Right Whale Research News

Volume 30, Number 1 May 2021



In this issue:

#20556-01.

A Dynamic Right Whale Calving Season

Right Whale Calf in the Canary Islands

Report from Cape Cod Bay

The Ongoing Efforts to Protect **Right Whales**

Mortality and Entanglement Update

The Lindy Johnson Fellowship Fund

Sponsored Whale Update

Summer 2021 Fieldwork

In Memoriam: Laurie Murison

Video Series Features the Right Whale Team!

Recent Peer-reviewed Team Papers

Give the Gift of Endangered **Species Conservation**

A Dynamic Right Whale **Calving Season**

Anyone who has been following right whale news over the last 10 years knows that much of it has not been good. We have seen fewer calves born, higher rates of mortality, and a rapidly warming ocean displacing them from many of their old feeding habitats. But come December of each year, we start a season of hope when right whale calves are born.

This year, the dedicated right whale aerial surveys off of the Florida and Georgia coasts, led by Florida Fish and Wildlife Commission (FWC), Clearwater Marine Aquarium Research Institute (CMARI), and the volunteer networks of Marineland and the Marine Resource Council, were augmented by two additional surveys by CMARI off the Carolinas. This is an exciting and much overdue expansion of surveys as relatively little is known about how right whales use these waters.

The calving season got off to an early start. Before surveys were even under way, an adult female, Champagne (Catalog **#3904)**, was seen off the coast of North Carolina on November 19, and the very next day a newborn calf was found dead on a beach 70 miles to the south. We initially wondered if **Champagne** had been the mother, but were happily surprised when she and her first calf were seen off Georgia in January. She is one of 17 mothers identified so far (the identity of the mother of the eighteenth calf-the dead neonate from Novemberis unknown). While 18 calves are the most we've had in the last six years, it falls short of the average of 23 calves born annually in the 2000s. One positive sign: Six females that had been delaying giving birth to their first calf were able to successfully calve this year, their ages ranging from 12 to 19 years of age.

Anderson Cabot Center for Ocean Life at the New England Aquarium

It seems everything was early this season: The first sightings of mothers with newborn calves in November instead of December, all but three calves born

A Dynamic...

Continued from page 1

before mid-January instead of the norm of about half of the calves born by that time, and three mothers seen with their calves up north by March 10 (**Millipede** (#3520) in Cape Cod Bay, #2420 south of Martha's Vineyard, and #3720 off the south coast of Long Island). Typically, mother and calf sightings around New England occur in late March through early May. Prior to this year, there had been only one sighting of a mother and her calf up north before March 15.

As of the writing of this article, there had been a total of 62 right whales identified off the mid-Atlantic and southeastern coast (many first seen off the Carolinas)—17 known mothers (plus the unknown mom of the dead neonate), and 45 others. There was also a calf sighted off the Canary Islands but it is not included in this count due to uncertainty around its mother (see *Right Whale Calf in the Canary Islands*). There were two entangled whales and three mortalities (including one of the entangled whales), and a vessel strike that killed a calf and injured his mother (see *Mortality and Entanglement Update*).

This dynamic and challenging calving season reminds us that, as has been the case with this species for far too long, our hope must sit side-by-side with the grim realities of the threats these whales face. If these newest members of the right whale family are to survive, we need to redouble our efforts to protect them from both vessel strikes and entanglements. —*Philip Hamilton*



Map: The Canary Islands are located off the northwestern coast of Africa. The right whale calf was sighted near La Restinga.

For a few days in February there were right whales in front of New England Aquarium! The Aquarium commissioned Don Chapelle of Brilliant lce Sculpture to create an ice sculpture to celebrate the 40th anniversary of its Right Whale Research Program. The 16' sculpture of a right whale mother with her newborn calf tucked by her side represents hope for the species and coincides with the right whale calving season.



Right Whale Calf in the Canary Islands

On December 22, 2020, while on a boat with Fan Diving El Hierro out of La Restinga, Spain, Gunter Baumgartel captured a <u>video</u> of a young North Atlantic right whale calf and posted it on Facebook. La Restinga is a town on El Hierro, one of the Canary Islands located off the northwestern coast of Africa. With relatively low calving numbers in recent years, a right whale calf in the calving ground off the southeastern U.S. is exciting and noteworthy; one off Africa is astounding!

