

**Atlantic Large Whale Take Reduction Team  
Co-Occurrence Model Work Group Meeting #2  
March 9, 2011  
10:00am-4:00pm**

**Meeting Summary**

**I. Background:**

During the November 2010 Northeast Subgroup meeting, the subgroup decided to use the co-occurrence layer when identifying potential management areas provided that certain refinements were made to the model. A work group was established to further flush out the refinements and to make determinations as to whether each specific refinement should be folded into the co-occurrence model. The work group originally met on January 25, 2011 to discuss these refinements. The purpose of this second work group meeting was to:

- Review NMFS response to the work groups action items from the January 2011 work group meeting #1;
- Discuss the feasibility of incorporating the proposed refinements to the Co-occurrence model;
- Confirm/finalize the refinements to be undertaken/pursued including the identification of those refinements not considered feasible for inclusion into the model;
- Identify potential management areas; and
- Plan the next steps for reporting back to full Northeast subgroup.

The intent of this meeting summary is to inform the Northeast Subgroup and full ALWTRT of the recommendations provided to NMFS by the work group and inform the Northeast Subgroup and full ALWTRT of the next steps.

**II. Summary:**

The goal of this meeting was to identify potential management areas based on the co-occurrence layer. These areas would then be provided to the Northeast Subgroup and subsequently used by NMFS and its ALWTRT members in developing alternatives to address large whale entanglements resulting from interactions with endlines (or vertical lines) from commercial trap/pot fisheries. In addition, NMFS would use these areas as part of its scoping meetings that it intends to hold throughout the late summer along the Atlantic coast. The scoping meetings would provide the general public and other commercial fishers a forum to share any new ideas that were not identified by NMFS or the ALWTRT. Ultimately, NMFS would compile all of the information gathered from the scoping meetings along with all constituent-based proposals and review these potential alternatives with the full ALWTRT at its November/December 2011 meeting. At that time, the ALWTRT will make recommendations to NMFS concerning the suite of alternatives that NMFS should consider along with its recommendation for its preferred alternative. In order to begin this process, the working group needs to accept the model

including its methodology and caveats associated with the data in order to identify potential management areas.

NMFS began the meeting by reviewing the action items from the January 25, 2011 work group meeting (see attached). Those action items that warranted further discussion were highlighted. Industrial Economics (IEc) presented updated model data based on the work group's requests from the January meeting. A summary of each presentation follows:

Monthly Survey Effort from North Atlantic Right Whale Consortium (NARWC) Data: At the January meeting the group asked that IEc map the effort only data from the NARWC database. IEc obtained this data and presented it to the group by month. The maps represent where the surveys are looking and not what they are seeing. NMFS and IEc also confirmed that the NARWC data also included NMFS' aerial survey data. One of the main requests from the January meeting was to see all data behind the exemption line. The revised maps now show all of the sighting information landward of the state exemption lines, confirming that there is survey effort within the respective state exemption areas.

NARWC SPUE Data: IEc presented SPUE data from the NARWC database for right, humpback and fin whales separately and then showed SPUE data for right and humpback whales combined. The data was presented by month, by yearly average, and by season (January-March, April-June, July-September, and October-December). The SPUE data included all NARWC and Northeast Fisheries Science Center survey data from 1978-2010 that had effort associated with it. .

Number of Vertical Lines: IEc presented maps displaying the number of Vertical Lines in the Northeast including the area landward of the state exemption lines. The vertical line data presented was from 2008. The data was displayed by month, yearly average, and by season (January-March, April-June, July-September, and October-December).

Comparison of MA Buoy Line Estimates: At the January meeting, the work group asked IEc to compare buoy line data from MA DMF to the co-occurrence model. IEc presented the results of this comparison. The comparison was limited to 2009 and focused solely on the lobster fishery. The results of the comparison showed general agreement between the model and the reported vertical line use. IEc proposed to work with MA DMF to further refine the model vessel assumptions for the trap per trawl assumptions. However, this refinement would only be applied to MA fishing effort. There were four areas where the discrepancies were greatest and these appear to be areas with greater gear configuration variation.

Co-occurrence of Vertical Lines and NARWC SPUE Data: IEc presented co-occurrence data for right, humpback and fin whales separately and then showed SPUE data for right and humpback whales combined. The data was presented by month, by yearly average, and by season (January-March, April-June, July-September, and October-December).

