



U. S. Navy Approach to Environmental Regulatory Compliance

**Jene Nissen, USFF
Ronald Filipowicz,
CNE-CNA-C6F**

28 October 2015

Outline

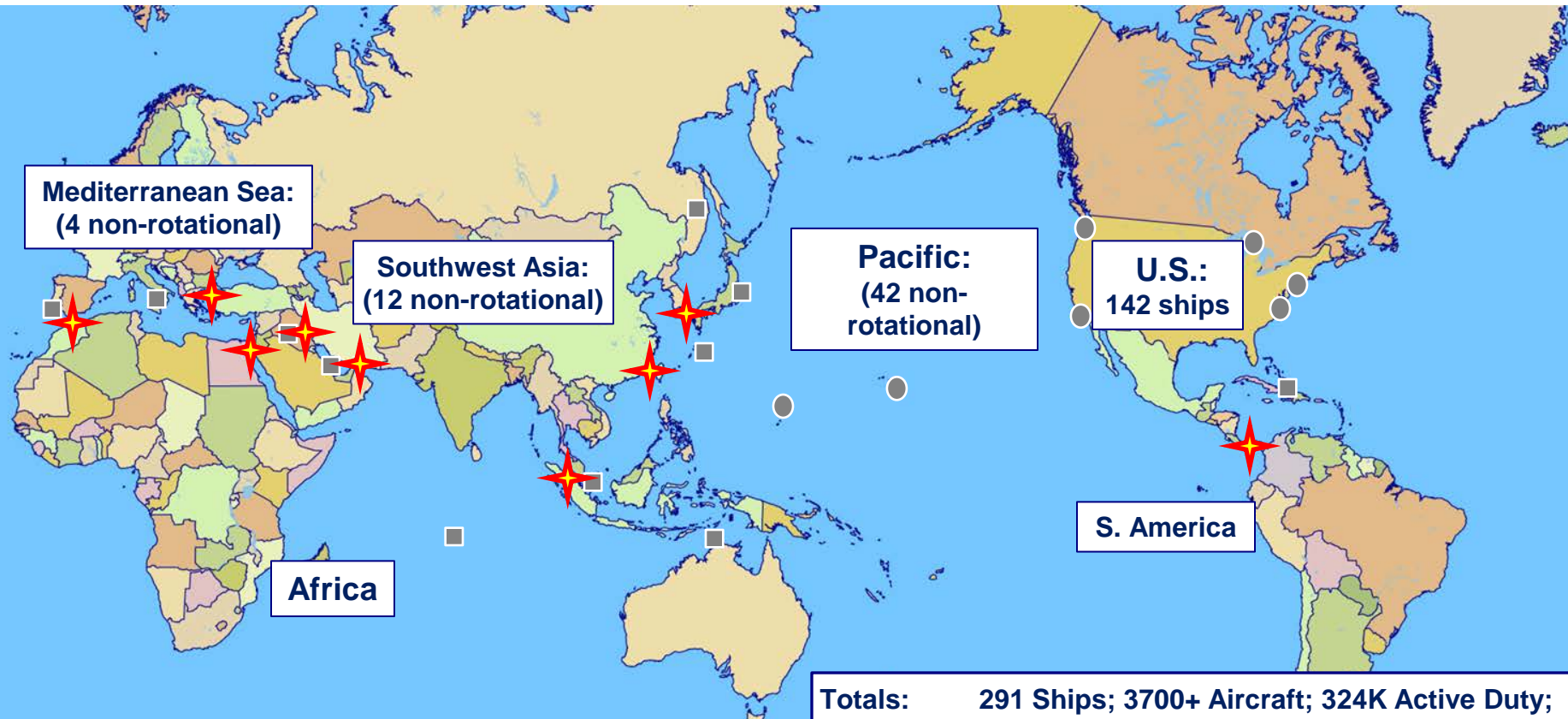


- **U.S. Navy Purpose**
- **Environmental Planning**
- **Compliance Tools**
- **Marine Mammal Mitigation**
- **Role of Science**
- **BRS: Perspective**
- **Public Resources**
- **Questions**





Today's Navy: Operate Forward



- Bases – Where our forces are permanently assigned
- Places – Where we maintain a naval presence
- Crossroads – Where the world's maritime traffic flows

Totals: 291 Ships; 3700+ Aircraft; 324K Active Duty; 110K Reserve; 201K Civil Service

Deployed: 102 Ships (35%), 50K personnel

Underway: 47 ships (16%) (local operations/training)