There have been very few sightings of right whales on the eastern side of the North Atlantic in the last 50 years, let alone sightings of calves. We are aware of just two other right whale records around the Canary Islands: a single whale seen in February 1995, and a mother and calf seen in January 1999. Neither sighting was photographed well enough to identify the individual in the North Atlantic Right Whale Catalog. There have been other sightings in the general area, including a mother and calf that were killed in January 1967 off Madeira Island, located off the coast of Portugal, and an adult female, Pico (Catalog #3270), seen off the Azores in January 2009. So far, all the sightings east of the mid-Atlantic ridge that have been well-photographed have matched whales we see along the eastern seaboard of North America, including Mogul (#3845), who has wandered quite a bit in recent years! (See Where to Next? in RWRN December 2019)

Mr. Baumgartel did not see any other whales near the calf. This is concerning as the calf was likely no more than a month or so old—an age at which calves rarely stray from their mothers. Although that does not bode well for this little adventurer, Mr. Baumgartel did say he only watched it for about 10 minutes as it swam into the small harbor and then immediately back out. It's possible that the calf's mom was just outside the harbor. Local scientists and government officials alerted the public to keep a lookout for right whales in the area, but the calf was not seen again.

Who was this little one's mother?

Why did she travel to the Canary Islands to calve? Is she one that we know well, or would she be a new whale to the Catalog? As always with this enigmatic species, there are more questions than answers! —*Philip Hamilton*



Report from Cape Cod Bay

Reports of right whales in Cape Cod Bay have been trickling in by land, air, and sea since mid-January. In addition to some sightings from beaches along Cape Cod, survey teams from the Center for Coastal Studies (CCS), Woods Hole Oceanographic institution (WHOI), and NOAA's Northeast Fisheries Science Center (NEFSC) have reported numerous sightings in the Bay, with more than 100 individuals photographed so far!

Amid the pandemic, survey teams are constantly adjusting protocols while still working hard to maintain good coverage of the feeding grounds. The CCS aerial team has been doing the bulk of the surveys over Cape Cod Bay, with NEFSC stepping in when needed. The CCS habitat team has been on the water collecting plankton samples near feeding right whales and throughout the Bay. A few of us from the Aquarium's Right Whale Research Team are working with Michael Moore from WHOI, who is currently focusing on collecting drone imagery from a small research vessel that will be used to measure the length and girth of individual right whales. We are photographing the same whales from the boat for visual health assessment comparisons from different platforms. We are also working with Lisa Conger from NEFSC to collect skin samples from individual right whales that have not yet been biopsied. These biopsy samples will be added to the DNA database held at The Frasier Lab at St. Mary's University in Halifax, Nova Scotia, to advance genetic studies of this population (see How to Identify... in RWRN May 2016).

March is typically when we expect some of the mothers of the year to

arrive in the Bay with their new calves. Sure enough, on March 3, the CCS aerial survey sighted the first mother and calf pair of the season in Cape Cod Bay. **Millipede (Catalog #3520)** was parading around her very healthylooking three-month-old after their long and treacherous journey from the south. Since that sighting, two more mother and calf pairs have been sighted: one south of Martha's Vineyard and the other off the coast of Long Island. Time will tell if those pairs—and other mother and calf pairs seen on the calving ground—make an appearance in the Bay.

Our team will be doing fieldwork with our colleagues in Cape Cod Bay through April. We hope to learn all we can during the right whales' brief visit to this important feeding area in our own backyard! —*Amy Warren*

The Ongoing Efforts to Protect Right Whales

These past few months have been very busy on the policy side, as the National Oceanic and Atmospheric Association's National Marine Fisheries Service (NOAA Fisheries) has released three important announcements related to regulations for protecting North Atlantic right whales. The first and second announcements, on December 31, 2020, and January 15, 2021, were the long-awaited releases of a Proposed Rule to amend the Atlantic Large Whale Take Reduction Plan and the Draft Biological Opinion on 10 Fishery Management Plans (BiOp), respectively. Both are aimed at describing and mitigating entanglement risk for right whales in the northeast U.S. lobster and crab fisheries in the near-term, and developing a conservation framework to reduce risk from additional fixed gear fisheries in the long-term.

