
Appendix F: Training and Testing Activities Matrices

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APPENDIX F TRAINING AND TESTING ACTIVITIES MATRICES

F.1 STRESSOR BY TRAINING ACTIVITY

Table F-1: Stressors by Training Activity

Mariana Islands Training Activity	Biological Resources														Physical Resources						Human Resources									
	Acoustic Stressors						Energy Stressors		Physical Stressors				Entanglement Stressors	Ingestion Stressors	Air Quality Stressors		Sediment and Water Quality Stressors				Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³		
	Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Criteria Air Pollutants	Hazardous Air Pollutants	Explosives and explosive byproducts	Metals	Chemicals other than explosives									Other Materials	
ANTI-AIR WARFARE (AAW)																														
Air Combat Maneuver (ACM)					✓			✓								✓	✓		✓		✓									
Air Defense Exercise (ADEX) **					✓	✓		✓	✓							✓	✓													
Air Intercept Control (AIC)					✓			✓								✓	✓													
Gunnery Exercise (Air-to-Air) Medium-Caliber				✓	✓			✓		✓					✓	✓		✓					✓	✓	✓	✓				✓
Missile Exercise (Air-to-Air)				✓	✓			✓		✓			✓		✓	✓	✓	✓	✓				✓	✓	✓	✓				✓
Gunnery Exercise (Surface-to-Air) Large-Caliber**				✓	✓	✓		✓	✓	✓					✓	✓	✓	✓	✓				✓	✓	✓	✓				✓
Gunnery Exercise (Surface-to-Air) Medium-Caliber**				✓	✓	✓		✓	✓	✓					✓	✓	✓	✓	✓				✓	✓	✓	✓				✓
Missile Exercise (Surface-to-Air)				✓		✓		✓	✓	✓					✓	✓	✓	✓	✓	✓			✓	✓	✓	✓				✓
STRIKE WARFARE (STW)																														
Bombing Exercise (Air-to-Ground)					✓			✓		✓						✓	✓		✓			✓	✓							
Gunnery Exercise (Air-to-Ground)					✓			✓		✓						✓	✓		✓			✓	✓							
Missile Exercise MISSILEX					✓	✓		✓		✓					✓	✓		✓				✓	✓							
Combat Search and Rescue					✓			✓		✓													✓	✓						
AMPHIBIOUS WARFARE (AMW)																														
Naval Surface Fire Support Exercise – Land-Based Target					✓	✓			✓							✓	✓						✓	✓						✓
Amphibious Rehearsal, No Landing – Marine Air Ground Task Force**						✓		✓	✓							✓	✓						✓	✓		✓				✓
Amphibious Assault						✓		✓	✓							✓	✓						✓	✓		✓				✓
Amphibious Raid						✓			✓							✓	✓						✓	✓		✓				✓
Urban Warfare Training					✓											✓		✓	✓	✓				✓	✓					

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

Mariana Islands Training Activity	Biological Resources														Physical Resources						Human Resources													
	Acoustic Stressors					Energy Stressors		Physical Stressors				Entanglement Stressors	Ingestion Stressors	Air Quality Stressors		Sediment and Water Quality Stressors				Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³							
	Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Criteria Air Pollutants	Hazardous Air Pollutants	Explosives and explosive byproducts	Metals									Chemicals other than explosives	Other Materials					
AMPHIBIOUS WARFARE (AMW) (continued)																																		
Noncombatant Evacuation Operation					✓	✓					✓										✓		✓	✓										
Humanitarian Assistance/Disaster Relief Operations					✓	✓			✓	✓							✓	✓									✓	✓		✓				✓
Unmanned Aerial Vehicle – Intelligence, Surveillance, and Reconnaissance**					✓	✓										✓	✓	✓																
ANTI-SURFACE WARFARE (ASUW)																																		
Gunnery Exercise (Air-to-Surface) – Small-Caliber				✓	✓	✓			✓		✓					✓	✓		✓								✓	✓	✓	✓				✓
Gunnery Exercise (Air-to-Surface) – Medium-Caliber		✓		✓	✓	✓			✓	✓	✓					✓	✓	✓	✓						✓	✓	✓	✓	✓	✓	✓			✓
Missile Exercise (Air-to-Surface) Rocket**		✓		✓	✓	✓			✓	✓	✓					✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Missile Exercise (Air-to-Surface) MISSILEX		✓		✓	✓	✓		✓	✓	✓						✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Laser Targeting (at sea)						✓		✓	✓							✓	✓										✓		✓		✓	✓	✓	✓
Bombing Exercise (Air-to-Surface)		✓		✓	✓	✓			✓		✓					✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Torpedo Exercise (Submarine-to-Surface)**	✓					✓				✓	✓		✓													✓	✓	✓	✓	✓	✓	✓	✓	✓
Missile Exercise (Surface-to-Surface)**		✓				✓				✓	✓					✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Gunnery Exercise (Surface-to-Surface) Ship – Large-Caliber		✓				✓				✓	✓					✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Gunnery Exercise (Surface-to-Surface) Ship – Small- and Medium-Caliber		✓				✓				✓	✓					✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Sinking Exercise (SINKEX)		✓		✓	✓	✓			✓	✓	✓		✓			✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Gunnery Exercise (Surface-to-Surface) Boat – Small- and Medium-Caliber**		✓		✓		✓				✓	✓					✓	✓	✓	✓							✓	✓	✓	✓	✓	✓	✓	✓	✓
Maritime Security Operations (MSO)		✓			✓	✓			✓	✓	✓					✓	✓	✓									✓	✓	✓					

