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# US Management Efforts to Recover North Atlantic Right Whales

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INTERNATIONAL  
WHALING COMMISSION

# U.S. Management Efforts to Recover North Atlantic Right Whales

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The North Atlantic right whale is listed as endangered under the U.S. Endangered Species Act (ESA) and is a depleted stock under the U.S. Marine Mammal Protection Act (MMPA). Both statutes direct NOAA's National Marine Fisheries Service (NOAA Fisheries) to recover and conserve the North Atlantic right whale. The two primary threats to North Atlantic right whale recovery are entanglement in fishing gear and vessel strikes. NOAA Fisheries has undertaken and continues to take numerous efforts to address these threats. Below we describe recent efforts to manage these threats, with a focus on efforts and updates from 2019 to present.

## Unusual Mortality Event

NOAA Fisheries declared an Unusual Mortality Event (UME) for North Atlantic right whales in 2017, which continues to the present. Currently, a total of 31 mortalities are included in the event, including 21 in Canada (12 in 2017, 9 in 2019) and 10 in the United States (5 in 2017, 3 in 2018, 1 in 2019, 1 presumed in 2020). In 2020, a presumed mortality of a vessel struck calf was added to the UME, although a carcass has not been recovered. Of the 31 dead right whales, 20 were necropsied and 17 were determined to have died as a direct result of human activities (either confirmed, probable, or suspect), either from entanglements (8) or vessel strikes (9)<sup>1,2</sup>. More information can be found at NOAA Fisheries UME website<sup>3</sup>.

## Health Assessment Workshop

From June 24-26, 2019, NOAA Fisheries convened a workshop to improve knowledge of North Atlantic right whale health and advance recovery. The workshop goals were to: (1) to assess current health information data, including associated data gaps, and (2) identify appropriate available and needed tools and techniques for collecting standardized health data that can be used to understand health effects of environmental and human impacts (e.g., entanglement),

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<sup>1</sup>Daoust, P.-Y., Couture, E.L., Wimmer, T., and Bourque, L. 2017. Incident Report: North Atlantic right whale mortality event in the Gulf of St. Lawrence, 2017. Collaborative Report produced by: Canadian Wildlife Health Cooperative, Marine Animal Response Society, and Fisheries and Oceans Canada. 224 pp.

<sup>2</sup>Sharp SM, McLellan WA, Rotstein DS, Costidis AM and others (2019) Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis* mortalities between 2003 and 2018. *Dis Aquat Org* 135:1-31.

<sup>3</sup><https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-north-atlantic-right-whale-unusual-mortality-event#causes-of-the-north-atlantic-right-whale-ume>.

and inform fecundity and survivorship models to ultimately guide population recovery of North Atlantic right whales.

Over the course of three days, workshop participants helped NOAA Fisheries summarize North Atlantic right whale population status and existing health-assessment information, identified several ways to prioritize health data collection, tools and methods, and prioritized ways to increase the use of health data to aid in monitoring individual health, informing population health, and identifying the population consequences of multiple stressors, including the connection between human activities (e.g., entanglement) and health.

For more information, see the forthcoming workshop report, which will be available in the NOAA Institutional Repository<sup>4</sup> once published.

Considering the health priorities identified in the workshop, NOAA Fisheries is now working to develop a longer-term science health assessment plan to monitor individual and population health, including the connection between human activities (e.g., entanglement) and health.

### **Monitoring and Surveillance Workshop**

From October 22-24, 2019, NOAA Fisheries convened a workshop to address two objectives related to monitoring North Atlantic right whales: (1) improving our understanding of population status by identifying and tracking essential population metrics, and (2) improving our understanding of distribution and habitat use. The workshop convened an Expert Working Group consisting of five NOAA Fisheries researchers with considerable expertise in marine mammal monitoring, but not directly in North Atlantic right whale monitoring so as to provide an objective, independent review of ways to improve current monitoring efforts.

The Expert Working Group reviewed information on management needs for monitoring data, using mark-recapture analysis to estimate abundance and evaluate trends, current monitoring efforts in the United States and Canada using planes, vessels, and passive acoustics, and current funding levels. Based on this information, the Expert Working Group developed recommendations for a comprehensive strategy to (i) monitor population status, including estimates of abundance, trends, survival and birth rates, and other demographic metrics, (ii) monitor distribution shifts and habitat use range-wide, and (iii) assess health of individuals and the population (e.g., identify causation/threats, assess sublethal effects) through biological sampling.