The Aquarium's Right Whale Research Team focused a tremendous amount of effort to review the Proposed Rule (which included the Draft Environmental Impact Statement, or DEIS) and the BiOp and provide our technical comments to NOAA Fisheries. In our reviews, we noted that we strongly disagreed with NOAA's finding that right whales are not in jeopardy of extinction from fixed gear fisheries since that finding is based on a

regulation that is not yet in place. We also expressed our concern that the Proposed Rule was not as strong as it needs to be considering the continued level of serious entanglements observed and the declining numbers of right whales while this rule has been in development. The Proposed Rule suggests a combination of closures during certain times of year in certain areas and the implementation of 1,700 lbf (pound-force, i.e. breaking strength) ropes. However, our concerns rest in the fact that the closures are not extensive enough spatially or temporally, and that weak insertions of 1,700 lbf would only be required at the top third or top half of the vertical buoy line.

In addition to the technical comments we provided, we also spearheaded the writing of a letter outlining what should be done to strengthen the rule. The letter was signed by 25 scientists with expertise in the biology of large whales, oceanography, and fisheries, and sent directly to NOAA leadership. The letter has also been sent to congressional delegates from coastal New England states. We certainly hope the clarion call is heard and that the Proposed Rule is strengthened. We also are urging Congress to support a transition to ropeless fishing gear, as removing rope from the water column is the ultimate

way of addressing this existential threat to right whales while enabling the fishing industry to continue to operate.

The third announcement from NOAA Fisheries, on January 21, 2021, was the release of a report called <u>Right</u> <u>Whale Speed Rule Assessment</u>. The following is a description of the study: "The report was finalized in June 2020 and evaluates four aspects of the right whale vessel speed rule: biological efficacy, mariner compliance, impacts to navigational safety, and economic cost to mariners. It also provides a detailed assessment of the rule's effectiveness, and assesses general trends in vessel traffic characteristics within Seasonal Management Areas over time."

We are presently reviewing this report and will be providing NOAA Fisheries feedback on this study, which will be used to evaluate whether their existing vessel strike reduction efforts need further action.

These announcements indicate a renewed interest by NOAA Fisheries to address threats that persist for this species. We will continue to share our scientific findings and expertise about these threats as new regulations are developed and implemented. —*Amy Knowlton*

Mortality and Entanglement Update

In each newsletter we report on new entanglements and mortalities that we have observed in North Atlantic right whales since the last issue. Although this number unto itself is always concerning, we know that it drastically underrepresents what the species is actually experiencing. A recent study determined that for every right whale mortality documented, there may be nearly three others that are not observed so they go undocumented. This species is facing a crisis and until stronger regulations are put in place by the U.S. and Canada to address entanglements and vessel strikes, the population will continue to decline. By sharing these stories, we are keeping you, our readers, apprised of these preventable events.



Mortalities

Unidentified Calf: In late November 2020, a neonate right whale calf was found dead on a remote North Carolina beach. The calf was a male and, at the time, there were no known right whale mothers for the 2021 season. It is believed that the calf died soon after birth and the cause of death might have been due to complications during birth. The mother of this calf is still unknown, although genetic samples were taken so its mother may be identified in the future.

2021 Calf of Infinity (~1-month-old male): On February 13, a dead right whale calf was reported on Anastasia Island, Florida. The young calf had a series of propeller wounds across its head and body. The following day, veterinarians performed a necropsy and concluded that the cause of death was, in fact, from the vessel strike. His mother, **Infinity (Catalog #3230)**, was seriously injured in the collision. It was subsequently determined that the whales were struck by a 54-foot sport fishing boat that sustained significant damage.

