

RIGHT WHALE NEWS

*An independent forum for right whale conservation and recovery,
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Lots of moving parts. The whales. The science. The management. The law. This issue describes a number of these components. After all this time, it is not clear that there will be a positive outcome. Does the will and the ability exist? The Right Whale Co-Existence Act, S.3664, introduced on 16 February 2022, appears dead-in-the-water. A similar fate befell its predecessor, the SAVE Right Whales Act of 7 June 2018. As to the will, there is no shortage of actions, or dedication by good people. Lest despair overtake us, there are a number of bright spots. Cape Cod Bay and the surrounding area continue as a productive and abundant right whale habitat. The National Marine Fisheries Service and cooperating fishermen continue vigorous exploration of ropeless gear. Other species in other habitats appear strong. A most appropriate word brought forward from page 18—remedy.

Ed.

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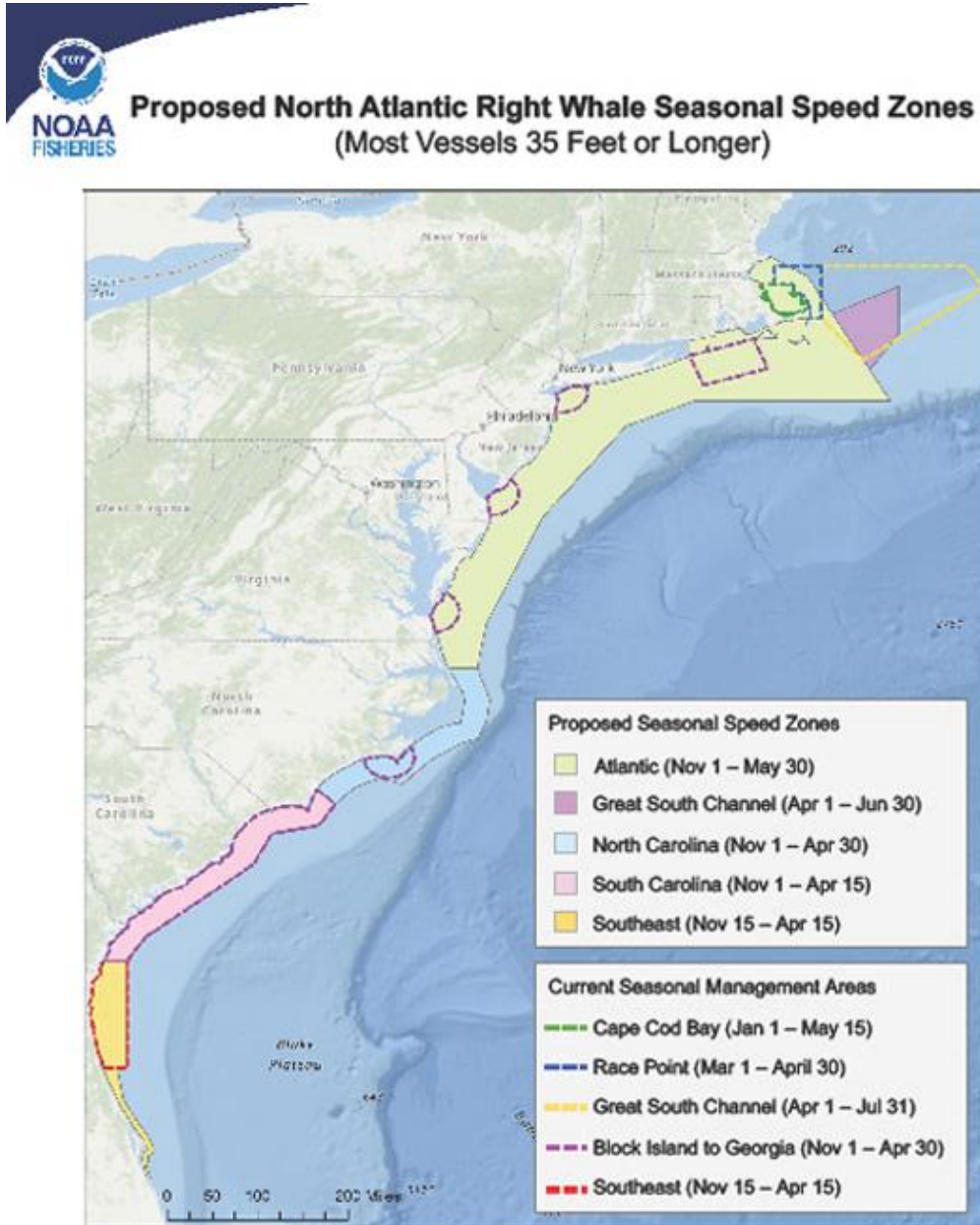
Proposed Speed Rule: The Other Shoe Drops

The buzz has been in the wind for some time.

On the evening of 12 February 2021, a 54-foot recreational fishing vessel inbound in the St. Augustine Inlet struck a right whale calf. The mother, #3230, *Infinity*, was also struck. (RWN, March 2022). Since 2005, there have been at least five incidents of recreational boats colliding with right whales in the Southeast (one incident not proven to be a right whale). (see also RWN August 2020, and March 2020.)

There is a foundation in the history. Mitigation of impacts from vessel collisions has been addressed for more than a decade. In 2008, the National Marine Fisheries Service (NMFS) implemented a seasonal, mandatory vessel speed rule in selected areas along the U.S. East Coast to reduce the risk of vessel collisions with right whales. In 2013, NMFS published a rule removing the “sunset clause” from the vessel-speed restrictions. As part of this action, NMFS

committed to publish and seek comment on a report assessing the effectiveness of the rule. The resulting June 2020 report by NOAA Fisheries, Office of Protected Resources, provided a comprehensive review of the speed rule results, current issues, areas of concern, and made a number of recommendations (RWN March 2022).



Under the proposed speed rule of 29 July 2022, NOAA Fisheries sets forward modified boundaries and timing of the current vessel speed restrictions (Seasonal Management Areas) along the East Coast of the U.S. to reduce the threat of collisions with North Atlantic right whales. Most vessels 35 feet or longer would be required to transit at 10 knots or less within the active proposed speed zones. (Source: NOAA website)

Among the contents of the report are a consideration of small vessels (<65 ft in length) involved in whale strikes. The conclusions and recommendations stated that continued speed reductions were warranted, the rule should be strengthened, and aspects of the rule should be modified to ensure levels of effectiveness with right whale recovery needs (RWN March 2022).