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

Mariana Islands Training Activity	Biological Resources													Physical Resources						Human Resources												
	Acoustic Stressors						Energy Stressors		Physical Stressors				Entanglement Stressors		Ingestion Stressors	Air Quality Stressors		Sediment and Water Quality Stressors				Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³			
	Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Criteria Air Pollutants	Hazardous Air Pollutants	Explosives and explosive byproducts	Metals	Chemicals other than explosives	Other Materials											
ANTI-SUBMARINE WARFARE (ASW)																																
Tracking Exercise – Helicopter	✓				✓	✓			✓	✓	✓			✓	✓	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Torpedo Exercise – Helicopter	✓				✓	✓			✓	✓	✓			✓	✓	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Tracking Exercise – Maritime Patrol Advanced Extended Echo Ranging Sonobuoys	✓				✓	✓			✓	✓	✓			✓	✓	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Tracking Exercise – Maritime Patrol Aircraft	✓				✓	✓			✓	✓	✓			✓	✓	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Torpedo Exercise – Maritime Patrol Aircraft	✓			✓	✓	✓			✓	✓	✓			✓	✓	✓	✓		✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	
Tracking Exercise – Surface	✓					✓				✓	✓				✓	✓								✓	✓		✓	✓	✓	✓	✓	
Torpedo Exercise – Surface	✓					✓				✓	✓				✓	✓								✓	✓		✓	✓	✓	✓	✓	
Tracking Exercise – Submarine	✓					✓			✓	✓	✓		✓						✓					✓			✓	✓	✓	✓	✓	
Torpedo Exercise – Submarine	✓					✓			✓	✓	✓		✓						✓					✓			✓	✓	✓	✓	✓	
MAJOR TRAINING EVENTS																																
Joint Expeditionary Exercise	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Joint Multi-Strike Group Exercise	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Fleet Strike Group Exercise*	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Integrated Anti-Submarine Warfare Exercise*	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Ship Squadron Anti-Submarine Warfare Exercise*	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Marine Air Ground Task Force Exercise (Amphibious) – Battalion	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Special Purpose Marine Air Ground Task Force Exercise	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Urban Warfare Exercise					✓	✓											✓	✓	✓	✓				✓	✓							

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

Mariana Islands Training Activity	Biological Resources														Physical Resources						Human Resources												
	Acoustic Stressors						Energy Stressors		Physical Stressors				Entanglement Stressors		Ingestion Stressors	Air Quality Stressors		Sediment and Water Quality Stressors				Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³				
	Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Criteria Air Pollutants	Hazardous Air Pollutants	Explosives and explosive byproducts	Metals	Chemicals other than explosives	Other Materials												
ELECTRONIC WARFARE (EW)																																	
Electronic Warfare Operations (EW Ops)						✓	✓		✓	✓						✓	✓										✓	✓	✓			✓	
Counter Targeting Flare Exercise – Aircraft					✓				✓						✓	✓		✓		✓								✓	✓	✓			✓
Counter Targeting Chaff Exercise – Ship						✓				✓					✓	✓	✓				✓											✓	
Counter Targeting Chaff Exercise – Aircraft					✓				✓						✓	✓	✓				✓											✓	
MINE WARFARE (MIW)																																	
Civilian Port Defense**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Mine Laying					✓	✓			✓		✓					✓	✓		✓									✓	✓	✓			✓
Mine Neutralization – Explosive Ordnance Disposal (EOD)		✓				✓			✓	✓	✓	✓			✓	✓	✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Limpet Mine Neutralization System/Shock Wave Generator**		✓													✓				✓													✓	
Submarine Mine Exercise**	✓									✓	✓	✓																		✓		✓	
Airborne Mine Countermeasure – Mine Detection**	✓				✓			✓		✓		✓				✓	✓											✓	✓	✓			✓
Mine Countermeasure Exercise (MCM) – Towed Sonar**	✓					✓			✓			✓				✓	✓											✓			✓		✓
Mine Countermeasure Exercise – Surface (SMCMEX) Sonar**	✓					✓				✓		✓				✓	✓											✓			✓		✓
Mine Neutralization – Remotely Operated Vehicle Sonar**	✓	✓				✓			✓	✓	✓	✓	✓		✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mine Countermeasure (MCM) – Towed Mine Detection**	✓					✓			✓	✓		✓				✓	✓											✓	✓	✓	✓	✓	✓

