean Areas	Multiple Figures (Global)	NOAA-Fisheries, US LME Program, Narragansett Laboratory Kenneth.Sherman@NOAA.gov www.lme.noaa.gov
Bay or Inland Water	Multiple Figures (Global)	Department of the Navy (2015) Navy POC: David Urbik David.urbik.ctr@navy.mil
Navy Contractor Shipyard	Multiple Figures (Global)	Department of the Navy (2015) Navy POC: David Urbik David.urbik.ctr@navy.mil
Navy Port or Pierside Location	Multiple Figures (Global)	Department of the Navy (2015) Navy POC: David Urbik David.urbik.ctr@navy.mil
Bathymetry and Ocean Base Map	3.0-3, 3.0-4, 3.0-5, 3.0-6,	Amante, C. and B.W. Eakins, 2009. ETOPO1 1 Arc-Minute Global Relief Model: Procedures, Data Sources and Analysis. NOAA Technical Memorandum NESDIS NGDC-24. National Geophysical Data Center, NOAA. doi:10.7289/V5C8276M [2017]
Major Ocean Current	3.0-7	Department of the Navy (2015) Navy POC: David Urbik David.urbik.ctr@navy.mil
Sea Surface Temperature	3.0-8	Appendix JNOAA Optimum Interpolation (OI) Sea Surface Temperature (SST) V2 (2016). NCEP/NWS/NOAA. Climate Modeling Branch W/NP24http://www.esrl.noaa.gov/psd/data/gridded/data.noaa.oisst.v2.html#references
Vessel Traffic Density	3.0-10	Mintz 2012.
Ozone, PM2.5, and PM10 Nonattainment/ Maintenance Areas	3.1-1, 3.1-2, 3.1-3. 3.1-4	U.S. Environmental Protection Agency: Ozone 2014; PM2.5 – 2015; PM 10 Nonattainment/Maintenance Areas – 2013

Table I-1: Data Sources by Feature/Layer (continued)

Feature/Layer	*Applicable Figures*	*Data Source References*
Sediment Quality	3.2-2, 3.2-3, 3.2-4	(EPA National Aquatic Resource Surveys https://www.epa.gov/national-aquatic-resource-surveys/data-national-aquatic-resource-surveys 2010)
Water Quality	3.2-6, 3.2-7, 3.2-8	(EPA National Aquatic Resource Surveys https://www.epa.gov/national-aquatic-resource-surveys/data-national-aquatic-resource-surveys 2010)
Seagrass/Essential Fish Habitat	3.3-2; 3.3-3; 3.3-4	Department of the Navy (2016)
Johnson's Seagrass Critical Habitat	3.3-1	NOAA, 2000. (USFWS Critical Habitat Portal: https://ecos.fws.gov/ecp/report/table/critical-habitat.html)
Reef Habitat	3.5-1, 3.5-2, 3.5-3, 3.5-4, 3.5-5, 3.5-6, 3.5-7, 3.5-8	(National Ocean Service, National Centers for Coastal Ocean Science, Center for Coastal Monitoring and Assessment, the University of Hawaii, BAE Systems Spectral Solutions and Analytical Laboratories of Hawaii, LLC, 2007)
Bottom Substrate	3.5-1, 3.5-2, 3.5-3, 3.5-4, 3.5-5	(United States Navy 2016)
Towers (AF and Navy)	3.5-5, 3.5-6, 3.5-8	(United States Navy 2016)
Oil and Gas platforms	3.5-5, 3.5-6, 3.5-8,	Bureau of Ocean Energy Management (Minerals Management Service) 2006
Oil and Gas Pipelines	3.11-3	Department of the Navy (2015) Navy POC: Jonathan Crain Jonathan.crain@navy.mil
Shipwrecks	3.5-5, 3.5-6, 3.5-7, 3.5-8	NOAA Automated Wreck and Obstruction Information System [AWOIS] (2002) Veridian Corporation (2001) National Registry of Historic Places (2016)
North Atlantic Right Whale Critical Habitat	3.7-3, 5.4-4, 5.4-5	(NOAA Fisheries Greater Atlantic Regional Fisheries Office, 2016)
Smalltooth Sawfish Critical Habitat	3.6-2	NMFS, Office of Protected Resources, October 2009
Atlantic Sturgeon Proposed Critical Habitat	3.6-1, 3.6-2	(NOAA NMFS http://sero.nmfs.noaa.gov/maps_gis_data/protected_resources/critical_habitat/geodata/proposed_atlantic_sturgeon_critical_habitat_ln.htm 2016)
Gulf Sturgeon Critical Habitat	3.6-5	National Coastal Data Development Center, 2003
Loggerhead Turtle Critical Habitat	3.8-6, 3.8-7, 3.8-8	(NOAA Fisheries http://www.nmfs.noaa.gov/pr/species/turtles/criticalhabitat_loggerhead.htm 2014)
Hawksbill Turtle Critical Habitat	3.8-5	National Oceanic and Atmospheric Administration National Marine Fisheries Service, 1998