Closely following this report, the other shoe dropped. On 29 July 2022, NOAA proposed new vessel speed regulations to protect North Atlantic right whales. The principal changes are twofold: 1) expand the current mandatory seasonal speed restrictions of 10 knots or less to most vessels measuring 35 to 65 feet in length in designated ocean areas, and 2) expansion in both size and duration of the Seasonal Management Areas in which the speed restrictions would apply.

The Federal Register Notice for this action is available [here](#). For more information on the proposed rule's specific measures, see the NOAA [website](#).

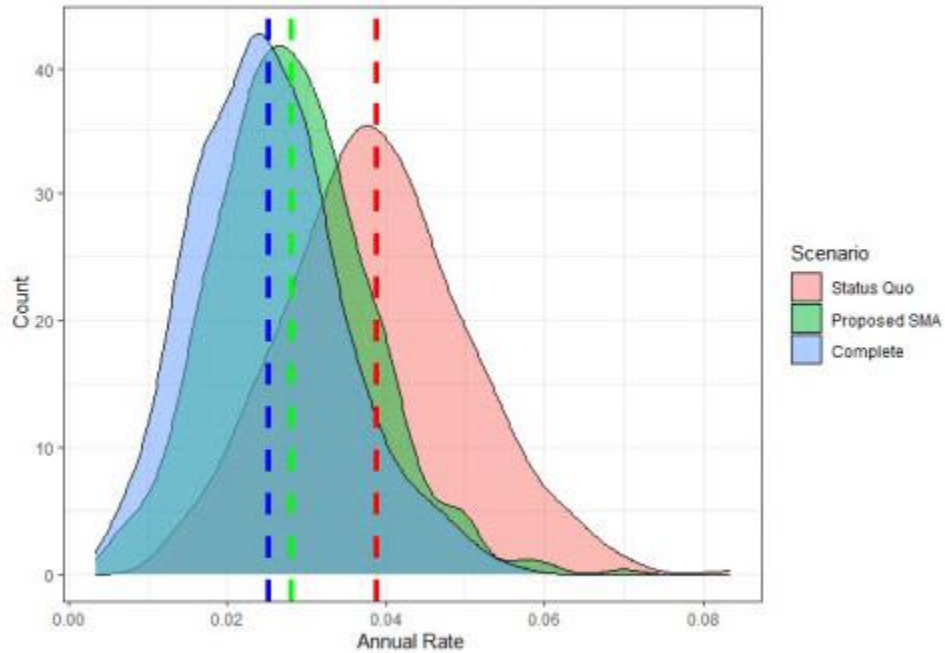
A “Vessel Strike Mortality Risk Model” is at the core of the proposed rule. NMFS used the mortality risk model to evaluate areas and times with the highest risk of vessel strike mortalities for right whales. Areas of highest risk are primarily associated with places where there is both a high density of vessel traffic and high density of right whales. In U.S. waters, these areas correspond generally to the Atlantic East Coast region, particularly between late fall and early spring (November through April). The highest risk areas occurred in the Mid-Atlantic between Cape Hatteras and New York, and in relatively shallow waters over the continental shelf.

NMFS then used the risk model to simulate the maximum overall reduction in risk of lethal right whale strikes that could be achieved with the revised SMA boundaries (Garrison *et al.* 2022, included on the NMFS website). The revised boundaries were identified based on evaluation of those areas and times with the greatest chance of reducing lethal strikes to right whales. For the simulation, NMFS artificially set the speed of transits within the revised SMA time-space boundary that had an average speed greater than 10 knots (5.1 m/s) to the 10-knot speed that would be required. NMFS then re-calculated the total risk of vessel strike mortality for this simulated dataset and compared to the status quo, thereby providing an estimate of the lethal strike risk reduction, in time and space, should the SMA boundaries be revised to be the expanded Seasonal Speed Zones (SSZs).

While the percentage changes in the graph may seem small (next page), a closer look is warranted. Dropping a rate from 0.0389 to 0.0253 lowers the mortality rate by 35%. Looking at the numbers, if one has 350 whales and a mortality rate of 3.89%, this translates to 14 dead whales. Lowering the rate to 2.53% translates to 9 dead whales—resulting in 5 whales that remain alive.

Based on this analysis of the proposed SMA boundaries and the additional risk reduction expected to accrue from the use of mandatory Dynamic Speed Zones, NMFS anticipates the

proposed revisions would address over 90% percent of the risk reduction that can be achieved by reducing vessel speeds to 10 knots (5.1 m/s), relative to the status quo.



The simulated effect of the proposed speed zones on right whale vessel-strike risk. Each distribution reflects repeated simulations accounting for random effects in the model. The simulated annual rate of vessel strike mortalities is shown on the x-axis. The mean simulated mortality rate of the status quo was 0.0389 (red dashed line) and that for the proposed speed zones was 0.0282 (green dashed line). If all vessel traffic were set to 10 knots (“complete”), the mean mortality rate would be 0.0252 (blue dashed line). See further explanation in the text below. (Source: Garrison et al. 2022, NOAA website).

The proposed rule is lengthy, detailed, and includes a number of components. The **comment period for the proposed rule is open through 30 September 2022**. You may submit comments on this document, identified by NOAA-NMFS-2022-0022, by electronic submission. Submit all electronic public comments via the Federal eRulemaking Portal. Go to <https://www.regulations.gov> and enter NOAA-NMFS-2022-0022 in the Search box. Click the “Comment” icon, complete the required fields and enter or attach your comments. You may submit comments on supporting materials via the same electronic submission process, identified by NOAA-NMFS-2022-0022.

