

Marine Mammals Workshop
July 14 Plenary Session Notes

Plenary Session A

1. Question 22 - Standardized databases slide should remove the new from 'New' idea in question.
2. Everyone would probably agree that we need increased biological studies. We need to make sure we word the report properly to sell it effectively.
3. Seems to be a lack of discussion on the types of sounds. We have just grouped all the sounds together.
4. Some disagreement on the statement of individual versus population effects on assessing biological significance.
5. We must be careful to reference the individual group statements as related to the polling results to make sure they were adequately covered.
6. Some confusion on how the report will be put together. Will there be an opportunity to review the report prior to it being released.
7. There is some concern that the notes put together don't accurately reflect what the group was trying to get across.
8. The wording of Question 23 may have skewed the responses. Many agree that they are confused on this question. That's probably why there was 45% that neither agree nor disagree. Possible Clarifications
 - a. ~~One group – Maybe the timeframes should be segregated to allow difference in oversight. Not the intent.~~
 - b. Another – Clarification statement from Mr Tom Fetherston regarding separation of watchstander actions from mitigation measures. You can't rely on that aspect of clarity on the deckplate. When this was presented to the group as a whole, some verbally stated that this would change their vote towards the Strongly Agree end of the spectrum.
9. Important point for the report compilation is taking credit for the three entities working closely together to but this workshop on.

Plenary Session B

1. Relating back to Session A statement 3 above. We must look at separating each sound type to determine environmental impact.
2. Methods of measuring sound – should they be standardized? Yes. SI units specifically mentioned.
3. Session B provided some clarification to Section A statement 3 above. Appears he wasn't in Group B; this would explain his confusion.
4. Why was there no discussion on Echo-sounders? It's in the groups general notes, but not on the power point supply.

5. Some that were not in Group B have additional recommendations for funding research and will pass that information SEPCOR.

Plenary Session C

1. Clarification on two concepts utilized to improve mitigation that can sometime be lost, or grouped together when they are two distinct areas of focus:
 - a. Increasing the modeling tools associated with mitigation, or
 - b. Increasing the training on the utilization of modeling tools.
2. Related to Statement 1, is keeping these two concepts separate when it comes to budgeting.
3. Implementation of comprehensive report/database on sightings to include: location, ship's track, shutdown effects, animal orientation.
4. 6 years of GOMEX data that needs to be analyzed and is in progress. Counterargument – If this data is available, would it be more beneficial to pass that data to a contractor for analysis.
5. Stop assessment was a major point of discussion in the groups, it was included in the summary on the power point slide, but no 'Clicker' question included.
6. Question came up: Should we have queried the group on whether they thought that spatial temporal was a priority. Consensus was that this was a given, hence not queried.
7. Is there a concern regarding the accessibility of these tools. Appears there is some confusion as to whether the community can readily access these tools. Summary, Effectiveness vs Accessibility.

Intro

- Key issues: appropriate metrics to use in behave. Harassment criteria
- Some felt SPL was the correct metric, some SEL
- Models for assessing behavioral harassment should consider the five factors noted in Session C, Table 1.
- One group created a framework, for an assessment criteria create a categorization method, consider things by activity type, by taxa, and segment into geographic area, take into consideration ambient noise, bottom substrate, and incorporate contextual issues into the framework.
- Another group recommended a series of step functions for a guideline to the applicant.
- Heard the need for baseline information, baseline noise budgets for assessment of masking.
- Good to assess functional consequences.
- One group discussed quantitative moving towards qualitative modeling.

Mitigation

- Applicants should think about mitigation earlier in the planning process.
- LH: Integration of technology, improve the tools, acknowledgement of the need for a skilled user, but need more solid platforms that lead to decision-making in the NOAA regulatory

framework. Whether we have the infrastructure available for the manager to make a decision. Not whether or not the prop software models work.

- Active acoustics for visual detection is this included within the context of visual detection.

Monitoring

- What do you mean by focal point? For example, several activities are required to do monitoring, in a more comprehensive framework. This could be used a planning tool to guide the monitoring plan.

Question 1 - Of the five choices, 42% chose #3-No discussion.

Question 2 - No discussion.

Question 3 - 36% agreed, no discussion

Question 4 – 1/3rd in the middle, most agreed. No discussion.

