

APPENDIX B

Activity Stressor Matrices

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

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Table B-1: Stressors by Training Activity

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | | | | | | |
|---|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|------------------------|----------------|---------------------------|------------------------------------|---|--|-------------------------|------------------------------|-----------------------------|-------------------------|------------------------------|----------------------------------|---|----------------------------|---------------------------------|---|--------------------------------|----------------------------|-------------------------------------|--|--|--|--|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | Entanglement Stressors | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | Public Health & Safety Stressors | | | | | | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Devices | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance and Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | | | |
| MAJOR TRAINING EXERCISES – LARGE INTEGRATED ANTI-SUBMARINE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Composite Training Unit Exercise | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| MAJOR TRAINING EXERCISES – MEDIUM INTEGRATED ANTI-SUBMARINE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fleet Exercise / Sustainment Exercise | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| INTEGRATED/COORDINATED TRAINING – SMALL INTEGRATED ANTI-SUBMARINE WARFARE TRAINING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Navy Undersea Warfare Training Assessment Course | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| Surface Warfare Advanced Tactical Training | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| INTEGRATED/COORDINATED TRAINING – MEDIUM COORDINATED ANTI-SUBMARINE WARFARE TRAINING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tactical Development Exercise | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| INTEGRATED/COORDINATED TRAINING – SMALL COORDINATED ANTI-SUBMARINE WARFARE TRAINING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Amphibious Ready Group Marine Expeditionary Unit Exercise | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| Group Sail | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| AIR WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air Combat Maneuver | | | | ✓ | | | ✓ | | | | ✓ | | | | | | | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | | |
| Air Defense Exercise | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | | |
| Gunnery Exercise Air-to-Air – Medium-Caliber | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | | | | | ✓ | | ✓ | | | ✓ | | | | | | | | | | | | | | |
| Gunnery Exercise Surface-to-Air – Large-Caliber | | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | | | | | |
| Gunnery Exercise Surface-to-Air – Medium-Caliber | | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | | ✓ | | | | | | | | | | | | | | |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | | | | | |
|--|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|--------|-----------|------------------------------|-------------------------|---|----------------------------|----------------------------------|---|--------------------------------|----------------------------|-------------------------------------|--|--|--|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance and Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | | |
| Missile Exercise Air-to-Air | | | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | |
| Missile Exercise Man-Portable Air Defense System | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | |
| Missile Exercise Surface-to-Air | | | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | |
| AMPHIBIOUS WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Amphibious Assault | | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | |
| Amphibious Marine Expeditionary Unit Integration Exercise | | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | |
| Amphibious Raid | | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | |
| Amphibious Vehicle Maneuvers | | | ✓ | | | | | | | ✓ | | | | | | | | | | ✓ | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | |
| Humanitarian Assistance Operations | | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | |
| Marine Expeditionary Unit Certification Exercise | | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | |
| Naval Surface Fire Support Exercise – At Sea | | | ✓ | | ✓ | | | ✓ | | | ✓ | | ✓ | | | | | | | ✓ | | ✓ | ✓ | ✓ | | | | | | | | | | | |
| Naval Surface Fire Support Exercise – Land-Based Target | | | ✓ | | ✓ | | | ✓ | | | ✓ | | ✓ | | | | | | | ✓ | | | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | | |
| ANTI-SUBMARINE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Anti-Submarine Warfare Torpedo Exercise – Helicopter | ✓ | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| Anti-Submarine Warfare Torpedo Exercise – Maritime Patrol Aircraft | ✓ | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| Anti-Submarine Warfare Torpedo Exercise – Ship | ✓ | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | | | | | | | | | | | | | | |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | | | | | | | |
|---|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|--------|-----------|------------------------------|-------------------------|---|----------------------------------|---------------------------------|---|--------------------------------|----------------------------|-------------------------------------|---|---|---|---|--|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | Public Health & Safety Stressors | | | | | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance and Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | | | | |
| 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 | ✓ | | ✓ | | | | | | | ✓ | | ✓ | | ✓ | ✓ | | | | | | ✓ | | | | | | | | | | | | | | | | |
| ELECTRONIC WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Counter Targeting Chaff Exercise – Aircraft | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | | |
| Counter Targeting Chaff Exercise – Ship | | | ✓ | | ✓ | | ✓ | | | ✓ | | ✓ | | | | | | ✓ | ✓ | | | | | | | | | | | | | | | | | | |
| Counter Targeting Flare Exercise | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | | | | | | |
| Electronic Warfare Operations | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | |
| High-Speed anti-Radiation Missile Exercise | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | | | | | | | | | | |
