

APPENDIX B ACTIVITY STRESSOR MATRICES

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Final

**Supplemental Environmental Impact Statement/
Overseas Environmental Impact Statement
Atlantic Fleet Training and Testing**

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B ACTIVITY STRESSORS

Table B-1: Stressors by Training Activity

Atlantic Fleet Training Activity	Biological Resources																Physical Resources						Human Resources										
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors				Entanglement Stressors		Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors			
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions
Major Training Exercise - Large Integrated Anti-Submarine Warfare																																	
Composite Training Unit Exercise	✓		✓	✓					✓		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓								
Major Training Exercise - Medium Integrated Anti-Submarine Warfare																																	
Sustainment/Task Force Exercise	✓		✓	✓					✓		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓								
Small Integrated Anti-Submarine Warfare Training																																	
Navy Undersea Warfare Training Assessment Course	✓		✓	✓					✓		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓								
Surface Warfare Advanced Tactical Training	✓		✓	✓					✓		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓								
Medium Coordinated Anti-Submarine Warfare Training																																	
Anti-Submarine Warfare Tactical Development Exercise	✓		✓	✓					✓		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓								
Small Coordinated Anti-Submarine Warfare Training																																	
Amphibious Ready Group Marine Expeditionary Unit Composite Training Unit Exercise	✓		✓	✓					✓		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓								
Group Sail	✓		✓	✓					✓		✓	✓	✓			✓	✓	✓	✓	✓		✓	✓	✓	✓								
Air Warfare																																	
Air Combat Maneuvers				✓					✓			✓		✓						✓							✓	✓		✓		✓	✓
Air Defense Exercise			✓	✓					✓		✓	✓								✓													
Gunnery Exercise Air-to-Air Medium-Caliber				✓	✓				✓			✓	✓					✓		✓		✓		✓									

Table B-1: Stressors by Training Activity (continued)

Atlantic Fleet Training Activity	Biological Resources																		Physical Resources						Human Resources										
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors					Entanglement Stressors		Ingestion Stressors		Air Quality Stressors		Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors			
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions		
Gunnery Exercise Air-to-Air – Small-Caliber				✓	✓					✓			✓	✓					✓		✓		✓												
Gunnery Exercise Surface-to-Air Large-Caliber			✓		✓					✓		✓		✓					✓		✓		✓		✓										
Gunnery Exercise Surface-to-Air Large-Caliber (USCG)			✓		✓		✓			✓		✓		✓					✓		✓	✓	✓		✓	✓									
Gunnery Exercise Surface-to-Air Medium-Caliber			✓		✓					✓		✓		✓					✓		✓		✓		✓										
Gunnery Exercise Surface-to-Air Medium-Caliber (USCG)			✓		✓					✓		✓		✓					✓		✓		✓		✓										
Missile Exercise – Man-Portable Air Defense System				✓	✓			✓					✓	✓	✓				✓		✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	
Missile Exercise Air-to-Air				✓	✓			✓		✓			✓	✓				✓	✓	✓	✓	✓	✓	✓											
Missile Exercise Surface-to-Air			✓		✓			✓		✓		✓		✓				✓	✓		✓	✓	✓	✓	✓										
Amphibious Warfare																																			
Amphibious Assault			✓	✓						✓		✓	✓		✓						✓						✓	✓	✓	✓	✓	✓	✓	✓	✓
Amphibious Operations in a Contested Environment			✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Amphibious Raid			✓	✓						✓		✓	✓		✓						✓						✓	✓	✓	✓	✓	✓	✓	✓	✓
Amphibious Ready Group Marine Expeditionary Unit Exercise			✓	✓						✓		✓	✓		✓						✓						✓	✓	✓	✓	✓	✓	✓	✓	✓
Amphibious Squadron Marine Expeditionary Unit Integration Training			✓	✓						✓		✓	✓								✓														

Table B-1: Stressors by Training Activity (continued)