Updated: October 18, 2015

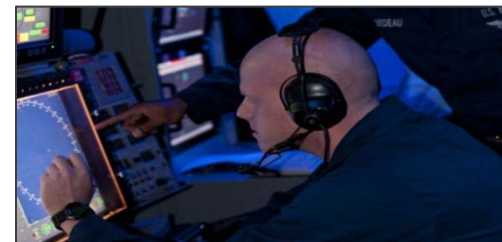
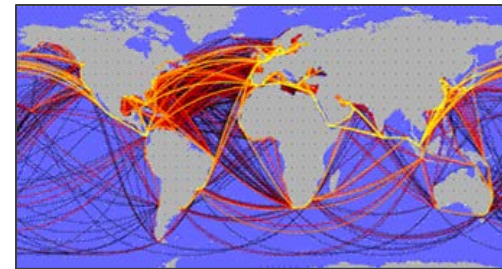
Where it Matters, When it Matters



Why Does the Navy Train?

Mission: Maintain, train and equip combat-ready military forces capable of winning wars, deterring aggression, and maintaining freedom of the seas (Title 10)

- **Why Navy must conduct live, realistic training at sea:**
 - Defeat enemy threats
 - Protect and enable global trade & US economic interests
 - Prepare Sailors for combat & maintain critical skills
 - Proliferation of quiet, modern submarines and other technologies by adversaries worldwide
 - Assess performance of new & emerging technologies
- U.S. Navy has been training and testing in these areas with similar or same sound sources for 70+ years





Environmental Permitting Process

- The U.S. Navy is required to comply with the U.S. National Environmental Policy Act (NEPA), Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA) and other environmental regulations
- Navy uses a “phased approach” to maximize resources and meet funding constraints
- Navy’s first comprehensive analyses for training were completed in 2009
 - This included the Atlantic Fleet Active Sonar Training (AFAST) and individual Operating Areas (OPAREAs) Environmental Impact Statements (EISs)
- The resulting MMPA and ESA permits had requirements for mitigation, monitoring and reporting
- This first set of permits also instituted an adaptive management process between Navy and NMFS
- Since MMPA regulations must be renewed every 5 years, Navy has recently completed updated analyses of at-sea training and testing activities for the East and West Coasts, Marianas Islands and Gulf of Alaska
- Efforts are currently underway to fund and begin analysis of the Arctic and Sixth Fleet (MED Sea) Areas

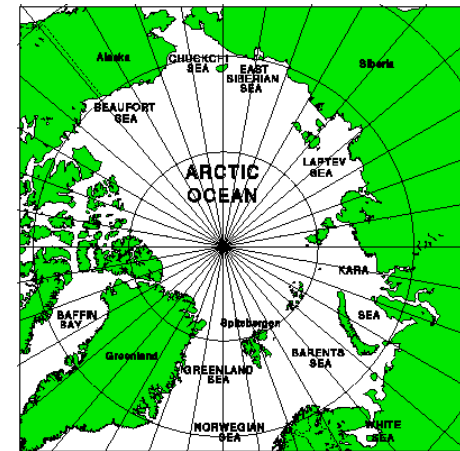
Analysis demonstrated Navy training was not having significant impacts on the marine environment



Future Compliance Planning

• Arctic Ocean

- Interim compliance approach is to conduct environmental planning and analysis for specific training exercises occurring in the Arctic, on a case by case basis (e.g., ICEX).
- Long-term objective is to prepare a comprehensive environmental planning document and obtain regulatory permits for the entire Arctic Ocean Study Area.



• 6th Fleet Operating Areas

- Planning slated to begin in FY18
- Preliminary analysis has commenced
 - Updating MED marine mammal density data
 - Identifying types and amounts of activities which require further analysis
 - Beginning preliminary acoustic modeling





Comprehensive Environmental Toolkit



INTRODUCTION TO THE U.S. NAVY AFLOAT ENVIRONMENTAL COMPLIANCE TRAINING SERIES

- All Hands receive environmental training when they report onboard and annually thereafter
- Overview of relevant laws (e.g., MMPA, ESA, NEPA)
- Importance of environmental compliance and consequences of non-compliance
- Personal roles and responsibilities



MARINE SPECIES AWARENESS TRAINING (MSAT)

- COs, XO's, Lookouts, Bridge Watchstanders, and Aircrews must complete MSAT when they report onboard and at least once annually thereafter
- Principles of mitigation (e.g., PMAP, Lookout requirements)
- Marine species sighting cues, visual observation techniques, sighting response procedures
- Legally required by Navy permits