Cottontail (#3920, 12-year-old male): First reported entangled in October 2020 off southern New England (See *Mortality and...* in *RWRN December* 2020), **Cottontail** was re-sighted alive off the Florida coast on February 18. The whale appeared very emaciated and still carrying a large amount of fishing gear. Due to the quick response of highly trained members of the Atlantic Large Whale Disentanglement Network (ALWDN), a satellite tracking buov was attached to some of the trailing gear. The buoy allows rescuers to track an entangled whale's location so that a dedicated response can be conducted when weather allows, but in Cottontail's case the buoy stopped transmitting after only one day. On February 27, Cottontail was sighted floating dead off the coast of South Carolina. The cause of death was chronic entanglement.

Entanglements

Catalog #1803 (33-year-old male): On January 11, the Clearwater Marine Aquarium Research Institute aerial survey team documented **#1803** free swimming but badly entangled in fishing gear off the coast of Florida. He had multiple wraps of line around the peduncle and flukes with a trap/pot and line trailing. Members of the ALWDN responded, but the whale's behavior and rough seas prevented them from attaching a tracking buoy on that day or the next. The whale hasn't been seen since January 14 and his fate remains uncertain.

Snow Cone (#3560, 15-year-old female): On March 10, during an aerial survey of Cape Cod Bay, the Center for Coastal Studies (CCS) team sighted Snow Cone entangled in fishing gear. She had line through her mouth that was trailing several body lengths. She was partially disentangled by the CCS's Marine Animal Entanglement Response team before deteriorating sea conditions halted further efforts. She may still have line tightly wrapped around her rostrum, thus her fate remains uncertain.

Update on Previous Entanglements

Entanglements are documented every year, and not all cases can be resolved through disentanglement. In addition, some individuals are seen with severe injuries from entanglement but have no gear attached. With or without gear, the entanglement injuries can lead to death. We have been monitoring these cases in order to better describe the impacts right whales are facing from entanglements. Just in the past five years, at least 28 whales were last seen with attached gear or with severe entanglementrelated injuries. After their sixth year of no sightings, we will presume that these whales have died. -- Monica Zani

The Lindy Johnson Fellowship Fund

In 1997, the New England Aquarium hosted a two-day event titled Shipping/ Right Whale Workshop. It was the first opportunity to bring together a group of people with various expertise on the issue of vessel strikes and North Atlantic right whales. Participants from the shipping industry, science, government, and environmental groups shared concerns with those involved in vessel operations and maritime policy, and educated each other about possible options to address this threat. The connections made during those two days were invaluable. This is when the Aquarium's Right Whale Research Team met Lindy Johnson, an attorneyadvisor with NOAA's Office of General Council, who shared her knowledge about ways we could reduce the threats of vessel strikes of right whales through national and international channels.

Along with Lindy and others, we

developed a suite of measures that were implemented in key right whale areas along the eastern seaboard of the U.S. Those measures included a precedentsetting regulation in 2008 that required vessels over 65 feet in length to slow down along the east coast during certain seasons that overlapped with right whale distribution and movements. Without Lindy's help and guidance, this monumental regulation-the first of its kind in the world-would not have come to pass. Lindy was incredibly passionate about the oceans and its inhabitants and was involved in shaping many environmental treaties, rules, and other initiatives in the maritime realm (https:// www.gc.noaa.gov/documents/gcil_lindy_ summary.pdf). She was a great colleague and friend to several of us on the team and a strong ally for right whales.

Sadly, Lindy died in 2010 after a long and courageous battle with cancer. At her request, her family created a fellowship in her honor at the New England Aquarium to provide support for scientists conducting research and training aimed at protecting the ocean. The Lindy Johnson Fellowship Fund has been used to support projects related to the mitigation of vessel strikes of right whales in Canadian waters. We currently have a project underway by Katherine McKenna, an early-career scientist on the Aquarium's Spatial Ecology, Mapping, and Assessment Program team, to use data from the Automatic Identification System (AIS, i.e. location data from vessels) paired with right whale sightings along the U.S. coast during 2019 to understand their exposure to various kinds of vessel traffic. These data can be used to help inform government agencies as further management measures are needed to better protect right whales from vessel strikes. Although substantial progress has been made, continued efforts are needed to adapt mitigation measures to changes in right whale movements and distribution. -Amy Knowlton and Moira Brown