Atlantic Fleet Training Activity	Biological Resources																		Physical Resources						Human Resources									
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors					Entanglement Stressors		Ingestion Stressors		Air Quality Stressors		Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors		
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions	
Amphibious Vehicle Maneuvers			✓									✓			✓						✓						✓	✓	✓	✓	✓	✓	✓	
Naval Surface Fire Support Exercise - At Sea			✓		✓				✓			✓		✓						✓	✓		✓	✓	✓									
Naval Surface Fire Support Exercise - Land-Based Target			✓		✓				✓			✓		✓					✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Non-Combat Evacuation Operation			✓	✓					✓			✓	✓		✓						✓						✓	✓	✓	✓	✓	✓	✓	
Anti-Submarine Warfare																																		
Anti-Submarine Warfare Torpedo Exercise - Helicopter	✓			✓						✓		✓	✓	✓			✓	✓		✓	✓		✓	✓	✓									
Anti-Submarine Warfare Torpedo Exercise - Maritime Patrol Aircraft	✓			✓					✓			✓	✓	✓			✓	✓		✓	✓		✓	✓	✓									
Anti-Submarine Warfare Torpedo Exercise - Ship	✓		✓						✓			✓		✓			✓			✓	✓		✓	✓	✓									
Anti-Submarine Warfare Torpedo Exercise - Submarine	✓											✓		✓			✓			✓	✓		✓	✓	✓									
Anti-Submarine Warfare Tracking Exercise - Helicopter	✓			✓					✓			✓	✓	✓			✓	✓		✓	✓		✓	✓	✓									
Anti-Submarine Warfare Tracking Exercise - Maritime Patrol Aircraft	✓			✓					✓			✓	✓	✓			✓	✓		✓	✓		✓	✓	✓									
Anti-submarine Warfare Tracking Exercise - Ship	✓		✓						✓			✓		✓			✓				✓		✓	✓	✓									
Anti-Submarine Warfare Tracking Exercise - Submarine	✓											✓		✓	✓		✓			✓	✓		✓	✓	✓									

Table B-1: Stressors by Training Activity (continued)

Atlantic Fleet Training Activity	Biological Resources																		Physical Resources						Human Resources									
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors					Entanglement Stressors		Ingestion Stressors		Air Quality Stressors		Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors		
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions	
Electronic Warfare																																		
Counter Targeting Chaff Exercise - Aircraft				✓						✓			✓	✓						✓	✓		✓	✓	✓									
Counter Targeting Chaff Exercise - Ship			✓							✓		✓		✓						✓	✓		✓	✓	✓									
Counter Targeting Chaff Exercise - Ship (USCG)			✓							✓		✓		✓						✓	✓		✓	✓	✓									
Counter Targeting Flare Exercise				✓						✓			✓	✓						✓	✓		✓	✓	✓									
Electronic Warfare Operations				✓						✓			✓							✓														
High-Speed Anti-Radiation Missile Exercise				✓	✓					✓			✓	✓					✓		✓	✓	✓	✓	✓									
Expeditionary Warfare																																		
Dive and Salvage Operations			✓									✓			✓						✓						✓	✓	✓	✓	✓	✓	✓	
Personnel Insertion/Extraction - Air			✓	✓	✓					✓		✓	✓	✓						✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
Personnel Insertion/Extraction - Surface and Subsurface			✓									✓								✓							✓	✓	✓	✓	✓	✓	✓	
Personnel Insertion/Extraction - Swimmer/Diver			✓				✓					✓		✓						✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Port Damage Repair		✓	✓									✓			✓	✓				✓							✓	✓	✓	✓	✓	✓	✓	
Underwater Construction Team Training			✓									✓			✓					✓							✓	✓	✓	✓	✓	✓	✓	

Table B-1: Stressors by Training Activity (continued)

Atlantic Fleet Training Activity	Biological Resources																		Physical Resources					Human Resources													
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors					Entanglement Stressors		Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors				Cultural Resource Stressors	Socioeconomic Resource Stressors			Public Health and Safety Stressors							
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions				
Mine Warfare																																					
Airborne Mine Countermeasures - Mine Detection	✓			✓					✓	✓			✓	✓	✓		✓				✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓			
Airborne Mine Countermeasures - Towed Mine Neutralization				✓					✓	✓			✓								✓						✓	✓	✓	✓	✓	✓	✓	✓			
Airborne Mine Laying				✓						✓			✓	✓							✓		✓	✓	✓		✓	✓	✓	✓		✓	✓	✓			
Civilian Port Defense - Homeland Security Anti-Terrorism/Force Protection Exercise	✓		✓	✓					✓	✓		✓	✓		✓						✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓			
Coordinated Unit Level Helicopter Airborne Mine Countermeasures Exercise				✓						✓			✓								✓						✓	✓	✓	✓		✓	✓	✓			
Installation and Maintenance of Mine Training Areas			✓							✓		✓		✓	✓		✓				✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓			
Mine Countermeasures - Mine Neutralization - Remotely Operated Vehicles	✓		✓	✓			✓			✓		✓	✓	✓	✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Mine Countermeasures - Ship Sonar	✓		✓						✓	✓		✓									✓						✓	✓	✓	✓	✓	✓	✓	✓			
Mine Neutralization Explosive Ordnance Disposal			✓				✓					✓		✓	✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Submarine Mine Laying	✓		✓									✓		✓							✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓			
Surface Ship Object Detection	✓		✓							✓		✓									✓						✓	✓	✓	✓	✓	✓	✓	✓			
Underwater Mine Countermeasure Raise, Tow, Beach, and Exploitation Operations			✓									✓		✓	✓		✓				✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓			

