

## **Small Group Discussion—Mitigation Effectiveness (Group 2: Bernhart, Caldwell, Costa, Cottingham, D'Spain, Green, Heskett, Nachtigall, Purdy)**

A; Tier I.

Time area closure- work when animals are not present

Requires research on critical habitats, behavior distribution and abundance

Some species well known

Pinniped breeding sites

Some cetacean breeding sites

Humpback whales and elephant seals

Other species are almost totally unknown i.e beaked whales

Tier II When timer area closure is not possible.. The following needs to be employed.

1. Develop methodologies for assessing effectiveness.
  - a. Agree
2. Evaluate effectiveness while applying the mitigation measures.
  - a. Agree
3. Build research and reporting requirements into regulations and authorizations, and improve/standardize observer and reporting methods
  - a. Agree Valuable information can be obtained
4. Employ techniques that include precaution and address impacts, such as behavioral disturbance, that may lead to acute impacts
  - a. Requires appropriate definition of threshold.
  - b. Does not address long term or chronic effects.
5. Continue research to define what constitutes a take (e.g., what exposure level causes a take?)
  - a. Agree, but must include both acute and chronic
6. Evaluate the extent to which a measure prevents takes (e.g., under what conditions can observers be used?)
  - a. Discussed in some detail
  - b. Question is one of detection
  - c. Small cetaceans easier to see and hear
  - d. Large Cetaceans more difficult to see maybe easier to hear
    - i. Visual-
      1. sea-state, night-day, sociality
    - ii. Acoustic
      1. Passiv
      2. Active
  - e. Small cetaceans easier to see and hear
7. Use current mitigation measures until have something better.
8. Use integrated combinations of mitigation techniques that may be adequate
  - a. Recommend suites of tools that will get to desired goal
  - b. Develop best practices (e.g., for night activities, observers not adequate so must also use PAM) What can we say about which are best in which cases?

9. Identify which mitigation methods have likely benefit with some level of certainty, and use that as a criteria for mitigation requirements.
10. Decide whether/how existing measures can/should be applied in light of their limitations
11. Can we delineate the costs and benefits of various measures? Can we delineate which tools have the highest benefit with low or medium cost?