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

Mariana Islands Training Activity	Biological Resources													Physical Resources						Human Resources														
	Acoustic Stressors						Energy Stressors		Physical Stressors				Entanglement Stressors		Ingestion Stressors	Air Quality Stressors		Sediment and Water Quality Stressors				Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³					
	Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Criteria Air Pollutants	Hazardous Air Pollutants	Explosives and explosive byproducts	Metals	Chemicals other than explosives	Other Materials													
NAVAL SPECIAL WARFARE (NSW)																																		
Personnel Insertion/Extraction (Non-submarine)									✓																									
Parachute Insertion								✓					✓		✓	✓	✓					✓			✓	✓								
Embassy Reinforcement																✓		✓	✓	✓		✓		✓	✓									
Direct Action (Combat Close Quarters)																✓		✓	✓	✓		✓	✓	✓	✓									
Direct Action (Breaching)																✓		✓	✓	✓		✓	✓	✓	✓	✓								
Direct Action (Tactical Air Control Party)							✓																											
Underwater Demolition Qualification/Certification		✓								✓	✓				✓	✓	✓					✓	✓	✓	✓	✓	✓					✓		
Intelligence, Surveillance, Reconnaissance (ISR)																																		
Urban Warfare Training					✓											✓		✓	✓	✓				✓	✓									
Underwater Survey						✓																												

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

Mariana Islands Training Activity	Biological Resources														Physical Resources						Human Resources												
	Acoustic Stressors						Energy Stressors		Physical Stressors				Entanglement Stressors	Ingestion Stressors	Air Quality Stressors		Sediment and Water Quality Stressors				Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³					
	Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Criteria Air Pollutants	Hazardous Air Pollutants	Explosives and explosive byproducts	Metals	Chemicals other than explosives									Other Materials				
OTHER TRAINING EXERCISES																																	
Surface Ship Sonar Maintenance**	✓					✓						✓																		✓			
Submarine Sonar Maintenance**	✓																													✓			
Small Boat Attack**						✓									✓	✓				✓													
Submarine Navigation**	✓																												✓	✓		✓	
Search and Rescue At Sea**					✓	✓		✓		✓													✓	✓									
Precision Anchoring**						✓					✓					✓	✓			✓	✓			✓	✓							✓	
Maneuver (Convoy, Land Navigation)																✓	✓	✓					✓									✓	
Water Purification**																					✓												
Field Training Exercise																	✓		✓	✓	✓				✓	✓							
Force Protection																	✓	✓	✓	✓					✓	✓							
Anti-Terrorism																	✓	✓	✓	✓					✓	✓							
Seize Airfield						✓											✓	✓	✓	✓					✓	✓							
Airfield Expeditionary																	✓	✓	✓	✓					✓	✓							
Unmanned Aerial Vehicle Operation**					✓	✓										✓	✓								✓								
Land Demolitions (Improvised Explosive Device Discovery/Disposal)																	✓																
Land Demolitions (Unexploded Ordnance) Discovery/Disposal																	✓	✓	✓	✓	✓				✓								

¹ Cultural resources stressor

² Socioeconomics stressor

³ Public health and safety stressor

* Alternative 2 only

** Alternative 1 and Alternative 2 only

Note: A check indicates events that take place for all alternatives.