If If you would like to contribute to the Lindy Johnson Fellowship Fund, please visit <u>https:// www.andersoncabotcenterforoceanlife.org/</u> <u>support/ways-to-support/</u>

Sponsored Whale Update

Thank you so much for sponsoring a right whale and supporting our program! We have no new sightings to report for **Aphrodite (Catalog #1701)** or **Calvin (#2223)**, but we hope to have updates on them in our next issue. Until then, here are new sightings for our other sponsored whales:

Gemini (#1150) was seen on January 31, 2021, by the Northeast Fisheries Science Center (NEFSC). He was skim feeding in Massachusetts Bay.

Shackleton (#2440) was photographed south of Nantucket by the Aquarium's aerial survey team on December 19, 2020. He was in a surface active group with two other whales.

Boomerang (#2503) was documented by the Center for Coastal Studies in Cape Cod Bay on February 11, 2021.

Resolution (#3532) was seen on Georges Bank by NEFSC on November 4 and 15, 2020. He was most recently seen south of Nantucket on February 26, 2021, by the Aquarium's aerial survey team.

Please check out the map to see where all the sponsorship whales have been spotted in the past year! —*Marianna Hagbloom*

Summer 2021 Fieldwork

As spring arrives, the Right Whale Research Team has already started to plan for our upcoming summer field efforts. Since 2015, we have sent teams to both the Bay of Fundy and the Gulf of St. Lawrence to conduct surveys for North Atlantic right whales. Last year, due to COVID-19, the U.S.-Canadian border was closed, so we were only able to move forward with our Bay of Fundy season. With the hope of vaccines on the horizon but the pandemic still raging, it is difficult to say what we will be able to accomplish this summer. We are watching the situation closely and plan to make a decision in late spring about which field efforts will be feasible. If the U.S.-Canadian border opens and we feel we can keep our team safe and healthy, we will be ready to go to the Gulf. As for the Bay of Fundy, we are exploring options for a nimble response if right whales are sighted there. Stay tuned! -Kelsey Howe



Map: Sponsored whale sightings March 2020 through February 2021. Map: Brooke Hodge/ ACCOL/NEAQ. Below: **Resolution** swims alone on Georges Bank in November 2020. Photo: NEFSC. NOAA Permit #21371.



In Memoriam: Laurie Murison

In early January 2021, we lost a beloved colleague and friend, Laurie Murison, from Grand Manan, New Brunswick, Canada, after a long battle with cancer. Laurie was a marine mammal scientist and the director of the Grand Manan Whale and Seabird Research Station. Her depth of knowledge about the Bay of Fundy, where she focused the majority of her research efforts, was unparalleled. She closely monitored the Bay's inhabitants and created a museum within the research station to educate students and the public about the beauty of the Bay and its wildlife.

The Right Whale Research Team had worked with Laurie since the early 1980s, relying on her local knowledge to better understand how right whales use the Bay and learning about changes in the Bay's ecosystem she was witnessing. Laurie spent many years working as a naturalist on several different whale watch vessels that operated in the Bay, so we had many conversations with her, sharing information about the whales we were seeing. Laurie kept close tabs on the individual whales (both right and humpbacks) and shared their stories broadly throughout Canada. Laurie



was always available to lend us a helping hand, such as finding someone to fix our boat when it broke down, taking a bald eagle we rescued at sea and ensuring it was rehabilitated and released, and helping with challenging weather calls by seeing if it was too foggy in the Grand Manan Basin.

Shortly before she died, Laurie was informed that she would receive an honorary doctorate from the University of New Brunswick to acknowledge her long career and valuable contributions to understanding the diverse Bay of Fundy ecosystem.

Her presence both as a friend and as a strong advocate for right whales will be sorely missed.

Recent Peerreviewed Team Papers

Pace, RM, Williams, R, Kraus, SD, Knowlton, AR, Pettis, HM. Cryptic mortality of North Atlantic right whales. Conservation Science and Practice. 2021; 3(2) e346. https://doi.org/10.1111/csp2.346

Amy Knowlton: "Our findings indicate that observed right whale deaths account for only 36% of estimated deaths with the majority of the unseen "cryptic" mortality likely due to entanglement, highlighting the need for stronger management measures in the U.S. and Canada to address this threat."