| EXPEDITIONARY WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dive and Salvage Operations | | | ✓ | | | | | | | ✓ | | | ✓ | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | | | | | | ✓ | | | |
| Maritime Security Operations- Anti-Swimmer Grenades | | | ✓ | | ✓ | ✓ | | | | ✓ | | ✓ | | | | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | | | | | | | ✓ | | |
| Personnel Insertion/Extraction – Air | | | ✓ | ✓ | | | | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | ✓ | ✓ | | | | | | | | | | ✓ | |
| Personnel Insertion/Extraction – Surface and Subsurface | | | ✓ | | | | | | | ✓ | | | ✓ | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | ✓ | |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | | | |
|--|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|------------------------------|-----------|------------------------------|-------------------------|---|----------------------------|----------------------------------|---|--------------------------------|----------------------------|-------------------------------------|---|--|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance and Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | |
| Personnel Insertion/Extraction Training – Swimmer/Diver | | | ✓ | | | | | | | ✓ | | | | | | | | | ✓ | | | | | | | ✓ | | | | | | | | |
| Underwater Construction Team Training | | | ✓ | | | | | | | ✓ | | | ✓ | ✓ | | | | | ✓ | | | | | | | | ✓ | | | | ✓ | | | |
| MINE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Airborne Mine Countermeasure – Mine Detection | ✓ | | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | | | ✓ | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | |
| Airborne Mine Countermeasure – Towed Mine Neutralization | | | ✓ | | | | | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | |
| Civilian Port Defense – Homeland Security Anti-Terrorism/Force Protection Exercise | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Coordinated Unit Level Helicopter Airborne Mine Countermeasure Exercises | ✓ | | | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| Mine Countermeasures – Mine Neutralization – Remotely Operated Vehicles | ✓ | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Mine Countermeasure Exercise – Ship Sonar | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Mine Laying | | | | ✓ | | | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | | | | | | | | | | | | | | |
| Mine Neutralization – Explosive Ordnance Disposal | | | ✓ | | | ✓ | | | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | |
| Underwater Mine Countermeasures Raise, Tonn, Beach, and Exploitation Operations | | | ✓ | | | | | | | ✓ | | | ✓ | | | | | | ✓ | | | | | | | ✓ | ✓ | | ✓ | | | | ✓ | |
| SURFACE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bombing Exercise (Air-to-Surface) | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | | |
|---|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|--------|-----------|------------------------------|-------------------------|---|----------------------------|----------------------------------|---|--------------------------------|----------------------------|-------------------------------------|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance and Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ |
| Fast Attack Craft & Fast Inshore Attack Craft | | | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | | |
| Gunnery Exercise Air-to-Surface – Medium-Caliber | | | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | | ✓ | | | | | | | | | | | |
| Gunnery Exercise Air-to-Surface – Small-Caliber | | | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | |
| Gunnery Exercise Surface-to-Surface Boat – Medium-Caliber | | | ✓ | | ✓ | | ✓ | | | | ✓ | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Gunnery Exercise Surface-to-Surface Boat – Small-Caliber | | | ✓ | | ✓ | | | | | | ✓ | | ✓ | | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | |
| Gunnery Exercise Surface-to-Surface Ship – Large Caliber | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | |
| Gunnery Exercise Surface-to-Surface Ship – Medium | | | ✓ | | ✓ | | ✓ | ✓ | | | ✓ | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Gunnery Exercise Surface-to-Surface Ship – Small-Caliber | | | ✓ | | ✓ | | | ✓ | | | ✓ | | ✓ | | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| Integrated Live Fire | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | |
| Laser Targeting - Aircraft | | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | | | | | | | | | | | | | |
| Laser Targeting – Ship | | | ✓ | | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | | | | | | | | | | | | | |
| Maritime Security Operations | | | ✓ | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | | | ✓ | | | | | | | ✓ | ✓ | | | ✓ | ✓ | |
| Missile Exercise Air-to-Surface | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | |
| Missile Exercise Air-to-Surface Rocket | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | |
| Missile Exercise Surface-to-Surface | | | ✓ | | ✓ | | ✓ | ✓ | | | ✓ | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | | | |
|---|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|------------------------------|-----------|------------------------------|-------------------------|---|----------------------------|----------------------------------|---|--------------------------------|----------------------------|-------------------------------------|---|---|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance and Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | |
| Sinking Exercise | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| OTHER TRAINING EXERCISES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Elevated Causeway System | | ✓ | ✓ | | | | | | | ✓ | | | | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Precision Anchoring | | | ✓ | | | | ✓ | | | ✓ | | | ✓ | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | |
| Search and Rescue | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | |
| Submarine Navigation | ✓ | | ✓ | | | | | | | ✓ | | | | | | | | | | | | | | | | ✓ | | | | | | ✓ | | |
| Submarine Sonar Maintenance and System Checks | ✓ | | ✓ | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | ✓ | | | | |
| Submarine Under Ice Certification | ✓ | | ✓ | | | | | | | ✓ | | | | | | | | | | | | | | | | | | | | | | | | |
| Surface Ship Object Detection | ✓ | | ✓ | | | | ✓ | | | ✓ | | | ✓ | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Surface Ship Sonar Maintenance and Systems Checks | ✓ | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | | | | | | | ✓ | | | | |
| Waterborne Training | | | ✓ | | | | | | | ✓ | | | | | | | | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | | | | |

¹ Testing Activities Only

² Other Materials include marine markers and flares, chaff, towed and stationary targets, and miscellaneous components of other expended objects

³ Area of interest is U.S. Territorial Waters (seaward of the mean high water line to 12 nautical miles and any inshore waters)

⁴ Vibration and shock waves from underwater explosions.

⁵ Physical disturbance and strike stressors resulting from in-water devices, military expended materials, seafloor devices, pile driving, and vibration from sonic booms in U.S. territorial waters (seaward of the mean high water line to 12 nautical miles).

⁶ Availability of access on the ocean and in the air

⁷ Loud Noises from weapons firing, in-air explosions, and sonic booms

⁸ Active sonar, underwater explosions, air guns, vessel movements, mine warfare training devices, and unmanned underwater systems

⁹ Sources or electromagnetic energy and lasers

¹⁰ Interaction of Navy or Marine Corps aircraft, vessels, and equipment with general public

Note: A check indicates events that take place for Alternative 1 and Alternative 2.

Table B-2: Stressors by Testing Activity

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | | Physical Resources | | | | Human Resources ³ | | | | | | | | | | | | | |
|---|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|------------------------|----------------|---------------------------|------------------------------------|---|--|----------------------------------|------------------------------|--------|-----------------------------|------------------------------|-------------------------|---|----------------------------------|---------------------------------|---|--------------------------------|----------------------------|-------------------------------------|---|---|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance & Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | |
| AIR WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air Combat Maneuver Test | | | | ✓ | | | ✓ | | | | ✓ | | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Air Platform-Vehicle Test | | | | ✓ | | | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Air Platform Weapons Integration Test | | | | ✓ | | | ✓ | | | | ✓ | ✓ | | | | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Air to Air Weapons System Test | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Air to Air Gunnery Test – Medium-Caliber | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | | | | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Air to Air Missile Test | | | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Intelligence, Surveillance, and Reconnaissance Test | | | | ✓ | | | ✓ | | | | ✓ | | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Anti-Submarine Warfare Torpedo Test | ✓ | | | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Anti-Submarine Tracking Test – Helicopter | ✓ | | | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Anti-Submarine Warfare Tracking Test – Maritime Patrol Aircraft | ✓ | | | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Kilo Dip | ✓ | | | ✓ | | | ✓ | | | | ✓ | | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Sonobuoy Lot Acceptance Test | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | |
|--|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|------------------------|----------------|---------------------------|------------------------------------|---|--|----------------------------------|------------------------------|--------|-----------------------------|------------------------------|-------------------------|---|----------------------------|---------------------------------|---|--------------------------------|----------------------------|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | Public Health & Safety Stressors | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance & Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ |
| ELECTRONIC WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chaff Test | | | ✓ | | | | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Radar and Other System Testing | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | | | ✓ | ✓ |
| Electronic System Evaluation | | | ✓ | | | | ✓ | | | | ✓ | | | | | | | | ✓ | | | | | | | | ✓ | ✓ | | ✓ | ✓ |
| Flare Test | | | ✓ | | | | ✓ | | | | ✓ | ✓ | | | | | | | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| ANTI-SUBMARINE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Anti-Submarine Warfare Mission Package Testing | ✓ | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| At-Sea Sonar Testing | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | | | | | | | | ✓ | ✓ | | ✓ | ✓ |
| Countermeasure Testing | ✓ | | ✓ | | | | ✓ | | | ✓ | | ✓ | | ✓ | | ✓ | | ✓ | ✓ | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Pierside Sonar Testing | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| Submarine Sonar Testing/Maintenance | ✓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | |
| Surface Ship Sonar Testing/Maintenance | ✓ | | ✓ | | | | ✓ | | | | | | | | | | | | | | | | | | ✓ | | | ✓ | ✓ | | ✓ |
| Torpedo (Explosive) Testing | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Torpedo (Non-Explosive Testing) | ✓ | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| MINE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Airborne Dipping Sonar Minehunting Test | ✓ | | ✓ | | | | ✓ | | | | ✓ | | | | | | | | ✓ | | | | | | ✓ | | ✓ | | ✓ | ✓ | ✓ |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | | Physical Resources | | | | | | Human Resources ³ | | | | | | | | |
|---|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|--------|------------------------------|------------------------------|-----------------------------|---|----------------------------|---------------------------------|---|--------------------------------|----------------------------|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance & Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ |
| Airborne Laser Based Mine Detection System Test | | | | ✓ | | | ✓ | | ✓ | | ✓ | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Airborne Mine Neutralization System Test | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Airborne Sonobuoy Minehunting Test | ✓ | | | ✓ | | | ✓ | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mine Laying Test | | | | ✓ | | | ✓ | | | | ✓ | ✓ | | | | | | | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Mine Countermeasure and Neutralization Testing | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mine Countermeasure Mission Package Testing | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Mine Detection and Classification Testing | ✓ | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| SURFACE WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air-to-Surface Bombing Test | | | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Air-to-Surface Gunnery Test | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Air-to-Surface Missile Test | | | | ✓ | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| High Energy Laser Weapons Test | | | ✓ | ✓ | | | ✓ | | ✓ | | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Laser Targeting Test | | | | ✓ | | | ✓ | | ✓ | | ✓ | ✓ | | | | | | | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Rocket Test | | | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Gun Testing – Large-Caliber | | | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | | | | | | | |
|--|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|------------------------|----------------|---------------------------|------------------------------------|---|--|----------------------------------|------------------------------|--------|-----------------------------|------------------------------|-------------------------|---|----------------------------|---------------------------------|---|--------------------------------|----------------------------|-------------------------------------|---|---|---|---|---|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | Public Health & Safety Stressors | | | | | | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance & Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | | | | |
| Gun Testing – Medium-Caliber | | | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Gun Testing – Small-Caliber | | | ✓ | | ✓ | | ✓ | | | ✓ | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Kinetic Energy Weapon Testing | | | ✓ | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Missile and Rocket Testing | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| UNMANNED SYSTEMS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Underwater Search, Deployment, and Recovery | | | | | | | | | | ✓ | | | ✓ | | | | | | ✓ | | | | | | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | | | | |
| Unmanned Aerial System Testing | | | ✓ | | | | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | | | | | ✓ | ✓ | | | |
| Unmanned Surface Vehicle System Testing | ✓ | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ | | | | | | ✓ | ✓ | | |
| Unmanned Underwater Vehicle Testing | ✓ | | ✓ | | | ✓ | ✓ | | | ✓ | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | | ✓ | ✓ | | |
| VESSEL EVALUATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Aircraft Carrier Sea Trials – Propulsion Testing | | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | | | | ✓ | | | | | | | | ✓ | ✓ | |
| Air Defense Testing | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | |
| Hydrodynamic and Maneuverability Testing | | | ✓ | | | | | | | ✓ | | | | | | | | | | | | | | | | ✓ | | ✓ | | | | | | | | ✓ | ✓ |
| In-Port Maintenance Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| Large Ship Shock Trial | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | |
| Propulsion Testing | | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | | | | ✓ | | ✓ | | | | | | | ✓ | ✓ |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | | Physical Resources | | | | | | Human Resources ³ | | | | | | | | | | | | | |
|--|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|--------|------------------------------|------------------------------|-----------------------------|---|----------------------------|---------------------------------|---|--------------------------------|----------------------------|-------------------------------------|---|---|---|--|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | | | | | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance & Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | | | |
| Small Ship Shock Trial | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | | |
| Submarine Sea Trials - Propulsion Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | ✓ | | | | | | ✓ | |
| Submarine Sea Trials - Weapons Testing | ✓ | | ✓ | | | | ✓ | | | ✓ | | ✓ | | ✓ | | | | | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | ✓ | | |
| Surface Warfare Testing | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Total Ship Survivability Trails | | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | | ✓ | | | ✓ | | | | | | ✓ | | |
| Undersea Warfare Testing | ✓ | | ✓ | ✓ | | | ✓ | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | | | | | ✓ | | |
| Vessel Signature Evaluation | ✓ | | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | ✓ | | | ✓ | | | | | | | ✓ | |
| OTHER TESTING ACTIVITIES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acoustic and Oceanographic Research (NAVAIR) | | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | | | | | | | | ✓ | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | | |
| Acoustic and Oceanographic Research (ONR) | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Air Platform Shipboard Integrate Test | | | ✓ | | | | | | | | ✓ | | | | | | | | ✓ | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | | |
| Signature Analysis Operations | ✓ | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | | | | | ✓ | | | | | | | ✓ | |
| Maritime Security | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | |
| Shipboard Electronic Systems Evaluation | | | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | |
| Undersea Range System Test | ✓ | | ✓ | | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | |

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

| Atlantic Fleet Training Activity | Biological Resources | | | | | | | | | | | | | | | Physical Resources | | | | | Human Resources ³ | | | | | | | | | | |
|--|---------------------------|--------------|--------------|----------------|---------------|---------------------|---------------------|--------------------------------|----------------------------------|--------------------|---|---------------------------------|----------------------------|-----------------|------------------------|---------------------------|------------------------------------|---|--|-------------------------|----------------------------------|--------|-----------|------------------------------|-----------------------------|---|----------------------------|---------------------------------|---|--------------------------------|----------------------------|
| | Acoustic Stressors | | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | | Entanglement Stressors | | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | | Cultural Resource Stressors | Socioeconomic Stressors | | | Public Health & Safety Stressors | | |
| | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance & Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ |
| Acoustic Component Testing | ✓ | | ✓ | | | | | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | | ✓ |
| Chemical and Biological Simulant Testing | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | | | | | | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | | | | ✓ |
| Insertion/Extraction | ✓ | | | | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | |
| Line Charge Testing | | | ✓ | | | ✓ | | | | ✓ | | ✓ | | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | | ✓ |
| Non-Acoustic Component Testing | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | | | | | | | ✓ | | | | | | ✓ | | | ✓ | | | ✓ |
| Payload Deployer Testing | | | ✓ | | | | ✓ | | | ✓ | | | | | | | | ✓ | | | | | | | | | | | | | |
| Semi-Stationary Equipment Testing | ✓ | | ✓ | | | ✓ | | | | ✓ | | ✓ | | | | | | | ✓ | | | | | | ✓ | | | ✓ | ✓ | | ✓ |
| Submarine Sea Trials - Propulsion Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | ✓ |
| Towed Equipment Testing | ✓ | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | | | | | ✓ | ✓ | | ✓ |
| Emerging Mine Countermeasure Technology Research | ✓ | | ✓ | | | | ✓ | | | ✓ | | | | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Large Displacement Unmanned Underwater Vehicle Testing | | | ✓ | | | | | | | ✓ | | | | | | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | | | ✓ |

¹ Testing Activities Only

² Other Materials include marine markers and flares, chaff, towed and stationary targets, and miscellaneous components of other expended objects

³ Area of interest is U.S. Territorial Waters (seaward of the mean high water line to 12 nautical miles and any inshore waters)

⁴ Vibration and shock waves from underwater explosions.

⁵ Physical disturbance and strike stressors resulting from in-water devices, military expended materials, seafloor devices, pile driving, and vibration from sonic booms in U.S. territorial waters (seaward of the mean high water line to 12 nautical miles).