Gear Loan Program: Part of the Roadmap

In the summer of 2022, NOAA put forward multiple plans for protecting right whales. The expanded speed rule (see page 1) was one. A “Roadmap for Ropeless Technology” was the second. At the core of the roadmap is a warehouse in Pocasset, Massachusetts. Here, about 140 units of ropeless gear of several types are available for loan to fishermen. Eric Matzen, program coordinator, describes that an additional 50 units will be purchased. At the moment, 103 units or about 75% of the existing units are deployed to about 20 fishermen. This includes both inshore and offshore trawls. Generally, these units are in the prototype phase, inviting evaluation of both cost and design. The goal of the program is to get feedback from fishermen, which, in turn will be provided to developers and engineers. Program participants and supporters include federal and state agencies, Conservation Law Foundation, Whale and Dolphin Conservation, International Fund for Animal Welfare, and the Pew Charitable Trusts. A high level of stakeholder involvement and collaboration is evident.



Brian Galvez, gear technician, with an example of gear in the warehouse. This includes the deck unit, and cage with receiver and lift system. Gear locations and data are tracked via Smartphone. At the moment, about 103 such units are deployed for familiarization and evaluation by about 20 fishermen.

Gear Shed Visit: Eye Opening

Jim Hain

Big. Heavy. Thick. Reading about disentanglement from fishing gear is one thing, having the gear before you with the rope in your hand is another.

On Thursday, 25 August 2022, I visited the gear shed at the Narragansett National Marine Fisheries Service facility in Narragansett, Rhode Island. In a section of a large warehouse, several hundred items of gear removed from right whales (and other species) are stored. David Morin, Large Whale Entanglement Coordinator, Greater Atlantic Fisheries Regional Office, Gloucester, Massachusetts, described that an inventory is currently underway. Documentation of the gear, including a check of measurements and assessment of items like weak links, is being conducted and entered into a database. A catalog will be available. This includes cases going back to at least the mid '90s. Meredith Moise, assistant stranding coordinator, described that their team makes periodic visits to the warehouse (from Gloucester) and is able to work through one to three years with each visit. They began with 2018 cases and have now worked back to 2003. The documentation is cautious and matter-of-fact. Morin explains, "Our records are based on what could be stated in court. Because of potential litigation, we do not want to make inferences."

Summary reports are routinely submitted to the Atlantic Large Whale Take Reduction Team. Here is an example:

<https://www.greateratlantic.fisheries.noaa.gov/policyseries/index.php/GARPS/article/view/25/21>

During my visit, I looked at two cases: *Snow Cone*, #3560, has been described on several occasions (RWN, March 2022, May 2021). On the day of my visit, the bin with rope removed from *Snow Cone* on 10 March 2021 in Cape Cod Bay was before me (Case #E04-21). The rope was thicker and heavier than I had imagined. I could now relate better to Michael Moore's concerns about pain and suffering resulting from an entanglement (RWN May 2021) as well as Julie van der Hoop's conclusions about the effects of gear drag on right whales (*Marine Mammal Science* 32 (2): 619–642, 2015).



Gear removed from #3560, Snow Cone, in Cape Cod Bay, 10 March 2021. David Morin, Stranding Coordinator (L) and Rob Martin, collaborating fisherman(R). The rope is considerably thicker than I had imagined.

Next, I looked at Case #EO2-17, the gear removed from #3530, *Ruffian* on 6 January 2017 (RWN June 2017). There is excellent video from the disentanglement. Yet, nothing made the same impression as having the 120 lb. snow crab pot and rope before me. Big. Heavy. Thick. And to think that this whale dragged the gear more than 1200 miles from Canada to Florida.



The snow crab pot and rope removed from Ruffian, #3530, off northeast Florida on 6 January 2017. The gear was dragged down from Canada, some 1,200 miles. The pot is of heavy construction and weighs about 120 lbs.

Toward the end of the visit, Morin described instances where DFO has disagreed with the NMFS analysis of an item of gear or the nature of entanglement. The two agencies are currently working to establish common language for the bilateral gear analysis protocols.

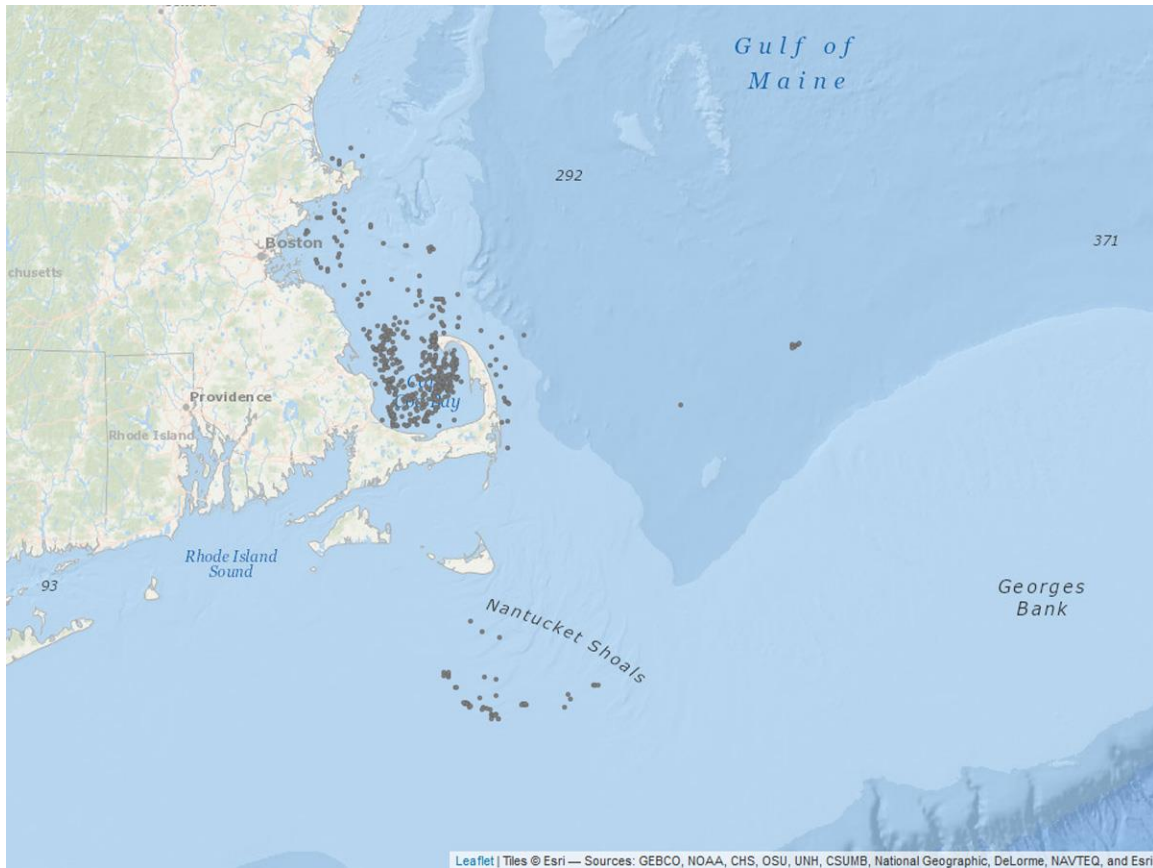
It's one thing to read about entanglements in fishing gear. It's quite another to have the gear before you. Nothing like seeing the real thing. Heavy. Big. Thick. It's eye opening.