Graham, KM, Burgess, EA, Rolland, RM. Stress and reproductive events detected in North Atlantic right whale blubber using a simplified hormone extraction protocol. Conservation Physiology. 2021; 9(1): coaa133. <u>https://academic.oup.com/</u> <u>conphys/article/9/1/coaa133/6082836</u>

Katie Graham: "Our study demonstrates that stress and reproductive hormones can be measured in the blubber of North Atlantic right whales, offering a valuable new tool to assess the health and physiology of right whales."

Moore, MJ et al. (with NEAq coauthors Hamilton, PK, Knowlton, AR, Pettis, HM, Rolland, RM) Assessing North Atlantic right whale health: threats, and development of tools critical for conservation of the species. Diseases of Aquatic Organisms. 2021. 143.

https://www.int-res.com/ articles/feature/d143p205.pdf

Amy Knowlton: "This study highlights the importance of health monitoring of right whales to understand the threats they face and to monitor changes in their condition as management measures are implemented."



Video Series Features the Right Whale Team!

Last October, the New England Aquarium introduced the Blue Planet Science Series to highlight the important research and conservation work conducted at the Aquarium. This video series can be found on the Aquarium's and Anderson Cabot Center's social media platforms, including YouTube. Each month features a different research program at the Aquarium. Our Right Whale team and research were highlighted across four videos in January ("Meet the Right Whale Research Team"; "A Look Inside the North Atlantic Right Whale Photo-Identification Catalog"; "Evaluating Human Impacts on Right Whales"; "A Day at Sea with the Right Whale Team"), with an additional video in February during the

Marine Conservation Action Fund's series ("Right Whales from Different Hemispheres"). Check out all five videos: <u>andersoncabotcenterforoceanlife.</u> <u>org/bpss4</u> —*Kelsey Howe*





Give the Gift of Endangered Species Conservation

The 16th annual Endangered Species Day is May 21, 2021. You can honor the day by helping us protect one of the most endangered species in the world!

Today, there are fewer than 400 right whales in the North Atlantic. And, while no longer commercially hunted, the long-term survival of this critically endangered species is still under intense threat from fatal vessel strikes and fishing gear entanglements.

Started in 1980, the Right Whale Research Program is one of the longest continuouslyrunning whale research and conservation programs in the world. Working with government, conservation, industry, and commercial interests, the Right Whale Research Program seeks to find ways to ensure the survival of these majestic creatures.

North Atlantic right whale-themed gifts and <u>tax-deductible sponsorships</u> are available with proceeds directly supporting our research and conservation work to save this critically endangered whale.

Visit rightwhaleresearch.bigcartel.com to learn more!



Editor

Marilyn Marx, mmarx@neaq.org

Contributors

Moira Brown Marianna Hagbloom Philip Hamilton Brooke Hodge Kelsey Howe Amy Knowlton Marilyn Marx Heather Pettis Amy Warren Monica Zani

In this newsletter, all photographs of right whales in U.S. waters were taken under NOAA research permits under the authority of the Marine Mammal Protection Act and the U.S. Endangered Species Act. *Right Whale Research News* is produced and published by the New England Aquarium. We welcome your comments and suggestions.

Read more about our project at accol.org.

You may access past issues of *Right Whale Research News* on our website at <u>andersoncabotcenterforoceanlife.org/</u><u>about-us/newsletters/right-whale-research-news</u>. The archive goes back to 2005, and all but the two most recent issues of *RWRN* are available. Now when one of the articles in the current issue refers to an earlier piece on the same subject, it's easy to check it out!

Thank you!

We would like to thank all the individuals, organizations, and schools that continue to support our research with annual sponsorships and donations. In these difficult economic times, with federal research budgets shrinking, your support is more critical than ever, and we truly appreciate your generosity. Sponsorship funds are used by our Right Whale Program to support activities that directly contribute to the conservation of North Atlantic right whales.