PROTECTIVE MEASURES ASSESSMENT PROTOCOL (PMAP) TRAINING

- PMAP Officers, upon assuming duties and once annually thereafter
- Importance of mitigation measures for environmental compliance
- Step-by-step instruction for accessing and using PMAP 2.0



SONAR POSITIONAL REPORTING SYSTEM (SPORTS) AND MARINE MAMMAL INCIDENT REPORTING TRAINING

- Sonar Officers and Leading Petty Officers, upon check-in and once annually thereafter
- Importance of reporting requirements for environmental compliance
- Step-by-step instruction for submitting SPORTS reports
- Reporting procedures for marine mammal incidents (e.g., ship strikes and strandings)



Marine Mammal Mitigation



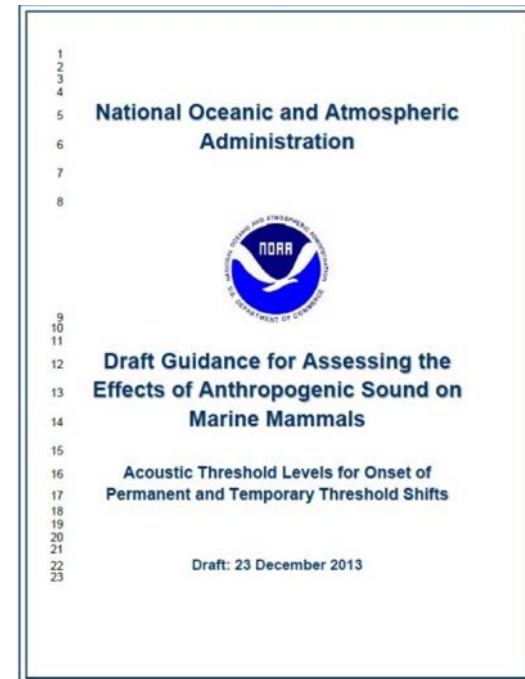
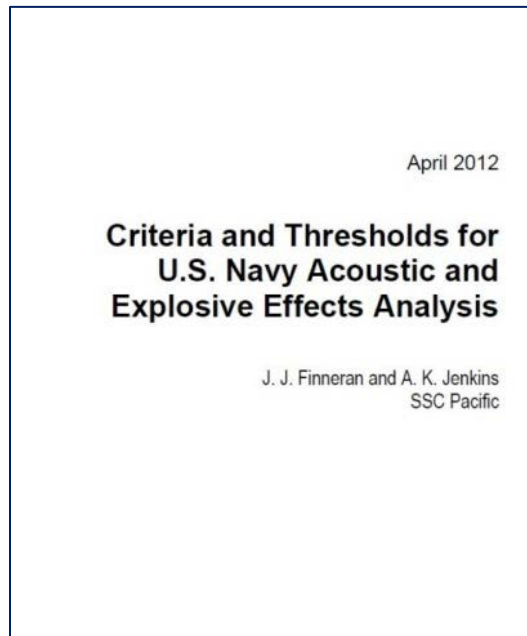
- Navy has been using mitigation since late 1990's
- Mitigation must be protective AND allow for realistic training
- Mitigation measures were evaluated using a two step analytical approach
 - Scientific basis: An effectiveness assessment to determine if the measure was effective at reducing/avoiding impacts
 - Operational feasibility: Assessment of the impacts to safety, practicability, and readiness from the proposed mitigation measure
- Final mitigation resulted from the public review and regulatory consultation processes

Mitigation is scientifically developed with NMFS to be protective of marine mammals