Table B-1: Stressors by Training Activity (continued)

Atlantic Fleet Training Activity	Biological Resources																		Physical Resources						Human Resources									
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors					Entanglement Stressors		Ingestion Stressors		Air Quality Stressors		Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors		
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions	
Surface Warfare																																		
Bombing Exercise Air-to-Surface			✓	✓			✓			✓		✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓								
Gunnery Exercise Air-to-Surface Medium-Caliber				✓	✓		✓			✓			✓	✓					✓	✓	✓	✓	✓	✓	✓	✓								
Gunnery Exercise Air-to-Surface Medium-Caliber (USCG)				✓	✓		✓			✓			✓	✓					✓	✓	✓	✓	✓	✓	✓	✓								
Gunnery Exercise Air-to-Surface Small-Caliber				✓	✓					✓			✓	✓					✓	✓	✓		✓	✓	✓	✓	✓							
Gunnery Exercise Surface-to-Surface Boat Medium-Caliber			✓		✓		✓					✓		✓					✓	✓	✓	✓	✓	✓	✓	✓								
Gunnery Exercise Surface-to-Surface Boat Medium-Caliber (USCG)			✓		✓		✓					✓		✓					✓	✓	✓	✓	✓	✓	✓	✓								
Gunnery Exercise Surface-to-Surface Boat Small-Caliber			✓		✓							✓		✓					✓	✓	✓		✓	✓	✓									
Gunnery Exercise Surface-to-Surface Boat Small-Caliber (USCG)			✓		✓							✓		✓					✓	✓	✓		✓	✓	✓	✓								
Gunnery Exercise Surface-to-Surface Ship - Large-Caliber			✓		✓		✓			✓		✓		✓					✓		✓	✓	✓		✓	✓								
Gunnery Exercise Surface-to-Surface Ship Large-Caliber (USCG)			✓		✓		✓			✓		✓		✓					✓		✓	✓	✓		✓	✓								
Gunnery Exercise Surface-to-Surface Ship Medium-Caliber			✓		✓		✓			✓		✓		✓					✓	✓	✓	✓	✓		✓	✓								
Gunnery Exercise Surface-to-Surface Ship Medium-Caliber (USCG)			✓		✓		✓			✓		✓		✓					✓	✓	✓		✓		✓	✓								
Gunnery Exercise Surface-to-Surface Ship Small-Caliber			✓		✓					✓		✓		✓					✓	✓	✓		✓		✓									

Table B-1: Stressors by Training Activity (continued)

Atlantic Fleet Training Activity	Biological Resources																		Physical Resources						Human Resources									
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors					Entanglement Stressors		Ingestion Stressors		Air Quality Stressors		Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors		
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions	
Gunnery Exercise Surface-to-Surface Ship Small-Caliber (USCG)			✓		✓				✓		✓		✓						✓	✓	✓		✓		✓									
Integrated Live Fire Exercise			✓	✓			✓		✓		✓	✓	✓						✓		✓	✓	✓	✓	✓	✓								
Laser Targeting - Aircraft				✓					✓			✓									✓													
Laser Targeting - Ship			✓	✓					✓	✓	✓	✓									✓													
Laser Targeting - Ship (USCG)			✓						✓	✓	✓										✓													
Long Range Unmanned Surface Vessel Training			✓								✓		✓						✓	✓	✓		✓	✓			✓	✓	✓	✓	✓	✓		✓
Maritime Security Operations			✓	✓					✓		✓	✓									✓						✓	✓	✓	✓	✓	✓	✓	✓
Maritime Security Operations (USCG)			✓	✓	✓				✓		✓	✓	✓						✓		✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Missile Exercise Air-to-Surface				✓	✓		✓		✓			✓	✓						✓	✓	✓	✓	✓	✓	✓	✓	✓							
Missile Exercise Air-to-Surface - Rocket				✓			✓		✓			✓	✓						✓	✓	✓	✓	✓	✓	✓	✓	✓							
Missile Exercise Surface-to-Surface			✓		✓		✓		✓		✓		✓						✓	✓	✓	✓	✓	✓	✓	✓	✓							
Sinking Exercise	✓		✓	✓	✓		✓		✓		✓	✓	✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓							
Small Boat Attack			✓		✓				✓		✓		✓						✓		✓		✓				✓	✓	✓	✓	✓	✓	✓	✓
Other Training Activities																																		
Precision Anchoring			✓						✓		✓			✓							✓		✓				✓	✓	✓	✓	✓	✓	✓	✓
Precision Anchoring (USCG)			✓						✓		✓			✓							✓		✓				✓	✓	✓	✓	✓	✓	✓	✓
Search and Rescue			✓	✓	✓				✓		✓	✓	✓							✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Search and Rescue (USCG)			✓	✓	✓				✓		✓	✓	✓							✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Submarine Navigation	✓										✓										✓						✓	✓	✓	✓	✓	✓	✓	✓
Submarine Sonar Maintenance and Systems Checks	✓											✓									✓						✓	✓	✓	✓	✓	✓	✓	✓
Submarine Under Ice Certification	✓											✓		✓			✓				✓		✓	✓	✓									