Cape Cod 2022 Report

Contributed by Brigid McKenna, Center for Coastal Studies, Provincetown, Massachusetts

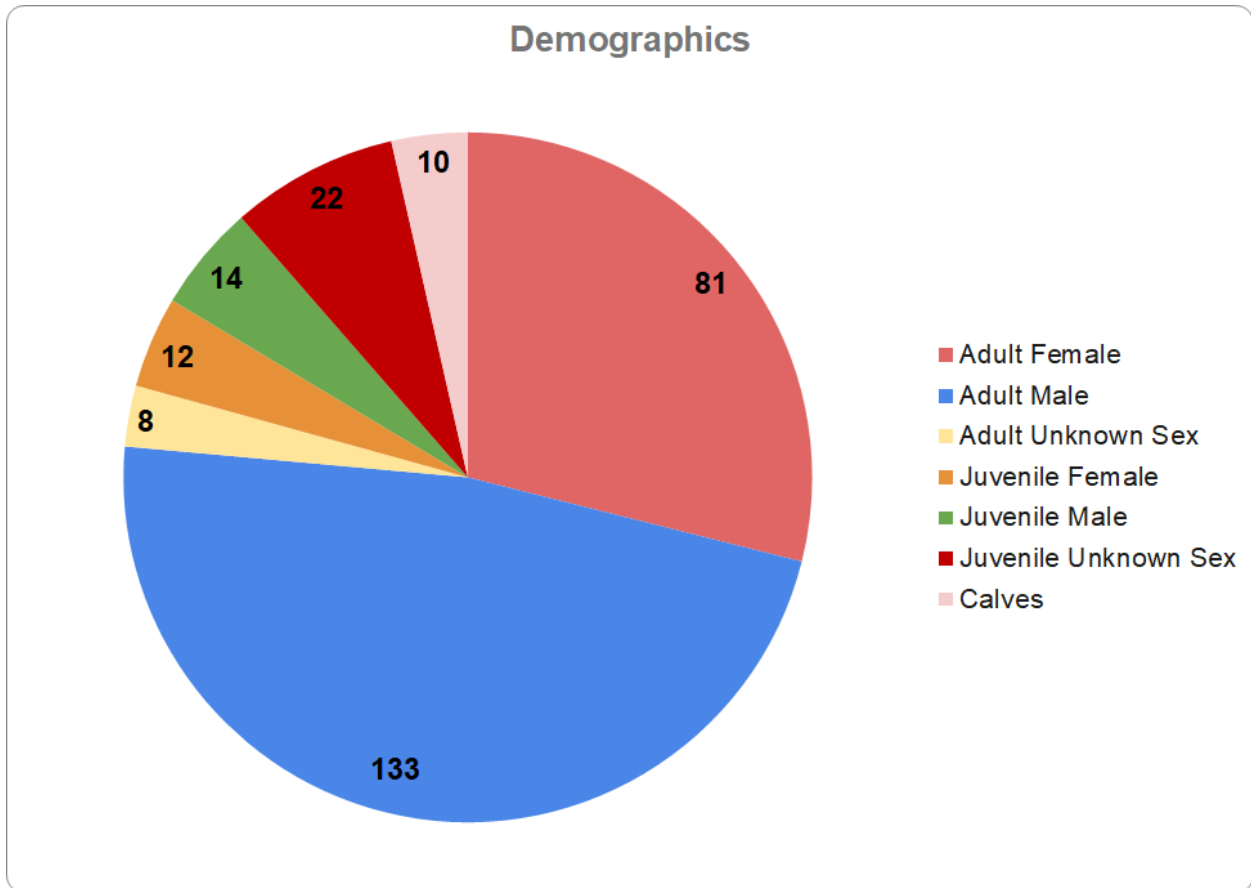
The Center for Coastal Studies team flew 44 survey days between August 2021 and May 2022, including summer/fall flights concentrating on Southern New England. The breakout is as follows: 27 days, Cape Cod Bay; 13 days, Massachusetts Bay; 8 days, Southern New England wind area (August to January) and eastern shore off Cape Cod, 1 day; SCOPEX (South Channel Ocean Productivity Experiment—lines over the Great South Channel (South Channel Ocean Productivity Experiment), developed by URI and continued by NEFSC/NMFS). On some days, multiple areas were covered.

Including the pre-season flights, CCS documented 280 individuals between August 2021 and May 2022 (all areas and all platforms). Between January and May 2022, the CCS team identified 260 individual right whales in Cape Cod Bay and adjacent waters (all platforms), and is still processing sightings



Right whale sightings by the Center for Coastal Studies team, August 2021 through May 2022.

The teams also saw a higher percentage of known mother-calf pairs than in previous years. They sighted 11 out of 15 known 2022 mothers, including the first sighting of #1301/*Half Note* without her calf. The mother-calf sightings included #1245/*Slalom*, #1515, #1620/*Mantis*, #1817/*Silt*, #2040/*Naevus*, #2360/*Derecha*, #2614/*Tripelago*, #3157, #3430, and #3560/*Snow Cone*.



Demographics for the identified right whales sightings in Cape Cod Bay and vicinity, August 2021 through May 2022.

The last Cape Cod flight was on 14 May 2022. The gear closure and speed restriction were lifted effective 16 May. The final flight of the season was 25 May (SCOPEX).

