Marine Mammal Commission 2015 Annual Meeting

Reducing Mortality and Injury of North Atlantic Right Whales from Ship Strikes and Entanglement in Fishing Gear

Session Summaries

Status and Research Activities

The size of the North Atlantic right whale population has increased moderately since 2000, but remains one the most endangered large whales. Recovery and reproduction rates are well below those of other recovering whale populations. Based on photo-identification data at least 465 right whales were known to be alive in 2011. Entanglement in fishing gear is now the largest current threat. A recent analysis concluded that 20 years of management effort by the National Marine Fisheries Service has failed to produce any significant reduction in right whale deaths and injuries due to fishing gear. However vessel-related deaths appear to have declined since regulatory measures were put in place in 2008, with perhaps an 80 to 90 percent reduction in collision risks. Effects of climate change and increasing anthropogenic noise are also growing matters of concern as there has been a redistribution of right whales within their feeding range in recent years.

The Northeast Fisheries Science Center is continuing to support aerial surveys but survey funding has been declining and could affect future estimates of abundance. Particular effort is being made to improve passive acoustic techniques for detecting and monitoring vocalizing whales, including right whales. New techniques using near real-time data collected by various kinds of buoys and underwater gliders offer great prospects for monitoring population trends and changes in distribution. A study is underway to analyze acoustic data collected by independent by researchers all along the East Coast to better define the seasonal distribution and occurrence. The Southeast Fisheries Science Center recently redesigned its regional right whale surveys to ensure identification of as many mother-calf pairs as possible. It also is studying habitat use patterns relative to ongoing and planed developments and began a three-year study in 2014 to tag up to 5 right whales per year with a new limpet tag to track long term movement. Initial results are promising and revealed right whales migrating close when traveling north from Florida to New England. The Duke University Marine laboratory has also been using suction cup tags to assess mother-calf contact calls and the frequency whales vocalize to inform passive acoustic studies.

Critical Habitat and Ship Strikes

On 20 February 2015, the National Marine Fisheries Service published a notice proposing an expansion of right whale critical habitat. The expanded area includes the entire U.S. portion of the Gulf of Maine and coastal waters from Cape Hatteras to northeastern Florida. The Commission commented on 20 April 2015 supporting the proposed expansion but recommended also including coastal waters along the migratory corridor between the two areas. The rationale for and against excluding the migratory corridor was discussed. An update was also provided on the National Marine Fisheries Service response to a petition to exempt dredged channels from current rules that were established to reduce vessel related right whale deaths. The Commission has commented opposing the exemption noting evidence that the current rule is working. The Service has not yet made a decision on the petition. Participants discussed the effects of widening the Panama Canal on regional vessel traffic and collision risks and the economic impacts of the current rule on vessel operators.

Fishery Interactions

The National Marine Fisheries Service has developed an Atlantic Large Whale Take Reduction Plan (ALWTRP) to reduce right whale (and other large whale) entanglements in trap and gillnet fisheries. Major parts of the plan include measures to include a requirement for replacing floating groundlines on traps with sinking groundlines (developed between 2003 and 2009) and a new rule adopted in June 2014 to reduce entanglements in vertical lines linking submerged gear to surface marker buoys. To develop those rules the agency has relied on advice from the Atlantic Large Whale Take Reduction Team (ALWTRT) established in 1996. The team, however, has never been able to agree on all measures necessary to achieve take reduction goals. As a result, decisions on needed actions have been made by the Fisheries Service. In addition the team and the Service have relied on a co-occurrence model designed by a contractor to predict entanglement risks using data on the number of fishing lines and whale densities in different areas at different times of the year. As noted above, actions to date have failed to reduce observed whale entanglements and entanglement deaths. In this session the Commission reviewed information on the status of the rule, a proposed change in rules governing one of the fisheries subject to the ALWTRP, and the model on which the new ALWTRP rules are based.

The South Atlantic Fishery Management Council is considering a proposal to lift a wintertime closure for black bass fishing off the southeastern U.S. coast (North Carolina to Florida) that could increase entanglement risks for right whales. This fishery involves less than 40 vessels with a limit of 35 pots each that must be returned to shore at the end of each fishing day. Several alternatives are being considered and final decision on whether to lift the closure is expected in late 2015 or early 2016.

The National Marine Fisheries Service reconvened the ALWTRT in January 2015 to consider several requests by three New England States to exempt various state waters from the rule. The team again did not reach consensus and the Service is considering whether to amend the rule to include the new exemptions. Perhaps the biggest limitation in the agency's co-occurrence model stems from inadequate data on numbers of endlines used by fishermen. Except in Massachusetts, fishermen are not required to record data on where and how many endlines they use and most fishermen do not report precisely where they fish. In addition endline data is not collected uniformly across state and federal boundaries. Spatial resolution of the model (roughly 10x10 mile squares) is also larger than the management boundaries being considered in New England. Whale data also are lacking as many areas are surveyed in at least some months and include both vessel and ship board surveys that are given equal weight. As a result of these and other limitation no effort has been made to estimate bounds of uncertainty around model results. A second co-occurrence model has been developed independently for waters off the State of Maine by a consortium of research groups and the Maine Lobstermen's Association. That model is at a finer scale but currently only covers waters off the coast of Maine. It also includes certain refinements over the agency model and predicts hot spots of co-occurrence risk that do not appear in the agency model results and are inefficiently addressed in broad-based measures. The subsequent discussion focused on steps needed to improve0 the model to make it more useful for management purposes