F.2 STRESSOR BY TESTING ACTIVITY

Table F-2: Stressors by Testing Activity

Mariana Islands Testing Activity	Biological Resources												Physical Resources							Human Resources										
	Acoustic Stressors						Energy Stressors		Physical Stressors				Entanglement Stressors	Ingestion Stressors	Air Quality Stressors		Sediment and Water Quality Stressors					Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³	
	Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Criteria Air Pollutants	Hazardous Air Pollutants	Explosives and explosive byproducts	Metals	Chemicals other than explosives	Other Materials	Underwater Acoustics ¹	Physical Disturbance ¹	Accessibility ²	Airborne Acoustics ²	Physical Disturbance and Strike ²	Underwater Energy ³	In-Air Energy ³	Physical Interactions ³	
NAVAL AIR SYSTEMS COMMAND																														
ANTI-SURFACE WARFARE (ASUW)																														
Air-to-Surface Missile Test**		✓		✓	✓			✓		✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ANTI-SUBMARINE WARFARE (ASW)																														
Anti-Submarine Warfare Tracking Test – Maritime Patrol Aircraft (Sonobuoys)**	✓	✓			✓			✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Anti-Submarine Warfare Torpedo Test**	✓			✓	✓			✓	✓	✓			✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Broad Area Maritime Surveillance (BAMS) Testing – MQ-4C Triton**					✓										✓	✓								✓						
ELECTRONIC WARFARE (EW)																														
Flare Test**					✓					✓				✓	✓	✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
NAVAL SEA SYSTEMS COMMAND																														
LIFE CYCLE ACTIVITIES																														
Ship Signature Testing**	✓					✓			✓						✓	✓									✓	✓		✓	✓	
ANTI-SURFACE WARFARE/ANTI-SUBMARINE WARFARE TESTING																														
Kinetic Energy Weapon Testing**				✓		✓			✓	✓					✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Torpedo Testing**	✓	✓				✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Countermeasure Testing **	✓				✓	✓		✓	✓	✓			✓	✓	✓	✓					✓	✓			✓	✓	✓	✓	✓	✓
At-sea Sonar Testing**	✓					✓			✓						✓	✓									✓	✓		✓	✓	
SHIPBOARD PROTECTION SYSTEMS AND SWIMMER DEFENSE TESTING																														
Pierside Integrated Swimmer Defense**	✓		✓						✓		✓										✓	✓		✓	✓	✓	✓	✓	✓	✓
NEW SHIP CONSTRUCTION																														
ASW Mission Package Testing**	✓				✓	✓		✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MCM Mission Package Testing**	✓	✓			✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ASUW Mission Package Testing**		✓		✓	✓	✓		✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
OFFICE OF NAVAL RESEARCH																														
North Pacific Acoustic Lab Philippine Sea 2018–19 Experiment (Deep Water)		✓							✓		✓																			

¹ Cultural resources stressor, ² Socioeconomics stressor, ³ Public health and safety stressor, ** Alternative 1 and Alternative 2 only, Note: A check indicates events that take place for all alternatives.

F.3 STRESSORS BY RESOURCE

Table F-3: Stressors by Resource

Stressors vs. Resources		Biological Resources															Physical Resources					Human Resources													
		Acoustic Stressors						Energy Stressors		Physical Stressors					Entanglement Stressors	Ingestion Stressors	Invasive Species	Air Quality Stressors		Sediment and Water Quality Stressors															
		Sonar and other active acoustic sources	Explosives	Swimmer Defense airguns	Weapons firing, launch, and impact noise	Aircraft noise	Vessel noise	Electromagnetic Devices	Lasers	Aircraft and Aerial Targets	Vessels and in-water devices	Military Expended Materials	Seafloor Devices	Ground Disturbance	Wildfires	Fiberoptic cables and guidance wires	Parachutes	Military Expended Materials	Habitat, Prey availability, Invasive Species Introductions at FDM	Criteria Air Pollutants	Hazardous Air Pollutants						Explosives and explosive byproducts	Metals	Chemicals other than explosives	Other Materials	Underwater Acoustics	Physical Disturbance	Accessibility	Airborne Acoustics	Physical Disturbance and Strike
Physical	Sediments and Water Quality																				✓	✓	✓	✓											
	Air Quality																		✓	✓															
Biological	Marine Habitats		✓							✓	✓	✓																							
	Marine Mammals	✓	✓	✓	✓	✓	✓			✓	✓	✓			✓	✓	✓					✓	✓	✓											
	Sea Turtles	✓	✓	✓	✓	✓	✓			✓	✓	✓			✓	✓	✓					✓	✓	✓											
	Marine Birds	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓			✓																		
	Marine Vegetation		✓								✓	✓	✓										✓	✓	✓	✓									
	Marine Invertebrates	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓			✓	✓	✓					✓	✓	✓	✓									
	Fish	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓			✓	✓	✓					✓	✓	✓	✓									
Terrestrial		✓		✓	✓				✓				✓	✓																					
Human	Cultural Resources		✓							✓	✓	✓	✓													✓	✓								
	Socioeconomic Resources				✓	✓	✓			✓	✓	✓														✓	✓	✓	✓	✓					
	Public Health and Safety	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓											✓	✓	✓	✓						✓	✓		