Right Whales Again Visited Massachusetts Waters in Large Numbers

Contributed by Erin Burke, Massachusetts Department of Marine Fisheries

In spring 2022, the Massachusetts coast once again played host to large aggregations of right whales. Seasonal feeding aggregations were observed in both traditional right whale habitats

like Cape Cod Bay (CCB) and in newly utilized areas like Massachusetts Bay and the North Shore. The Massachusetts Restricted Area (MRA), a seasonal trap gear closure, was expanded in 2021 to state waters portions of Mass Bay and the North Shore to protect right whales that have recently extended their distribution to those areas. The importance of the expanded closure was demonstrated in 2022, as the Center for Coastal Studies aerial surveillance team observed aggregations of right whales in Massachusetts Bay, Salem Sound, and off Gloucester. Since 2021, DMF and CCS have broadened aerial survey coverage to include the northern portions of the MRA. Right whales were also present in large numbers in CCB in 2022, as is typical of their distribution. A season high of 99 individual whales was documented in CCB at the end of February. The seasonal trap gear closure in Massachusetts state waters runs through 15 May to protect right whale aggregations that now linger into mid-May. The closure can be lifted after 1 May if right whales are documented to have left the area, but in 2022, they continued the pattern of remaining until mid-May. Over the course of the 2022 season, at least 73% (n=247) of the known right whale population was documented in Massachusetts state waters and adjacent federal waters, including 10 of the 15 calves born in 2022. The CCS team is continuing to analyze photos from the season and the number of whales observed is likely to increase.

With such a large portion of the right whale population aggregating in Massachusetts, it is critical to protect them from entanglement and vessel collision while in these waters. In addition to the expanded MRA, DMF recently implemented other protected species regulations affecting trap/pot fisheries in Massachusetts, including the requirement to modify buoy lines to break under 1,700 pounds of tension, expanded gear marking, and buoy-line diameter restrictions. DMF also implements a small-vessel speed restriction in Cape Cod Bay during the height of the season to protect right whales from vessel collision. To ensure that the MRA is free of any derelict gear that might pose an entanglement risk, DMF partners with the Massachusetts Environmental Police (MEP) and commercial fishermen to remove any gear that is lost or abandoned in the closed area. In 2022, these efforts removed approximately 2,000 traps and 600 buoy lines, mainly from Mass Bay and the North Shore where the closure is still relatively new to fishermen. Enforcement actions related to these violations are likely to assist in improved compliance in the future and DMF will continue to monitor for and remove derelict gear during the closed season.

DMF has also been involved in supporting the research and development of cost-effective alternative fishing technologies, including on-demand (commonly called “ropeless”) fishing systems, focused on reducing entanglement risk to protected species. DMF has provided numerous Letters of Authorization to researchers seeking to test on-demand fishing systems in state waters that may further reduce the risk of entanglement or the severity of entanglement. These *in-situ* investigations are an important step in the advancement of alternative gear technology.

The 2022 right whale season followed a pattern typical of recent years—dense aggregations of feeding whales in Cape Cod Bay, with expanded habitat use in Mass Bay and the North Shore, and a mass exodus of whales by mid-May. Through the collaborative efforts of DMF, CCS, NMFS, law enforcement, and countless commercial fishermen, we ensured a successful and safe right whales season in Massachusetts.

Report from the Mid-Atlantic

Contributed by Dan Engelhaupt, HDR, Virginia Beach, Virginia

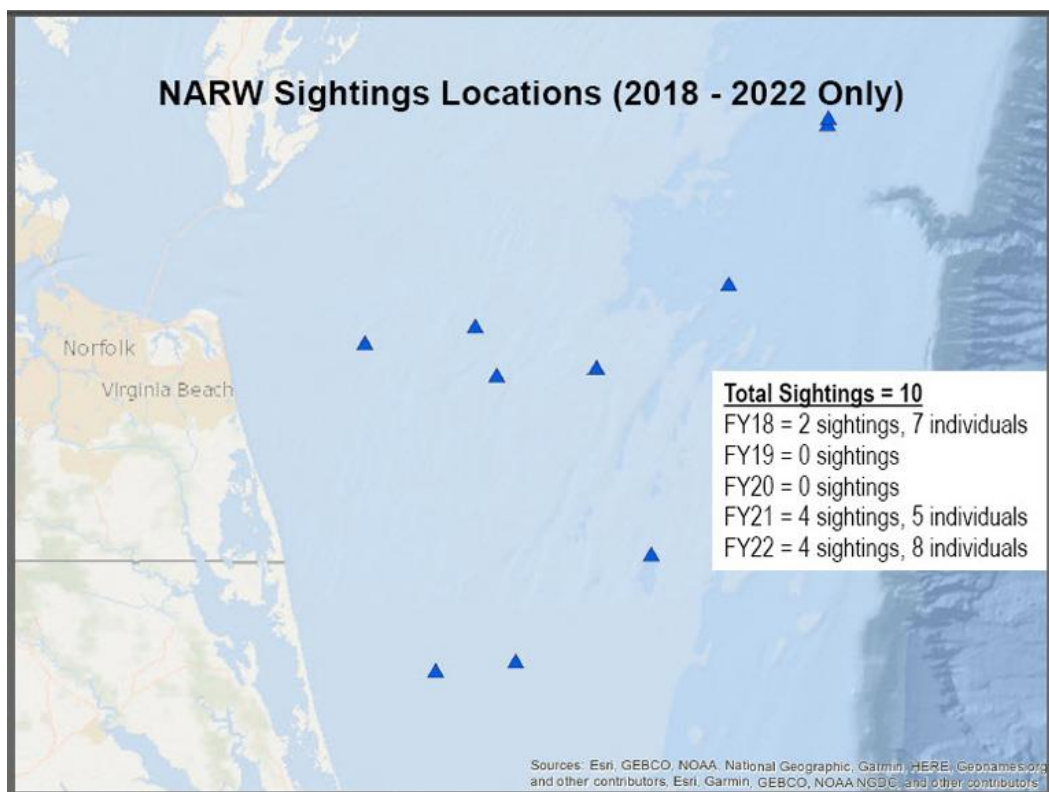
Unlike the right whale habitats to both the south and the north, which are characterized by some level of seasonal residence, the waters of the mid-Atlantic are a migratory or transitory habitat for right whales. In recent years, the mid-Atlantic has received increased attention from scientists and managers. The area contains vessel traffic, right whales, and energy development. The Navy is at the forefront of monitoring efforts.