Question 5 – most agreed. No discussion.

Question 6 – most agreed. No discussion.

Question 7 – most agreed. No discussion.

Question 8 – most agreed. No discussion.

Reactions:

Suggestion missing, sightings data from seismic surveys and commercial data should be integrated into a format to evaluate impacts. More effective use of effort detail and sightings data from these surveys. Are they actually avoiding the sound sources. Create a type of database that has this type of data. The data needs to be made available (raw data, organized database, ship track, species, orientation of the species.). The agencies are sitting on the data. It would be helpful to have the data in a format for us to analyze. Lower cost to get this data out to the community than to create a new report. MMS has the information Ross Compton are analyzing all of the data now. Our group wanted to focus on stock assessment data that was not included in the introduction. JH: We didn't make a survey question for every question, but included in the initial bullet. Our group talked about the need for planning style mitigation, temporal/spatial. Near source mitigation, have the planning efforts addressed this.

LH: We designed this workshop to address this. Michael: Should we query the group re: spatial temporal mitigation is primary, emphasis on planning vs. later stage mitigation. This point has been made strongly in past reports. We went for the second order question – what type of planning is needed. More accessible tools for propagation modeling; there is an area in-between, (e.g., terrestrial studies for propagation). Agree it would be nice to have a tool that would provide a standard for managers. Spherical spreading vs. cylindrical spreading, nothing better than conducting propagation at that site; Two messages: folks comfortable with sound propagation modeling – this is fine; Those who are further away from using tools – we need something better that leads us to a process. Reiterate capacity building.

During mitigation discussions, did practicality ever come up. No, it was not a topic of discussion. The question is assessing effectiveness of mitigation. May be easy, but not effective

Plenary Session D

1. Key point: Coordination and Availability of Government to make data available as part of regulation and permitting industry the use this information.
 2. Is active tracking of marine mammals desirable? Or is the cost-benefit of putting more noise in the water a detriment? It's important to recognize that active acoustic frequencies may be safer. Comes back to clarifying that there are different types of sound sources and should initially be treated equally when assessing the risks.
 3. A lot of this discussion on active acoustics as a mitigation is very context dependent. If you know explicitly what you're looking for it is easier to mitigate the additional hazards of using this active measure.
 4. This active discussion also pertains to geospatial mapping.
- Sending data through a "cocktail straw", consider replacing some of these links. If you focus on infrastructure, you will open up a world of opportunities. Scientific revolution.
 - Recruitment outside of the field
 - Ground-truth data. Comparative tests of technology.
 - Data sharing should be a part of the regulation or permitting exercise.
 - UAV for monitoring. FAA requirements must be resolved.
 - Active acoustics needs significant validation.
 - Prey mapping, health of the life field (oil industry)
 - Collaborations are a force multiplier.

Prioritization:

- 1 – Information sharing
- 2 – Current and emerging technologies
- 3 – Platforms / sensors

Question 4 – depends on where you are from, as an academic, we have no funds. Number 4, not likely; shocking that 1/3 will say that it's likely to fund analysis of existing data. The first bullet, technology drives the science, would like to say that technology enables the research. We have science questions that the technology enables us to answer; important to make this distinction.

JH: bullet related to active acoustics. Is there a discussion of balancing the importance of detection vs. putting more sound into the environment? Examples, seismic surveys, turbine use, repellent; there should be some balance of the use of AA.

Answer: Many vessels use echo sounders; you can get more data from the ones in use. You can do modifications on the processing side to analyze this type of data.

The idea if you use an AA sound source as a mitigation; there is an implication that sound is additive or cumulative. In most cases, they are operating at different frequencies.

All sound sources should be considered equally in terms of risk.

Design a signal with minimal impact, use higher frequencies which could be absorbed more.

With AA there is a measurable deterrent effect. In contrast, organizations using existing mitigation with no empirical evidence that single mitigation air guns are effective.

Weighing the cost/benefit with adding AA, should be applied to the use of a single mitigation gun.

Geo-acoustic mapping, cannot accomplish without putting sound into the water.