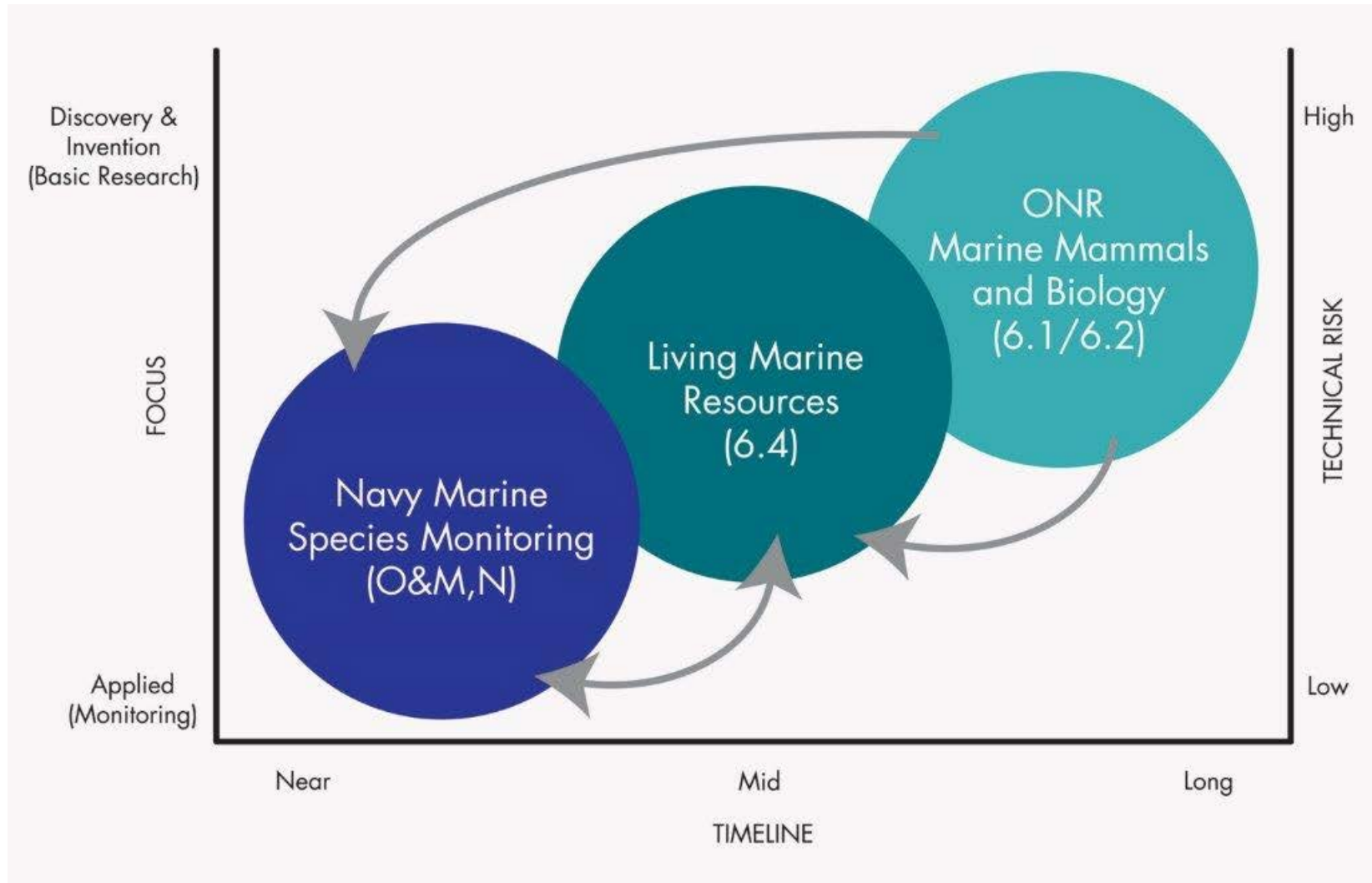
Acoustic Criteria and Thresholds



- Navy's acoustic criteria and thresholds - Finneran and Jenkins 2012
 - Criteria used for all recent and ongoing Navy analyses
 - Developed with NMFS and based on best available science
- The analysis and conclusions in Navy's acoustic criteria provided much of the basis for the proposed NOAA Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammals



U.S. Navy Science Development





The Role of Scientific Studies

- **Basic and Applied Science**
 - Marine mammal hearing
 - Analytical tools (PAM, detector/classifiers, etc)
 - Improved mitigation measures
- **Monitoring Studies**
 - Improved density data
- **Exercise Monitoring**
 - Observe effects
 - Readiness impacts
- **Data Gaps**
 - What is significance
 - Arctic and MED Density
 - Impulsive (Explosive) Analysis
 - Impact Analysis
 - Criteria





Behavioral Response Studies: A Perspective



- **What has BRS done**
 - BRS has been the key tool to collect information on marine mammal reactions to tactical sonar systems
 - Provided key data to support marine mammal impacts analysis
 - Identified context is important (distance, behavioral state, species)
- **What are BRS data limitations**
 - Few data with actual hull mounted sonar
 - Data focused on exposures close to the source
 - Source vessel track geometry
- **Short term recommendations to improve future regulatory compliance analyses**
 - Eliminate ramp-up
 - Begin exposures at greater ranges
 - More “realistic” source track geometries, such as both closing and opening
- **Long term recommendations**
 - Stationary sources
 - Longer term tags
 - Targeted species: should there be focused species or any available species