Table B-1: Stressors by Training Activity (continued)

Atlantic Fleet Training Activity	Biological Resources																		Physical Resources					Human Resources									
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors				Entanglement Stressors		Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health & Safety Stressors			
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strike	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions
Surface Ship Sonar Maintenance and Systems Checks	✓		✓						✓		✓									✓							✓	✓	✓	✓	✓	✓	✓
Unmanned Aerial System Training and Certification				✓					✓		✓	✓	✓							✓		✓	✓	✓									
Unmanned Aerial System Training and Certification (USCG)				✓					✓			✓								✓													
Unmanned Underwater Vehicle Training - Certification and Development	✓		✓						✓		✓		✓	✓			✓			✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
Unmanned Underwater Vehicle Training - Certification and Development (USCG)	✓		✓								✓		✓	✓			✓			✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
Waterborne Training			✓								✓									✓						✓	✓	✓	✓	✓	✓	✓	✓
Waterborne Training (USCG)			✓								✓									✓						✓	✓	✓	✓	✓	✓	✓	✓

Note: USCG = U.S. Coast Guard

Table B-2: Stressors by Testing Activity

Atlantic Fleet Testing Activity	Biological Resources																		Physical Resources					Human Resources														
	Acoustic Stressors					Explosive Stressors		Energy Stressors		Physical Disturbance and Strike Stressors				Entanglement Stressors			Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors			Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors										
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Biodegradable Polymers	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strikes	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions				
Acoustic and Oceanographic Science and Technology																																						
Acoustic and Oceanographic Research	✓		✓		✓	✓	✓			✓		✓		✓	✓					✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Large Displacement Unmanned Undersea Vehicle Testing			✓											✓								✓						✓	✓		✓	✓		✓	✓			
Mine Countermeasure Technology Research	✓		✓									✓										✓						✓	✓	✓	✓	✓	✓	✓	✓	✓		
Air Warfare																																						
Air Combat Maneuvers Test				✓						✓			✓	✓							✓	✓		✓	✓	✓												
Air Platform Vehicle Test				✓						✓			✓	✓							✓	✓		✓	✓	✓												
Air Platform Weapons Integration Test				✓	✓					✓		✓	✓	✓					✓			✓		✓	✓	✓												
Air-to-Air Gunnery Test – Medium-Caliber				✓	✓					✓			✓	✓						✓		✓		✓	✓	✓												
Air-to-Air Missile Test				✓	✓			✓		✓			✓	✓					✓	✓		✓	✓	✓	✓	✓												
Air-to-Air Weapons System Test				✓	✓					✓			✓	✓								✓		✓	✓	✓												
Intelligence, Surveillance, and Reconnaissance Test				✓						✓			✓									✓						✓	✓	✓	✓		✓	✓	✓			
Amphibious Warfare																																						
Amphibious Vessel Testing			✓							✓		✓										✓						✓	✓	✓	✓	✓	✓	✓	✓	✓		
Anti-Submarine Warfare																																						
Anti-Submarine Warfare Mission Package Testing	✓		✓	✓	✓			✓		✓		✓	✓	✓			✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Anti-Submarine Warfare Torpedo Test	✓			✓						✓		✓	✓	✓			✓		✓		✓	✓		✓	✓	✓												
Anti-Submarine Warfare Tracking Test - Fixed-Wing	✓			✓						✓		✓	✓	✓			✓		✓		✓	✓		✓	✓	✓												