Question 1

- Some argument from the audience about the value of algorithms—believed the some are pretty good and not valid to say that an analyst is always better
- Problem with sharing data since people use different formats (takes a lot of effort to get it into someone else's usable format)

Question 2

- Geared answers to hardware to support real time processing

Question 3

Question 4

- the database problem keeps reoccurring and we need to stop just talking about it and just do it
- MMS has a website with information on some of the projects that they have done
- Splash is an example of a Pacific Ocean-wide data sharing platform
- NSF program of dimensions of biodiversity- digitizing museum data, gene bank info etc

Final Open Floor Feedback

1. Why can't we get any traction on baseline data development? A good selling point for the report is to utilize the avenue of what are we missing out on...example GOMEX after the oil spill, it's going to be difficult to quantify the impact (both to the ecosystem and from a compensation perspective) since we didn't have the baseline data. Also, this is more than just data for the Marine Mammal community.
2. The more uniform the pressure points are across all these different agencies, the better chance of being heard by management.
3. Let's not forget about what the academia can bring to the final report. Don't forget about them when putting the report together since they were a key facet in the group discussions.
4. We need to focus on inclusion of the Marine Mammal community into the Ocean conglomerate.
5. Will the new Executive Order provide the additional structure to these processes?
6. When prioritizing/trying to get our point across...we must make sure we are getting good bang for the buck. Don't continue to spread ourselves thin.
7. The establishing of a data sharing process would free up some money for additional areas of research and scientific endeavors. Some groups have been putting funds and assets together. May be beneficial for an example in the report.

- Baseline data question – on one hand a number of action agencies relatively well funded but interest in gathering baseline data has a specific endpoint, on the other hand NOAA as natural place for coordinating role for more comprehensive activity – need to state this explicitly. Policy consequences can flow from the insight
- Why traction may not flow – if you say we need baseline data – huge amount that will never get funding. Hope that questions may have sparked where to pull the attention on (e.g., in what specific situations, what are the priorities)
- Also heard from this – Gulf Spill “no baseline” – there is a lot that we’re not aware of - the key is to get it somewhere that everyone can get access to.
- Building on last set of comments – agency road maps for these kinds of issues- didn’t hear a way in which the workshop would encourage a more participatory process within the agencies and outside of agencies – the intent of the workshop to bring together stakeholders – are there contributions from academic orgs, NGOs, that can contribute – participatory process
- It’s being decided- that we record what comes out and hash it out for them – who’s going to do the work.
- Collecting baseline not sexy – have to stop just thinking about marine mammals in this context- have to communicate to other colleagues- ecosystem services- marine mammals are important of a variety of other ways. Landscape is changing – ocean observatory, NOAA is playing a role –really need to observe the ocean- physical oceanography has this down – been doing for years- they’ve figured out how to focus their efforts as a community, marine biology community isn’t there – these data critical for a large variety of issues – we have ability to push this agenda forward but have to talk to other members of larger community
- Get marine mammals into regional plans
- Models tend to converge on places where there is lots of data, particularly conservation areas- need to find cold spots – need good coverage across all impacted areas
- Waiting on executive order to allow us to take a more ecosystems based approach – how are we going to have an ecosystem bent to that – place marine mammals in ecosystem – will be anticipatory
- Don’t necessarily have knowledge here in this room but how much bang for the buck do we get – baseline data lives on and contributes to something but one mitigation situation where we pay to turn off air guns, that’s an ephemeral event. Quantify what the baseline contributes, that may be difficult to do but may allow us to push something.
- Several times today and yesterday people said if we started 20-30 yrs ago we’d have a lot of data. Start that and focus on the arctic which will be opening up – most pristine event we have left—that is another area that might be a focus for baseline data
- Number of people said its too expensive to fill in data gaps – number of transects you need independent of study area – we’re being overly pessimistic – same number of transects needed for big and small area – can use predictive models to fill in gaps – hugely valuable for marine spatial planning
- In some areas of the world, a lot of duplication of efforts – arctic (oil, mms, etc)- if we could all datashare would that free up money
 - Lot of movement in this area – part of the JSTOST effort –
 - Do more of bringing together whole community

Closing remarks

Don Schregardis – NAVY

Jim Lecky

- Document as a report back to JSTOST
- Importance of baseline
- Systems approaches and marine spatial planning and need more tools
- Input from group to show broad support from these types of programs will help this
- NOAA will use the report internally in budget and future planning exercises – arctic exploration, etc