Table I-1: Data Sources by Feature/Layer (continued)

Feature/Layer	*Applicable Figures*	*Data Source References*
Green Turtle Critical Habitat	3.8-4	National Oceanic and Atmospheric Administration National Marine Fisheries Service, 1998
Leatherback Turtle Critical Habitat	3.8-9	National Oceanic and Atmospheric Administration National Marine Fisheries Service, 1979
American Crocodile	3.8-10	U.S. Fish and Wildlife Service, 2003
Piping Plover Critical Habitat	3.9-1; 3.9-2; 3.9-3	U.S. Fish and Wildlife Service, 2009
NRHP Eligible or Listed Resources/Sovereign Immunity, Shipwrecks	3.10-4, 3.10-5, 3.10-6	(NOAA's Automated Wreck and Obstruction Information System [AWOIS] 2002; Google Earth 2010)
Bureau of Ocean Energy Management Planning Areas	3.11-1	(Bureau of Ocean Energy Management http://www.boem.gov/Maps-and-GIS-Data/ 2016)
Commercially Used Waterways	3.11-4	Research and Innovative Technology Administration's Bureau of Transportation Statistics (RITA/BTS) National Transportation Atlas Database (2007). National Waterway Network
Ports	3.11-4	NGA (2016). World Port Index
Danger Zones and Restricted Areas	3.11-15, 3.11-16, 3.11-17	(Title 33-Navigation and Navigable Waters, Chapter II-Corps of Engineers, Department of the Army, Department of Defense, Part 334-Danger Zone and Restricted Area Regulations 2005)
Fish locations	3.6-1, 3.5-2, 3.6-3, 3.6-4, 3.6-5	Alabama Department of Conservation and Natural Resources, Marine Resources Division (2005) Florida Fish and Wildlife Conservation Commission (2004, 2005) Mississippi Department of Marine Resources (2001, 2004) Gusey (1981) Coastal Outdoors (2001) Delaware Division of Natural Resources and Environmental Control (2005) North Carolina Department of Marine Fisheries (2005) Ocean City Reef Foundation (2005) Virginia Marine Resources Commission (2005) Delaware Division of Fish and WIldlife (2008) Delaware Division of Fish and Wildlife (2002), NOAA (2002) New Jersey Division of Fish and Wildlife (2004) Treasure Expeditions (2004). Source maps (scanned): Freeman and Walford (1974a, 1974b, 1974c) and Screamingreel (2003).
Biologically Important Areas for Cetaceans	5.4-4, 5.4-5	(National Oceanic and Atmospheric Administration 2015)
National Marine Sanctuaries	6.1-4, 6.1-5	(NOAA National Marine Sanctuaries, 2004)
Marine Protected Area	6.1-1. 6.1-2. 6.1-3	(NOAA National Marine Protected Areas Center, 2015)

Notes: AUTEC = Atlantic Undersea Test and Evaluation Center, EPA = Environmental Protections Agency, MRA = Marine Resources Assessment, NGA = National Geospatial-Intelligence Agency, NMFS = National Marine Fisheries Service, NOAA = National Oceanic and Atmospheric Administration, U.S. = United States, OPAREA = Operating Area, VACAPES = Virginia Capes, HAPC = Habitat Area of Particular Concern, AWOIS = Automated Wreck and Obstruction Information System, NRHP = National Register of Historic Places, , OCS = Office of Coast Survey

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