Table B-2: Stressors by Testing Activity (continued)

Atlantic Fleet Testing Activity	Biological Resources																		Physical Resources					Human Resources											
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors				Entanglement Stressors			Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors			Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors					
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Biodegradable Polymers	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strikes	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions	
Anti-Submarine Warfare Tracking Test - Rotary Wing	✓			✓					✓		✓	✓	✓				✓		✓		✓	✓	✓	✓											
At-Sea Sonar Testing	✓		✓	✓				✓	✓		✓	✓	✓	✓			✓		✓		✓	✓	✓	✓											
Kilo Dip Test	✓			✓					✓			✓									✓														
Pierside Sonar Testing	✓		✓						✓		✓			✓							✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Sonobuoy Lot Acceptance Test	✓		✓	✓			✓		✓		✓	✓	✓				✓		✓		✓	✓	✓		✓	✓									
Surface Ship Sonar Testing/Maintenance	✓		✓						✓		✓										✓						✓	✓	✓	✓	✓	✓	✓	✓	✓
Torpedo (Explosive) Testing	✓		✓	✓			✓		✓		✓	✓	✓	✓			✓		✓		✓	✓	✓	✓	✓	✓	✓								
Torpedo (Non-Explosive) Testing	✓		✓	✓					✓		✓	✓	✓	✓			✓		✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Electronic Warfare																																			
Chaff Test				✓					✓			✓	✓								✓	✓		✓	✓	✓									
Electronic Systems Test				✓					✓			✓	✓						✓			✓		✓	✓	✓		✓	✓	✓	✓		✓	✓	✓
Flare Test				✓					✓			✓	✓								✓	✓		✓	✓	✓									
Radar and Other Systems Testing			✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Mine Warfare																																			
Airborne Dipping Sonar Minehunting Test	✓			✓					✓			✓										✓													
Airborne Laser Mine Detection System Test				✓					✓			✓										✓					✓	✓	✓	✓		✓	✓	✓	✓
Airborne Mine Neutralization System Test				✓			✓		✓		✓	✓	✓	✓		✓				✓		✓	✓	✓	✓	✓	✓								
Airborne Sonobuoy Minehunting Test	✓			✓					✓			✓	✓	✓		✓			✓		✓	✓		✓											

Table B-2: Stressors by Testing Activity (continued)

Atlantic Fleet Testing Activity	Biological Resources																		Physical Resources					Human Resources												
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors				Entanglement Stressors			Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors				Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors					
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Biodegradable Polymers	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strikes	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions		
Mine Countermeasure and Neutralization Testing	✓		✓	✓			✓		✓		✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mine Countermeasure Mission Package Testing	✓		✓	✓			✓		✓	✓		✓	✓	✓		✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mine Detection and Classification Testing	✓		✓	✓			✓		✓	✓		✓	✓	✓		✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mine Laying Test				✓					✓			✓	✓									✓		✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	
Surface Warfare																																				
Air-to-Surface Bombing Test			✓	✓					✓		✓	✓	✓							✓	✓	✓		✓	✓	✓										
Air-to-Surface Gunnery Test			✓	✓	✓		✓		✓		✓	✓	✓							✓	✓	✓	✓	✓	✓	✓										
Air-to-Surface High-Energy Laser Test			✓	✓					✓	✓	✓	✓	✓							✓	✓	✓				✓										
Air-to-Surface Missile Test			✓	✓	✓		✓		✓		✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
Gun Testing - Large-Caliber	✓		✓	✓	✓		✓		✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
Gun Testing - Medium-Caliber			✓	✓	✓		✓		✓		✓	✓	✓							✓	✓	✓	✓	✓		✓	✓									
Gun Testing - Small-Caliber			✓	✓	✓				✓		✓	✓	✓							✓	✓	✓		✓	✓	✓										
Laser Targeting Test				✓					✓			✓	✓								✓	✓		✓	✓	✓										
Maritime Security Operations				✓					✓			✓									✓															
Missile and Rocket Testing			✓	✓	✓		✓	✓		✓		✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓									
Rocket Test			✓	✓	✓		✓			✓		✓	✓	✓						✓	✓	✓	✓	✓	✓	✓	✓									
Unmanned Systems																																				
Underwater Search, Deployment, and Recovery			✓	✓					✓		✓	✓	✓	✓		✓						✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Unmanned Aerial System Testing			✓	✓					✓		✓	✓										✓						✓	✓	✓	✓	✓	✓	✓	✓	✓