Web Resources

- **Living Marine Resources:**
<http://www.lmr.navy.mil/>
- **U.S. Navy Marine Species Monitoring:**
<http://www.navymarinespeciesmonitoring.us/>
- **AFTT Permit and Supporting Documents:**
<http://www.aftteis.com/>
- **HSTT Permit and Supporting Documents:**
<http://www.hstteis.com/>
- **U.S. Fleet Forces Command Environmental We Site**
<http://www.public.navy.mil/usff/environmental/Pages/default.aspx/>



Social Media Resource



Please "like" our Facebook page at:
<https://www.facebook.com/USNavyStewardsoftheSea>

UNCLASSIFIED

USN

Regulatory Approach



Questions?

UNCLASSIFIED



Marine Mammal Monitoring

- Navy uses a Strategic Planning Process to guide the investment of resources to most efficiently address monitoring objectives
- Integrated Comprehensive Management Plan (ICMP)
 - The plan to set Navy monitoring priorities (pursuant to ESA/MMPA requirements) across Navy Range Complexes and Exercises
- Focused studies to gather data on:
 - What animals are present in areas where Navy trains and tests?
 - For animals present, what types of stressors are they exposed to?
 - What are responses/effects from these stressors?
 - What, if any, are the consequences of the exposures to the stressors?





Mitigation Overview

- **Active Sonar**
 - Mid-frequency active sonar hull mounted and low-frequency active sonar: 1000/500 yd. power down, 200 yd. shut down
 - Other MFAS sources: 200 yd. shut down
 - High-frequency active sonar: 200 yd. shut down
 - Mitigation zones based on modeled Permanent Threshold Shift (PTS) zones (vice temporary threshold shift used in Phase I)
- **Impulsive sources**
 - Mitigation zones revised and based on predicted PTS zones
- **Strike avoidance**
 - Vessels: 500 yd. for whales, 200 yd. for other marine mammals
 - Towed devices: 250 yd.
 - Non-Explosive Practice Munitions (NEPM): 200 yd. for gunnery, 900 yd. for missiles, 1000 yd. for bombing
- **Substantive differences from previous mitigation**
 - Added mitigation for low frequency sources
 - Added mitigation for large at-sea Mine Warfare explosives
 - Further considered Planning Awareness Areas
 - Eliminated lookout requirement for surface-to-surface missile exercises

Protective Measures Assessment Protocol (PMAP)

PMP is a Software Compliance Tool:

Provides mandatory mitigation measures

PMP Website is Electronic Toolbox:

- Marine mammal information
- Reporting & training requirements
- General references

Event Scenario | **Map Legend**

Enter a date range of the event:
From: 08/26/2014 To: 08/26/2014

Select The Event or Search For It:
Precision Anchoring

Event Description:
Releasing of anchors in designated locations.

The selected event does not have target options

Click to Select Target on Map Or Latitude 34° 42' 43" N Longitude 76° 18' 29" W

Start Over Run Event Scenario Printable Report

PMAP Mitigation Report
Created On 26 August 2014 06:48

Approval/Acknowledgement: Signature: _____ Date: _____
Ship/Squadron Commanding Officer or Test Director

PMAP Mitigation Measures are Mandated by Permits



Conservation Efforts

- **Atlantic Sturgeon Habitat Study**
 - Partners: Chesapeake Scientific and NMFS
 - Tracking Atlantic sturgeon in the lower Chesapeake Bay to learn about the sturgeon's habitat range and movement patterns
 - Discovered a previously unknown spawning population in the York River
 - https://www.youtube.com/watch?v=Ss_YP-76lhs
- **Sea Turtle Tagging and Tracking in Chesapeake Bay Area**
 - Partner: Virginia Aquarium & Marine Science Center
 - Tracking juvenile sea turtles using a combination of satellite and acoustic transmitters
 - Goal is to increase knowledge of the movements, habitat utilization, and seasonality of the marine turtles found in the lower Chesapeake Bay
- **Long Shoal Oyster Sanctuary Monitoring**
 - Partner: The Nature Conservancy and State of North Carolina
 - Creation fisheries habitat a means to mitigate cyclic offshore target replacement that support ongoing air-to-surface training needs
 - <https://www.youtube.com/watch?v=vkX5lgKDc6I>

