

Presentation at the First Plenary Meeting
of the Advisory Committee on Acoustic
Impacts on Marine Mammals

3-5 February 2004

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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

Fleet

- Marine Resource Assessments
- Local supporting data

Environmental Readiness (OPNAV N45)

- Demonstration and Validation

Systems Commands

- Ship Shock Trials
- Systems Testing

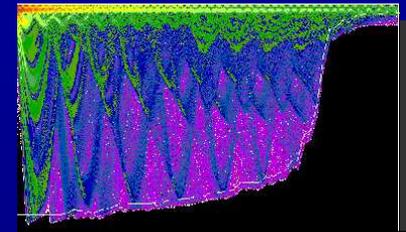
Office of Naval Research

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

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



Sound Field



Location



Hearing



Behavior

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

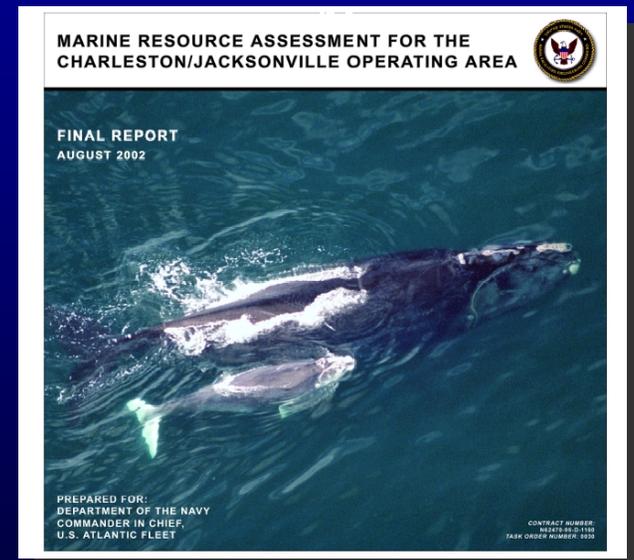


Navy Research Commitment to Peer Review

- 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**