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Navy Marine Mammal Overview

RADM Steven Tomaszeski
Oceanographer of the Navy

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Marine Mammal Commission

Questions

• What are the roles and responsibilities for marine mammals within each agency?

• How does each agency develop and use scientific information?

• What are the important issues agencies face in fulfilling their responsibilities currently? In the future?
Navy Compliance Responsibilities

• **Environmental Regulations**
  – National Environmental Policy Act (NEPA)
  – Executive Order 12114
  – Marine Mammal Protection Act (MMPA)
  – Endangered Species Act (ESA)

• **Navy Internal Instructions**
  – OPNAVINST 5090.1B

• **At-Sea Policy (Dec 2000)**
  – Theater Tactical Training Assessment Plan (TAP)
  – Major exercise guidance
  – Routine exercise protective measures
Navy Marine Mammal Protective Measures

- **PLANNING:** Consideration of historical marine mammal location information during exercise planning

- **DETECTION:**
  - Well-trained lookouts posted 24 hrs/day
  - Passive acoustic detection for marine mammal presence
  - Pre-and post-event monitoring for marine mammals

- **OPERATIONS:**
  - Operational restrictions in vicinity of marine mammals
    - “buffer zone”
    - Alterations, delays, cancellation of operations
    - Reduced power to sonar and duty cycles
  - Limit operations at nighttime or in adverse weather conditions
  - Train in deep rather than shallow water
  - Simulate restricted channel or ‘choke point’ transits
Bahamas Joint Interim Report Recommendations

• Forego multi-ship, peacetime sonar exercises in the New Providence Channels

• Carefully assess future training and training areas where similar combinations of factors would be present

• Measures to employ in similar cases
  • Pre-exercise survey
  • Buffer zones
  • Properly trained lookouts
  • Shutdown procedures
  • Post-event monitoring

• NMFS to continue marine mammal surveys

• Extensive Research Recommendations
Navy Marine Mammal Environmental Programs

Chief of Naval Operations

Warfare Directorates

- SURTASS LFA

Office of Naval Research

- Basic & Applied Research
  - Marine Mammals
  - Acoustics
  - Oceanography

Fleet

- Marine Resource Assessments
- Local supporting data

Environmental Readiness (OPNAV N45)

- Demonstration and Validation

Systems Commands

- Ship Shock Trials
- Systems Testing
Science is the Foundation
Research Categories:

• Sound energy source and propagation characteristics
• Location and abundance of marine mammals
• Criteria and thresholds to measure degrees of physical and behavioral effects
• Mitigation techniques to minimize effects
Navy Marine Mammal Science Funding

- Over $10 million for 2004
- $7-10 million/year since late 1990’s
- Over $ 10 million/year next 5 years
- ~ 70% US government
- ~ 50% Worldwide
Navy Research Commitment to Peer Review

• Over 50 publications by principal investigators appear each year in peer-reviewed journals

• Independent Board of Visitors (BOV) Review of Programs
  – Environmental Consequences of Underwater Sound (ECOUS), May 2003
    Review of all ONR Marine Mammal projects
  – Temporary Threshold Shift (TTS) Review, October 2002

• National Research Council (NRC) Studies
  • Low-Frequency Sound & Marine Mammals: Current Knowledge and Research Needs (1994)
  • Marine Mammals and Low-Frequency Sound (2000)
  • Ocean Noise and Marine Mammals (2003)
  • Describing Biologically Significant Marine Mammal Behavior (2005)
Navy Science Success Stories

- Developed Acoustic Datalogger tags (D-tag)
  - Reduces reliance on anecdotal observational data for Controlled Exposure Experiments (CEE)
  - D-tag now used by NATO, Minerals Mgmt Service

- Developed Marine Mammal Monitoring on Navy Ranges (M3R)
  - Passive acoustic monitoring using existing Navy assets on ranges

- Establish Acoustic Safety Criteria based on Temporary Threshold Shift (TTS)
  - ‘Rock concert effect’ measurements

- Produced Marine Resource Assessments
  - Consolidated environmental information for Navy marine operating areas
Navy Marine Mammal Issues

- Mitigation methods impact training realism
  - Reduced power to sonar and duty cycles
  - Limited nighttime and adverse weather use of sonar
  - Train in deep rather than shallow water
  - Simulate choke point transits

- Marine mammal data to support compliance
  - Location and abundance
  - Criteria and thresholds
  - Mitigation effectiveness

- Robust multi-agency marine mammal science program
National Defense Authorization Act and the Marine Mammal Protection Act

• National Defense Waiver: EMERGENCY ONLY
  – SECDEF must consult with Commerce, Interior
  – Consistent with virtually EVERY OTHER environmental statute

• Harassment:
  – ‘Significant potential to injure’ and ‘likely to disturb’ focuses enforcement on biologically significant vice benign disturbances

• Mitigation:
  – Considers personal safety, practicality, and impact on the effectiveness of the military readiness activity
National Defense Authorization Act and the Marine Mammal Protection Act

• Small numbers:
  – Elimination of ‘small numbers’ removes impossible legal requirement to distinguish between ‘small’ and ‘negligible.’ Retains scientifically-based ‘negligible impacts’

• Specific Geographical Area:
  – Elimination of ‘specified geographical region’ removes a legal Catch-22 for a military that must train and fight worldwide. The military must and will still consider its impacts on geographic regions in its environmental processes.

• Includes scientific research activities ‘conducted by or on behalf of the Federal Government’
Navy GOAL

Protect Our Nation AND Our Environment