For more information, see the forthcoming workshop report, which will be available in the NOAA Institutional Repository<sup>5</sup> once published.

NOAA Fisheries is reviewing the Expert Working Group's recommendations, developing a plan to modify its current surveillance efforts where appropriate, and will be working with partner

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<sup>4</sup> <https://repository.library.noaa.gov/>

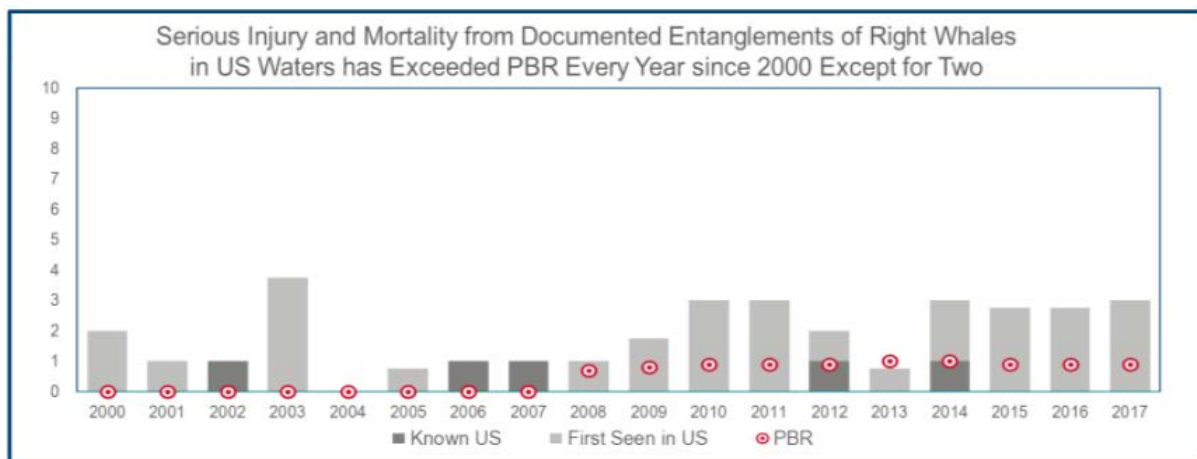
<sup>5</sup> <https://repository.library.noaa.gov/>

organizations to optimize North Atlantic right whale population monitoring and improve our understanding of distribution and habitat use.

### Reducing Entanglements in Fishing Gear

The MMPA mandates that NOAA Fisheries develop and implement Take Reduction Plans to prevent the depletion and assist in the recovery of certain marine mammal stocks that are killed or seriously injured in commercial fisheries. NOAA Fisheries convenes Take Reduction Teams, composed of stakeholders that make recommendations for reducing mortalities and serious injuries to acceptable levels. The Teams design each Plan to reduce mortality and serious injury within a specific timeframe through regulatory measures implemented by NOAA Fisheries.

The Atlantic Large Whale Take Reduction Team, and the associated Plan, addresses North Atlantic right, humpback, and fin whales incidentally killed or seriously injured in trap/pot and gillnet fisheries along the U.S. East Coast. Although it has been in existence since 1997, the Atlantic Large Whale Take Reduction Plan has not consistently reduced mortalities and serious injuries below each stock's potential biological removal level.



**Figure 1.** Serious injuries and mortalities from documented right whale entanglements compared to the stock's potential biological removal (PBR) level.

Given the recently observed decline in North Atlantic right whales, NOAA Fisheries reconvened the Team in both October 2018 and April 2019 to develop consensus recommendations to further reduce entanglement risk in trap/pot fisheries. The Team is composed of approximately 60 fishermen, scientists, conservationists, and state and federal officials. After considerable discussion, the Team reached near consensus on a framework of measures that would achieve an estimated 60% reduction in mortality and serious injury in the lobster and crab trap/pot fisheries in waters off the northeast United States. Two general risk reduction approaches emerged as the Team's preferred options: line reduction and gear modification.

NOAA Fisheries is currently developing a proposed rule and supporting analyses to implement the framework recommendations of the Team. The Team's recommended measures in the package include reductions in vertical buoy lines as well as gear modifications to reduce the

strength at which lines will break. Reduced breaking strength lines (1,700-lb equivalent) would allow entangled whales to more easily break free of gear. Additionally, most Team members supported expanding gear marking to create larger and more frequent marks on U.S. trap/pot fishery buoy lines throughout U.S. East Coast waters. This expansion should improve the ability of large whale scientists and managers to better determine the source of gear seen on or retrieved from endangered large whales. NOAA Fisheries is targeting the middle of 2020 for publishing a proposed rule.