After the IEC presentations the group began to discuss ways to choose management areas based on the Co-occurrence maps. When choosing areas there were three questions to focus on:

1. What species do you choose?
2. What colors on the co-occurrence scale do you look at (magnitude of co-occurrence)?
3. What seasons do you focus on?

Points raised during the afternoon discussion included:

1. Weighting the species by PBR to decide what species to focus on. Humpbacks would have a higher weight since they exceed PBR more than right whales. PBR also could potentially change every year. The group decided to move forward with looking at areas of co-occurrence for right whales and right whales/humpbacks combined and not to focus on weighting the species.
2. When choosing a management area it was mentioned that the group should stick with common sense areas and choose natural fishing areas and boundaries where ever possible.
3. The co-occurrence model shows areas where there is a greater overlap between vertical lines and whales which we interpret to represent a greater chance an entanglement could occur with color layers indicating the magnitude of co-occurrence. For example, the darker the color the higher the chance that whales and vertical line could co-occur in that particular area. There was a question if April 2010 data was included in the SPUE because there was an aggregation of right whales in Rhode Island that month that doesn't appear to show up in the co-occurrence maps.
4. NMFS noted that the model will reflect SPUE data from 1978-2010 and gear characterization information from 2008-2009 (and possibly 2010 if available).
5. There appeared to be a corridor in LMA1 about 15-20 miles offshore at the 50f. line that the whales used in certain months of the year as a transit area.
6. At what point is a seasonal regulation on the books a year round regulation in reality? When thinking about seasons it's important to remember that in inshore areas fishermen can adapt and have flexibility depending on the regulation. Seasonality means nothing offshore. Once gear is rigged it's rigged.
7. How much line would have to be reduced in order to change the co-occurrence score? Even if the line was reduced, the color on the map might not change. IEC can display the change in vertical line that results from a management measure so even if you can't see the change in the co-occurrence color you would be able to see the change on a vertical line map and could look at the change in the co-occurrence score.
8. David Laist proposed six areas based on the yearly average co-occurrence maps for right whales. He estimated seasons for these areas based on the SPUE maps. David pointed out these general areas on a chart at the meeting and submitted a chart depicting these areas after the meeting (see attached). He noted that the pattern of high co-occurrence blocks seems to have a biological basis in that they include the major right whale feeding areas off New England and the corridors connecting those areas plus the two other feeding areas in Canada. It was also noted; however, that blocks with high co-occurrence scores do not include every known entanglement location.
9. Members of the work group requested that IEC put the co-occurrence maps on NOAA charts.

10. State and industry representatives reiterated their interest and intent to work with their constituents when developing proposals for management areas in their regions and requested possible help from IEC in that regard. NMFS asked that representatives work with NMFS to request help from IEC when running potential scenarios.

Action Items:

- o IEC will ask Bob Kenney if April 2010 is included in the SPUE data he provided.
- o IEC will add 2009 and 2010 gear characterization information to the model as it becomes available from the states.
- o IEC will put the co-occurrence maps on NOAA charts for easier reference. The charts will be displayed month by month identifying the following areas: LMA boundaries, 3 mile line, Maine state management areas, critical habitat, and SAM East and West.
- o Areas will be chosen based on co-occurrence for right whale and right/humpback whale combined.
- o NMFS will provide the Subgroup a flowchart depicting the steps involved in rulemaking process, including the timing associated with each step.

**III. Next Steps:**

NMFS will use the discussions from the work group and data generated from the model to develop potential management areas based on co-occurrence. These areas will be presented to the Northeast Subgroup via a conference call in late spring. NMFS intends to also present these proposed areas during scoping meetings this summer. These areas would be agreed upon by the work group, NE subgroup, and NMFS. NMFS strongly encourages work group and Northeast subgroup members to utilize these same areas to be managed. NMFS would then encourage these groups to also work with the respective constituencies in developing potential conservation measures for these areas.

**IV. Participants:**

**Working Group**

Bill Adler  
Erin Burke  
Sarah Cotnoir  
David Laist  
Patrice McCarron  
Jooke Robbins  
Bonnie Spinazzola

**NMFS**

Mary Colligan  
David Gouveia  
Kate Swails

**Observers**

Joe Fessiden, Maine Marine Patrol  
Erin Summers, Maine DMR

**Industrial Economics**

Bob Black  
Neal Etre  
Brian Morrison