Table B-2: Stressors by Testing Activity (continued)

Atlantic Fleet Testing Activity	Biological Resources																		Physical Resources					Human Resources												
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors				Entanglement Stressors			Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors			Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors						
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Biodegradable Polymers	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strikes	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions		
Unmanned Surface Vehicle System Testing			✓						✓		✓		✓							✓	✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Unmanned Underwater Vehicle Testing	✓		✓	✓			✓		✓		✓	✓	✓	✓		✓				✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Vessel Evaluation																																				
Air Defense Testing			✓	✓	✓		✓	✓		✓		✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓									
In-Port Maintenance Testing	✓		✓							✓		✓										✓						✓	✓	✓	✓	✓	✓	✓	✓	
Propulsion Testing			✓	✓	✓					✓		✓	✓	✓	✓					✓	✓	✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	
Signature Analysis Operations	✓		✓						✓	✓		✓		✓	✓		✓		✓		✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
Small Ship Shock Trial			✓	✓			✓			✓		✓	✓				✓					✓	✓	✓	✓	✓	✓									
Submarine Sea Trials – Propulsion Testing												✓										✓														
Submarine Sea Trials – Weapons System Testing	✓		✓	✓			✓			✓		✓	✓	✓	✓		✓		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Surface Warfare Testing	✓		✓	✓	✓		✓	✓		✓	✓	✓	✓			✓			✓	✓	✓	✓	✓	✓	✓	✓										
Undersea Warfare Testing	✓		✓	✓	✓		✓	✓		✓		✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Vessel Signature Evaluation	✓		✓	✓					✓	✓		✓	✓		✓							✓						✓	✓	✓	✓	✓	✓	✓	✓	✓
Other Testing Activities																																				
Acoustic and Oceanographic Research	✓		✓	✓						✓		✓	✓	✓	✓							✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	
Acoustic Component Testing	✓		✓	✓			✓			✓	✓	✓	✓		✓							✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Air Platform Shipboard Integration Test			✓	✓						✓		✓	✓									✓						✓	✓	✓	✓	✓	✓	✓	✓	

Table B-2: Stressors by Testing Activity (continued)

Atlantic Fleet Testing Activity	Biological Resources																		Physical Resources					Human Resources											
	Acoustic Stressors						Explosive Stressors		Energy Stressors			Physical Disturbance and Strike Stressors				Entanglement Stressors			Ingestion Stressors		Air Quality Stressors	Sediments and Water Quality Stressors			Cultural Resource Stressors		Socioeconomic Resource Stressors			Public Health and Safety Stressors					
	Sonar and Other Transducers	Pile Driving	Vessel Noise	Aircraft Noise	Weapons Noise	Air Guns	Explosions in Water	Explosions in Air	In-Water Electromagnetic Devices	In-Air Electromagnetic Devices	High-Energy Lasers	Vessels and In-Water Device Strike	Aircraft and Aerial Target Strike	Military Expended Material	Seafloor Device	Pile Driving	Wires and Cables	Biodegradable Polymers	Decelerators/Parachutes	Military Expended Materials - Munitions	Military Expended Materials - Other than Munitions	Criteria Air Pollutants	Explosives and Explosive By-Products	Metals	Chemicals Other than Explosives	Other Materials	Explosives	Physical Disturbance and Strikes	Accessibility	Airborne Acoustics	Physical Disturbance and Strike	In-Water Energy	In-Air Energy	Physical Interactions	
Simulant Testing			✓	✓					✓		✓	✓										✓													
Countermeasure Testing	✓		✓	✓					✓	✓		✓	✓	✓			✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Insertion/Extraction	✓		✓						✓			✓		✓			✓		✓			✓		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓
Intelligence, Surveillance, Reconnaissance	✓		✓	✓	✓	✓	✓		✓			✓	✓	✓	✓		✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Line Charge Testing			✓				✓			✓		✓			✓					✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-Acoustic Component Testing			✓	✓					✓			✓	✓		✓							✓						✓	✓	✓	✓	✓	✓	✓	✓
Payload Deployer Testing			✓						✓			✓		✓							✓	✓		✓		✓									
Semi-Stationary Equipment Testing	✓		✓		✓	✓	✓		✓			✓		✓	✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Towed Equipment Testing	✓		✓						✓			✓		✓	✓							✓		✓		✓									
Undersea Range System Test	✓		✓						✓			✓		✓	✓							✓		✓		✓									

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