Naval Station Norfolk (NSN) is the world’s largest navy base. The U.S. Navy routinely conducts training and testing activities east of NSN in the Virginia Capes Operating Area in the western mid-Atlantic Ocean. In addition to the U.S. Navy, these waters are also important to various agencies and stakeholders including the National Oceanic and Atmospheric Administration (NOAA), Bureau of Ocean Energy Management (BOEM), Department of Energy, the Port of Virginia, wind energy developers & regulators, commercial shipping, and commercial and recreational fishing. Continental shelf waters are recognized as an important habitat for multiple species of baleen whales including fin, humpback, sei, minke, and the critically endangered North Atlantic right whales (NARWs).

Under the U.S. Navy Marine Species Monitoring program, HDR’s Virginia Beach-based research team has conducted baleen and toothed whale monitoring efforts in the Virginia and North Carolina nearshore and offshore waters for the past eight years. Previous aerial surveys, including U.S. Navy funded efforts flown by the University of North Carolina at Wilmington and the Virginia Aquarium, along with passive acoustic monitoring (PAM) funded by the U.S. Navy and BOEM, have detected a seasonal presence of right whales in the study area primarily from December to April each year. This coincides with the near and mid-shelf mid-Atlantic humpback whale monitoring efforts. NARW sightings, although infrequent in our study area, are always considered the highest-priority species given their critical status. The core study objectives include: 1) identify baseline behaviors and habitat use through photo ID, tagging, and drone observations, 2) understand the extent of site-fidelity exhibited by NARWs in specific mid-Atlantic areas, and 3) identify potential consequences to NARWs occupying waters with a high level of anthropogenic activity.

The U.S. Navy continues to invest in NARW research. In addition to HDR’s vessel- and aerial-based monitoring efforts, the Navy has funded studies led by Duke and Syracuse Universities on the calving grounds off Florida and Georgia, provided NOAA and HDR funds to deploy PAM buoy arrays off Virginia, North Carolina, and Delaware to determine presence/absence over time, and purchased and installed a PAM buoy, developed by Mark Baumgartner, near Cape Hatteras that provides near real-time NARW vocalization detection capabilities.

In addition to our vessel-based efforts, the HDR team puts up a spotter plane and crew when available specifically to search for NARWs and ultimately direct the vessel team to the sighting. From 2018 to 2022, 10 sightings were made with 20 individual NARWs (5% of the current estimated population) identified. Adults, juveniles, yearlings, and calves have all been sighted. Behaviors observed included travel, socializing, feeding, milling, and nursing. In 2020 and 2021 HDR was fortunate enough to collaborate with teams from the Clearwater Marine Aquarium Research Institute that were conducting NARW aerial surveys along the North Carolina coast (see RWN January 2021) . On multiple occasions, they relayed NARW sightings to HDR’s vessel-based team that allowed them to assess the whales for tagging and/or fly the drone to conduct both body-length and body-condition assessments.



The handful of sightings during the years, 2018–2022 underrepresents the habitat use, as all or most of the right whales traveling to and from the SEUS pass through the area. Note the variety in distance offshore .

As described, tagging of right whales is a component of our efforts. HDR’s team uses a combination of tag types including medium duration (days to weeks) dart tags in the LIMPET configuration and short-term (hours) suction-cup tags during each tagging opportunity to minimize approaches and maximize data collected. Dart tags are Wildlife Computers SPLASH10-F-333 with Fastloc GPS. These allow us to collect medium-scale information that includes 1) location information by both Argos satellite-determined positions and Fastloc GPS technology for more accurate positioning and 2) dive profile information including dive depth, dive duration, and surface duration. Suction cup tags are University of Michigan Digital Acoustic Recording Tags (DTAG). These tags allow us to collect high-resolution fine-scale dive profile and acoustic information that includes dive depth, dive duration, surface duration, 3D orientation, acceleration, vocalizations made by the whale, and sampling of the acoustic environment.

To date, we’ve deployed 3 dart tags and 2 DTAGs—all on yearling individuals (calf of 2642, calf of 1612, and calf of 3232). Dart tags lasted 17, 2, and 18 days respectively, which is similar to durations we get for other baleen whales tagged in our study area. Movement and dive-behavior data collected have provided valuable insight into how and where NARWs move up and down the East Coast as well as the challenge they face with regards to navigating extremely busy shipping lanes—see NOAA Fisheries Service ‘Watch Out for Whales’ Facebook post showing movements of tagged whale calf of 2642,



Limpet tag deployed 21 February 2022 on the yearling calf of #3232 13 nmi east of Virginia Beach. Movement was initially southward as as Georgia before turning back to the north.

HDRs team uses drones to rapidly identify individual NARWs in the field. This is important to not only determine what individual is utilizing the study area, but also to rule any NARW “in or out” for potential tagging based on a quick health assessment and/or whether the whale is a reproductive female—which is not authorized under our MMPA/ESA tagging permit. In addition to identification, we’re very interested in total length and overall body condition, which can be determined using specific measurements along the whale’s body.

Additional information about tagging events and projects can be found on the Navy’s Marine Species Monitoring program website: www.navy.marinespeciesmonitoring.us.

Acknowledgement: U.S. Fleet Forces Command provides research funding and Naval Facilities Engineering Command Atlantic provides technical support and management of this project under the U.S. Navy Marine Species Monitoring program.

Fin Whales in the Southern Ocean

Right Whale News has previously commented on bright spots in the whale story (e.g., blue whales, RWN January 2021). On 14 January 2022, a remarkable event was posted on social media. Photographer Ralph Lee Hopkins, a photographer aboard the National Geographic’s *Endurance*, Lindblad Expeditions, captured a spectacular aggregation of hundreds to a thousand fin whales in the Southern Ocean, offshore of Coronation Island, in the Orkney Islands. At times and places, there are healthy whales. An article, #9458, by Herr *et al.* is in *Scientific Reports* 12, 7 July 2022. A recovery from whaling is described. Search on “fin whales off Coronation Island” for excellent video.