⁶ Availability of access on the ocean and in the air

⁷ Loud Noises from weapons firing, in-air explosions, and sonic booms

⁸ Active sonar, underwater explosions, air guns, vessel movements, mine warfare training devices, and unmanned underwater systems

⁹ Sources or electromagnetic energy and lasers

¹⁰ Interaction of Navy or Marine Corps aircraft, vessels, and equipment with general public

Note: A check indicates events that take place for Alternative 1 and Alternative 2.

Table B-3: Stressors by Resource

| Atlantic Fleet Training Activity | | Biological Resources | | | | | | | | | | | | | | Physical Resources | | | | Human Resources ³ | | | | | | | | | | | | | | | | |
|-------------------------------------|-----------------------------|---------------------------|--------------|--------------|----------------|---------------------|-------------------|---------------------|--------------------------------|----------------------------------|---|---------------------------------|---------------------------------|----------------------------|-----------------|---------------------|---------------------------|------------------------------------|---|--|-------------------------|-----------------------------|-------------------------|-----------|----------------------------------|-------------------------|---|----------------------------|---------------------------------|---|--------------------------------|----------------------------|-------------------------------------|--|--|--|
| | | Acoustic Stressors | | | | Explosive Stressors | | Energy Stressors | | | Physical Disturbance and Strike Stressors | | | Entanglement Stressors | | Ingestion Stressors | | Air Quality Stressors | Sediment Water Quality Stressors | | | Cultural Resource Stressors | Socioeconomic Stressors | | Public Health & Safety Stressors | | | | | | | | | | | |
| | | Sonar & Other Transducers | Pile Driving | Vessel Noise | Aircraft Noise | Weapons Noise | Explosions in Air | Explosions in Water | In-Air Electromagnetic Devices | In-Water Electromagnetic Devices | High-Energy Lasers | Vessel & In-water Device Strike | Aircraft & Aerial Target Strike | Military Expended Material | Seafloor Device | Wires & Cables | Decelerators / Parachutes | Biodegradable Polymer ¹ | Military Expended Materials – Munitions | Military Expended Materials – Other than Munitions | Criteria Air Pollutants | Explosives | Metals | Chemicals | Other Materials ² | Explosives ⁴ | Physical Disturbance & Strikes ⁵ | Accessibility ⁶ | Airborne Acoustics ⁷ | Physical Disturbance & Strikes ⁵ | Underwater Energy ⁸ | In-Air Energy ⁹ | Physical Interactions ¹⁰ | | | |
| Physical | Air Quality | | | | | | | | | | | | | | | | | | ✓ | | | | | | | | | | | | | | | | | |
| | Sediments and Water Quality | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| Biological | Vegetation | | | | | ✓ | | | | ✓ | | ✓ | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| | Invertebrates | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| | Habitats | | | | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | | | | | | | | | | |
| | Fishes | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| | Marine Mammals | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| | Reptiles | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| | Birds and Bats | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | | | | | | | | | | | | | | | | |
| Human | Cultural Resources | | | | ✓ | | ✓ | | | | | ✓ | ✓ | | | | | | | | | | | | ✓ | ✓ | | | | | | | | | | |
| | Socioeconomic | ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | | |
| | Public Health and Safety | ✓ | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | | | |

¹ Testing Activities Only

² Other Materials include marine markers and flares, chaff, towed and stationary targets, and miscellaneous components of other expended objects

³ Area of interest is U.S. Territorial Waters (seaward of the mean high water line to 12 nautical miles and any inshore waters)

⁴ Vibration and shock waves from underwater explosions.

⁵ Physical disturbance and strike stressors resulting from in-water devices, military expended materials, seafloor devices, pile driving, and vibration from sonic booms in U.S. territorial waters (seaward of the mean high water line to 12 nautical miles).

⁶ Availability of access on the ocean and in the air

⁷ Loud Noises from weapons firing, in-air explosions, and sonic booms

⁸ Active sonar, underwater explosions, air guns, vessel movements, mine warfare training devices, and unmanned underwater systems

⁹ Sources or electromagnetic energy and lasers

¹⁰ Interaction of Navy or Marine Corps aircraft, vessels, and equipment with general public

Note: A check indicates the stressors can impact the resource.

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