

ACOUSTIC WORKING GROUP



What How

- *Is there a need for regulatory/non-regulatory strategies for ocean noise?*
 - *Secondary: What are noise impacts/threats in MBNMS? What does MBNMS need to know?*
1. Review Noise Roadmap
 2. Review Citizen Input
 3. Seek expert opinions
 4. Ask questions
 5. Summarize findings



Who-SAC members

- Carol Maehr- At Large
 - *Summarized- Citizen Comments, Road Map*
- Clifton Herrmann-College
 - *Near perfect attendance, great input*
- PJ Webb- At Large
 - *Travelled long distance to attend, not her day job*
- Mike Bekker- Tourism
- Rich Hughett-Recreational Fishing
- Gary Hoffman- At Large
- Bart Selby- Recreation
- Staff Liaison- Andrew DeVogelaere
 - *Massive assistance- found experts, long view when asked*

Who- the scientists we talked to...

- Marjolaine Caillat, PhD- Marine Acoustic Researcher
- D. Benjamin Reeder, PhD- CDR USN (Ret.) Research Associate Professor, NPS
- Charles Wahle, PhD- NOAA, contributed to Ocean Noise Roadmap
- Brandon L. Southall, PhD-Environmental Associates, UC Santa Cruz
- Michael Weise, PhD –Office of Naval Research, Marine Mammal & Biology
- Leila Hatch, PhD- NOS/ONMS/Stellwagen Bank National Marine Sanctuary



Institute of Marine Sciences
an Organized Research Unit
at UC Santa Cruz



Summary

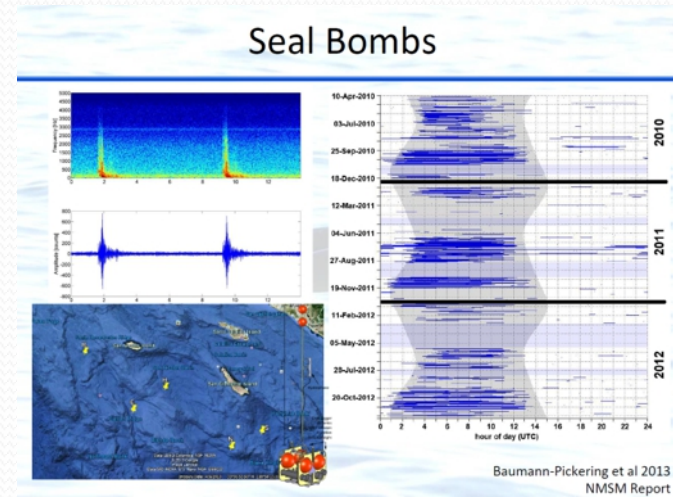
- Minimal military sonar, no oil and gas extraction/exploration
- Low frequency sound is the issue- threatens whales
- **Three most important things**
 1. Adult Supervision-Manage and Educate
 2. Data, Data, Data-*Find money for research*
 3. Greatly Reduce Seal Bombs

Key Points- Science

- Seal bombs can (physically) injure cetaceans

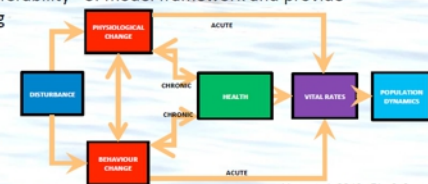
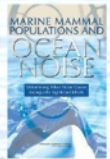


- All disturbance affects population mortality



Population Consequences of Disturbance

- Purpose – Translate the conceptual NRC PCAD model into a mathematical framework, and inform *Negligible Impacts Determination*
- Plan: Working Group - 2009-12; 2012-15
 - Phase I - Explore if/how to translate the conceptual model into a mathematical framework
 - Phase II – Complete case studies and model development
 - Phase II – Assess ‘transferability’ of model framework and provide guidance for monitoring
- Case Studies
 - Elephant Seals (N/S)
 - Bottlenose Dolphins
 - N. Atlantic Right Whale
 - Beaked Whale



Now et al. 2013. PLoS One

http://www.westcoast.fisheries.noaa.gov/protected_species/marine_mammals/deterring_qa.html

- **Q. What limits or constraints apply to the public when deterring Pacific harbor seals, California sea lions, and eastern stock Steller sea lions?**

A. Deterrence of Pacific harbor seals, California seal lions, and eastern stock Steller sea lions may not result in the following:

- Serious Injury or Mortality – The MMPA authorizes deterrence using non-lethal methods only. Deterrence cannot result in the death or serious injury of marine mammals. NOAA Fisheries Service has [defined "serious injury"](#) in regulations to include an injury that is likely to lead to the death of the affected marine mammal.
- Violation of Federal or State Laws or Local Ordinances – The use of some deterrence methods may be prohibited or restricted by federal, state or local governments. For example, a city or county may prohibit the use of, or require special permits for, pyrotechnics. It is your responsibility to check with appropriate authorities to ensure that any deterrence methods used comply with local, state and federal requirements.
- Risk to Human Safety – Some of these techniques may cause injury to you and/or other people. If you deter a seal or sea lion in such a manner that you cause injury to anyone, you may be liable for your actions.

- **Taking of Non-Target Marine Mammals – Deterrence is not authorized if it will result in the death, serious injury, or harassment of non-target marine mammals (i.e., individuals other than those causing damage to private property, gear or catch).**

Humpback, fin, blue and sperm whales are protected by the ESA .