Update—Atlantic Large Whale Take Reduction Plan

Contributed by Robert D. Kenney

University of Rhode Island Graduate School of Oceanography

Four score and seven years ago (actually only one score and seven years ago, but it did get your attention) — in 1994, the U.S. Congress reauthorized and amended the Marine Mammal Protection Act of 1972 (MMPA). The biggest changes enacted were intended to reduce fishery-related mortality and serious injury (simply “mortality” hereafter) to below rigidly defined limits on a relatively short timetable. (This was termed the “fish fix.”) In the case of the North Atlantic right whale (NARW), management under the amended MMPA has so far been a dismal

failure. The estimated average annual human-caused mortality for 2015–2019 in the 2021 NARW Stock Assessment (on-line [here](#)) was 31.2. If anything, the problem is getting worse.

In the MMPA amendment, two new sections were added. One was Section 117, which created the annual Stock Assessments that we've all become familiar with. The second was Section 118, entitled "Taking of Marine Mammals Incidental to Commercial Fishing Operations." Section 118 lays out the process for creating Take Reduction Teams and Take Reduction Plans, and includes the following language (emphasis added below):

"The immediate goal of a take reduction plan for a strategic stock shall be to reduce, **within 6 months** of its implementation, the incidental mortality or serious injury of marine mammals incidentally taken in the course of commercial fishing operations to levels less than the potential biological removal [PBR] level established for that stock under section 117. The long-term goal of the plan shall be to reduce, **within 5 years** of its implementation, the incidental mortality or serious injury of marine mammals incidentally taken in the course of commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate. . ."

The Atlantic Large Whale Take Reduction Team (hereafter the Team) was appointed in 1996, and the first Atlantic Large Whale Take Reduction Plan (hereafter the Plan) was developed in 1997. The Plan was formulated to reduce fishery-related mortality of the NARW, humpback whale, and fin whale, but the intense focus has always been on NARWs under the assumption that any measures would benefit the other species. It is now 25 years later, and so far we have failed to meet the MMPA's 6-month goal of getting NARW fishing-related mortality under PBR, much less to the 5-year goal of near-zero. The home page for the Plan can be found [here](#), where you can find links to all of the other relevant sites, documents, and recordings of webinars.

The Team met in Providence in April 2019, the last full in-person meeting pre-COVID (See *Right Whale News* 27(2), September 2019). The outcome was a near-consensus set of measures that were estimated to reduce entanglement risk in the Northeast Lobster and Jonah Crab Trap/Pot Fisheries (hereafter simplified to NE Lobster) by about 60%, although the exact measures that would apply to the offshore component of the fishery were not very well specified. These would be management measures over and above those already in place, *e.g.*, weak links, sinking groundline, gear marking, seasonal area closures, and minimum numbers of traps per trawl. At that point the complex and ponderous federal rule-making machinery kicked into gear (see "Regulations on the Horizon," *Right Whale News* 29(3):6–9, 2021), with multiple complications arising along the way:

- The risk-reduction target set by NMFS for the 2019 Team meeting was 60–80% in order to meet PBR, but the Team focused on the lower end, more or less guaranteeing that it would be insufficient.
- The COVID pandemic hit in early 2020, slowing everything down.

- NMFS needed to evaluate the effects of the proposed Plan revision and their permitting of the NE Lobster fishery (and 9 other fisheries) under the Endangered Species Act (ESA), and to issue a Biological Opinion (BiOp) that concluded whether that activity would or would not jeopardize the continuing survival of any of several endangered or threatened marine mammal, turtle, and fish species—but primarily NARWs.
- The NARW population continued to decline, and better modeling methods were providing more precise and reliable estimates of both abundance (decreasing) and mortality (increasing)—so that the risk-reduction targets kept receding.

In order to issue a “no-jeopardy” Biological Opinion (BiOp), NMFS created a Conservation Framework (hereafter the Framework) that laid out a phased approach to mortality reduction that would lower entanglement risk to NARWs by up to 87% by 2030, lowering the average mortality to 0.136 NARWs per year. The Framework laid out four phases, but most subsequent discussion has collapsed those to three:

- Phase 1 came out at the April 2019 Team meeting, designed to reduce risk in the NE Lobster fishery by 60%. Most of it went into effect on 18 October 2021. Measures included additional closures—the offshore ends of three Maine fishing zones in the north-central Gulf of Maine (October–January), Massachusetts state waters from the existing restricted area north to the New Hampshire line (February–April), and a South Islands Restricted Area in the inner and middle shelf south of New England from Nantucket Shoals west to about Narragansett Bay (February–April); a complex suite of minimum-trap-per-trawl requirements by geographic zones; requirements for weak rope or weak inserts, with breaking strength less than 1,700 pounds, in portions of some or all buoy lines; and refinements to gear-marking requirements.
- Phase 2 was to take on all of the other East Coast fisheries capable of entangling NARWs, including the Mid-Atlantic lobster fishery, all gillnet fisheries from Maine to Florida, and all other trap/pot fisheries except NE Lobster. The Framework set the risk reduction target to 60%, equivalent to Phase 1’s planned goal for the NE Lobster fishery.
- Phase 3 was to further reduce the risk for all fisheries to the final target of 87% risk reduction. Since the NE Lobster fishery is by far the biggest source of entanglement risk, Phase 3 would focus most heavily there.

Multiple webinars were held through 2021 and early 2022, discussing, among other topics, updates to the Decision Support Tool (DST) and its various data inputs, as well as the range of potential management measurements that might be proposed for Phase 2. A five-day meeting of the full Team was held in May 2022. It had been hoped that an in-person meeting would be possible, however the meeting was held virtually. The meeting summary and key outcomes memorandum can be found on-line [here](#). There were two overarching objectives: “1) Complete

the Team’s work on developing recommended measures for Phase 2 risk reduction, and 2) Prepare for Phase 3 by discussing the data and analyses needed to inform future discussions that will identify additional risk reduction measures in the Northeast lobster and Jonah crab fisheries to reach the Agency’s estimated risk reduction needed to reduce right whale mortality and serious injury below PBR.”