NOAA Fisheries oversees the Large Whale Entanglement Response Network in the United States, and authorizes highly trained professional responders to assist whales entangled in fishing gear or marine debris. There are 94 authorized responders in the United States, of which 45 are on the U.S. East Coast, and 7 of these are authorized to lead the disentanglement of a North Atlantic right whale. From 2017-2019, there were 9 cases of entangled right whales in the United States, 7 alive and 2 dead. For the live animals, in 2 of the cases the entanglement was relatively minor and the whale was monitored; in 2 cases the whale was observed gear-free; and in 5 of the cases there was an entanglement response mounted resulting in the animal being partially or wholly disentangled. NOAA Fisheries provides funds for network members to purchase equipment and NOAA Fisheries maintains an ARGOS (Advanced Research and Global Observation Satellite) account for tracking telemetry tags that can be placed on entangled whales for multiple-day response efforts. Finally, NOAA Fisheries provides and supports training opportunities for network members, including enhanced safety measures following the tragic death of an experienced entanglement response team member in Canada in 2017.

### **Reducing Vessel Strikes**

The United States continues to employ a suite of measures aimed at reducing vessel interactions with North Atlantic right whales. These include vessel speed restrictions (10 knots or less) for most vessels 65 feet (19.8 meters) or longer in designated Seasonal Management Areas (SMAs) along the U.S. East Coast at certain times of the year, vessel speed reduction requests (10 knots or less) in Dynamic Management Areas (DMAs) where 3 or more right whales have been detected outside an active SMA, altered shipping lane approaches and Areas to be Avoided, and various means to alert vessel operators in near real-time to the presence of North Atlantic right whales.

NOAA Fisheries is in the process of reviewing the North Atlantic right whale vessel speed rule, which includes assessments of biological effectiveness, compliance, economic impacts, and navigational safety impacts of the rule. The report will also evaluate the effectiveness of the DMA program and investigate small vessel (> 65 feet) traffic patterns in SMAs.

### **U.S. Recovery Plan Implementation Teams**

The ESA authorizes NOAA Fisheries to appoint recovery teams to assist with the development and implementation of recovery plans. NOAA Fisheries has convened two implementation teams (the Northeast Implementation Team (NEIT), and the Southeast Implementation Team (SEIT)) to assist with issues related to the status and conservation of North Atlantic right

whales. The objectives include, but are not limited to, identifying and prioritizing information needs that can be best addressed through enhanced partnerships.

The NEIT and SEIT combine to form the full U.S. Right Whale Implementation Team and coordinate on coast-wide issues. NOAA Fisheries convened the full U.S. Implementation Team in 2019 with the primary objective of providing input on coast-wide priorities to inform the development of NOAA Fisheries' Species in the Spotlight (SIS) Priority Action Plan for North Atlantic right whales. NOAA Fisheries designated North Atlantic right whales as a SIS in 2019 and a 5-year action plan is required for species identified as among the most at-risk of extinction under this initiative. The two teams also coordinate through cross-team subgroups, such as the Population Evaluation Tool (PET) Subgroup, to address specific coast-wide issues. The objective of the PET Subgroup is to develop a population viability analysis that will allow the agency to characterize North Atlantic right whale extinction risk, taking into account current and future threats. In the model, the relative strengths of mitigation strategies can be examined by changing perceived threat effects and comparing changes to baseline mortality and reproduction schedules and resultant population trajectories. This model will be useful to help identify demographic benchmarks useful to inform management and gaps in research.

#### **Transboundary Collaboration on North Atlantic Right Whale Recovery**

NOAA Fisheries, Fisheries and Oceans Canada, and Transport Canada continue to work together as part of the United States-Canada Bilateral Right Whale Working Group. The Working Group shares lessons learned and explore collaborations on right whale research and management.

The Working Group meets twice yearly, including most recently in March 2020, to review past management practices aimed at preventing entanglements and vessel strikes, and also to coordinate on the development of future measures. The Working Group has aligned scientific research across borders, including the sharing of methods and data on aerial surveys, passive acoustic monitoring, and the analysis of gear recovered from entangled right whales to attribute it to specific fisheries. The Working Group also cooperates on best practices for at-sea disentanglement of right whales. Future work will focus on coordinating aerial and passive acoustic detection of right whales, assessing human-caused risk to right whales throughout their range, and continuing to coordinate on analyzing gear recovered from entangled right whales.