Instead of the stated 60% Phase 2 risk reduction in the Framework, the charge to the Team was to use the higher Phase 3 target. By that time, the estimated overall risk reduction needed to meet the PBR target had increased from the 87% assumed in the Framework. From the 2021 NARW Stock Assessment, PBR was 0.7, average annual mortality for 2015–2019 was 31.2, and the estimated proportion of that due to entanglement was 70% (based on observed cases). The risk reduction necessary then depended on the proportion of mortality allocated between the U.S. and Canada. If the proportion was 50:50 (US:CAN) the necessary risk reduction was 93.6%; if 40:60—92.0%; or if 30:70—89.4%. The proposed Phase 2 target given to the Team was 90%.

Bottom line—the Team meeting in May produced no recommendations for Phase 2 measures. Much of the meeting was taken up by waiting for DST runs to evaluate individual measures or proposed combinations of measures. This was made much more complicated by serious failures with the NMFS computer servers that were running the DST. The NMFS staff had to run DST models in low resolution on smaller computers. At the end of the week, there were far too many open questions for the Team to critically evaluate proposed measures, much less agree on any recommendations. The current plan is for a webinar on 8 September to present the risk-reduction estimates from the DST for all of the Phase 2 measures proposed from the May meeting, followed by three afternoons of virtual meetings on 19, 22, and 23 September to get to the decision-making that had been hoped for in May. Note that all Team webinars and meetings are open to the public; check the [Team page](#) for schedules and to register.

During the May meeting, there was also a significant difference of opinion about what needed to be accomplished as soon as possible given the critical status of the NARW population. There was strong pressure from the Marine Mammal Commission and the conservation caucus to scrap the Phase 2/Phase 3 structure and go straight for the 90% risk reduction across the board, including the NE lobster fishery. The Commission sent a follow-up letter to NMFS in June (available [here](#)) urging bolder steps toward the Phase 3 targets, including more and larger closures, dynamic management areas, caps on fishing effort, and accelerated development of so-called “ropeless” fishing gear.

Those Phase 3 targets are farther away than ever. At a Team webinar on 18 August, the agency presented an evaluation of the Phase 1 risk reductions using the current, updated version of the DST, which includes better fishery data (more years, higher resolution, more spatially explicit) and the latest NARW density model (version 12, 2010–September 2020). Rather than the 60% reduction predicted using the older data, the revised DST predicts only a 48% risk reduction from Phase 1 measures. Therefore the additional measures needed to reduce risk in the NE

Lobster fishery to the 90% target become even more difficult, not to mention more painful for the industry. Further complicating the issue is the decision by a U.S. District Court judge that both the BiOp and the Phase 1 Final Rule were invalid (see the following article).

As of 12 September 2022, NMFS is apparently seeing the proverbial “handwriting on the wall” even though the Court’s decision is still weeks away. The agency is pivoting immediately into Phase 3. On 8 September they announced a 30-day scoping and comment period (9 September–11 October)—“asking for ideas and suggestions for measures for all U.S. commercial fisheries regulated by the Plan that would reduce the risk of mortalities and serious injuries to North Atlantic right whales due to entanglement in commercial fisheries to below the stock’s population biological removal (PBR) level, as required by the Marine Mammal Protection Act. Given the continued decline in the North Atlantic right whale population, we estimate that a 90 percent minimum reduction in risk is necessary.” This now includes the NE lobster fishery. To submit written comments, go to [Regulations.gov](https://www.regulations.gov) and enter docket # NOAA-NMFS-2022-0091. They will be holding one virtual scoping meeting on Tuesday, 27 September, at 4:30 PM, where they will provide a quick overview and then allow time for public comment. To attend, you can register using [this link](#). The upcoming Team meetings during the week of 19 September will now focus on developing packages of management measures to meet the coast-wide 90% risk reduction, and another round of Team meetings for decision-making is tentatively planned for the week of 14 November.

Ruling on 2018 Lawsuit: Actions Deferred

In January 2018, a group of conservation organizations (*e.g.*, Center for Biological Diversity, Defenders of Wildlife, and Conservation Law Foundation) sued the federal government with a complaint that it wasn’t doing enough to save whales from lobster gear. On Friday, 8 July 2022, U.S. District Judge James Boasberg ruled that the federal government hasn’t done enough to protect right whales from lethal entanglement and new rules are needed to protect the species from extinction. The government, he ruled, has violated both the Endangered Species Act and the Marine Mammal Protection Act (*Cape Cod Times*, 10 July 2022).

The teeth in the ruling were not immediately evident. Boasberg’s ruling did not dictate that the lobster industry must be shut down, but rather, that the parties involved must propose potential remedies during an additional briefing.

Erica Fuller, Conservation Law Foundation describes that the final “remedy briefing” will likely not occur until later October, with additional delay until an opinion is provided. The plaintiffs (the NGOs) submitted their remedy brief in late August, and NMFS’ is due on 19 September.

Then the intervenors (Maine Lobstermen’s Association submit theirs next, and the plaintiffs get one last bite at the apple in October before Judge Boasberg considers his decision.

Calendar

24 October 2022. Ropeless Consortium Meeting, Hybrid. New Bedford Whaling Museum, New Bedford, Massachusetts. An in-person event with virtual attendance/presentation opportunities. Registration closes on 7 October. Information and details available at www.ropeless.org.

25–26 October 2022. Annual meeting of the North Atlantic Right Whale Consortium, Hybrid. New Bedford Whaling Museum, New Bedford, Massachusetts. The meeting will be a two-day in-person event with virtual attendance/presentation opportunities. Registration closes on 7 October. Meeting details are available at www.narwc.org.

18 October 2022. Southeast U.S. right whale recovery implementation team. The public Forum is deferred until the Spring. The Team proper will meet via conference call from 9 to 1. Update available from Tom Pitchford, [tom.pitchford@ myFWC.com](mailto:tom.pitchford@myFWC.com).

5–6 November 2022. Annual Right Whale Festival. Main Beach, 32 N. Fletcher Ave., Fernandina Beach, Florida. See: rightwhalefestival.com. The Right Whale Festival will feature live music, exhibits promoting marine conservation with onsite marine mammal scientists, kid's activities, art and unique gifts, a silent auction, a beach clean-up, food trucks, and much more. This free festival takes place rain or shine. Please check back, as COVID may require adjustments.

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