

Right Whale Research News

Volume 27, Number 1 May 2018



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The Winter of 2017/2018: No Calves and Few Sightings

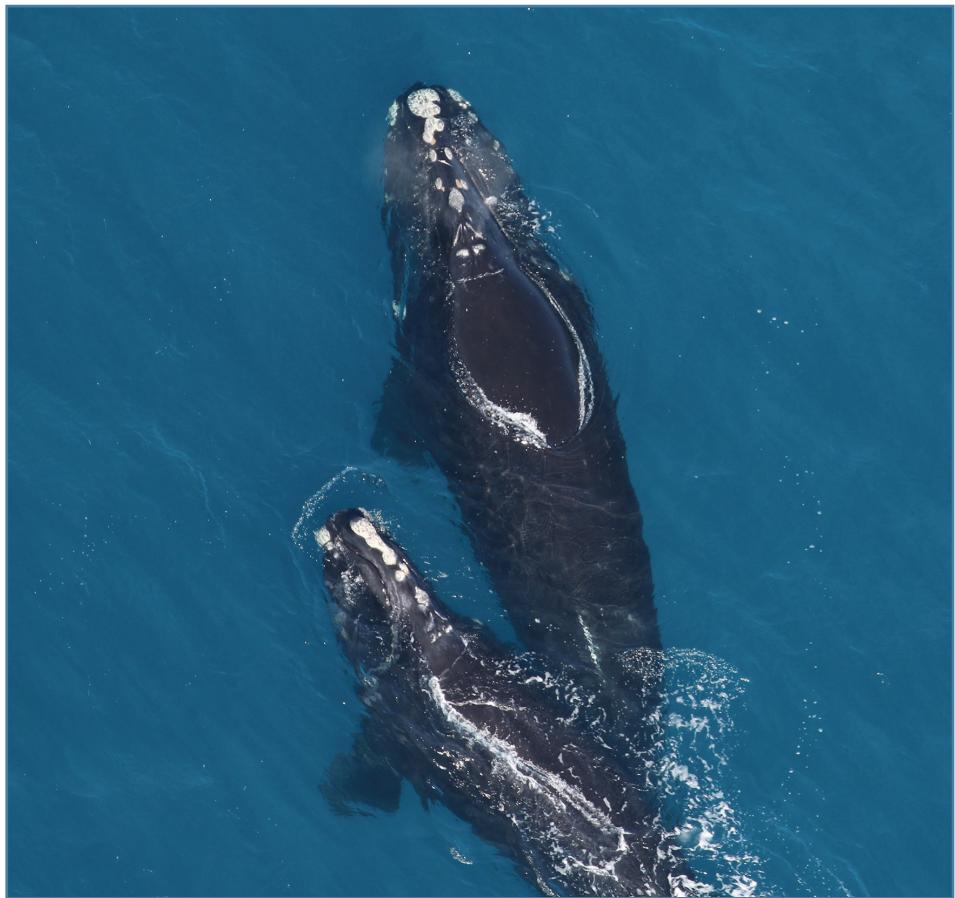
Winter surveys on the right whale calving grounds off Florida and Georgia have come to an end without a single calf sighting. This is the first time since the dedicated calving grounds surveys began in 1994 that there were no mother/calf pairs seen.

Teams from Florida Wildlife Research Institute and Sea to Shore Alliance (S2S) did their usual comprehensive surveys beginning in early December, but it wasn't until January 31 that the first whales were sighted in the study

area—two females (**Catalog #3546** and **#4111**) off Georgia. Then, over a few days in the middle of February, nine whales were seen socializing. It was an interesting mix of males and females of all ages, but one of them (#**3296**, a 16-year-old male) was emaciated with many skin lesions and severe entanglement injuries. There were no sightings after the third week in February.

There were, however, some interesting sightings outside of the survey area in the Gulf of Mexico along the Florida coast. Right whale sightings in the Gulf are rare, but not unheard of. Only 12 photographed sightings have been recorded, the last one in 2006. On January 15, a young whale was seen in the Gulf off Panama City. We believe this is the same whale that was seen a week later off Naples and then again days later off Crystal River. It appears to be a juvenile and may be one of the five calves from last year. We hope it has the skills to navigate around Florida to join the others in the Atlantic.

There have also been a smattering of sightings further north over the winter. Two whales were seen off the Outer Banks of North Carolina in mid-November. In late January, the S2S team discovered four adult right whales (three females and one male) more than 40 miles east of Virginia. We wondered if these animals might migrate to the calving grounds, but they were never seen further south. Pairs of right whales were spotted off New York and New Jersey in November, January, and February. Finally, dozens of right whales have been seen throughout the winter in Cape Cod Bay during aerial surveys by the Center for Coastal Studies and in southern New England by our Anderson Cabot Center aerial survey team. From acoustic data and past sightings,



Catalog #3940 (right) and an unidentified juvenile on February 15, 2018. They were in a surface active group with six other whales about 30 miles off Jekyll Island, GA. Only 11 right whales, but no mother/calf pairs, were seen on the calving grounds this year. Photo: Sea to Shore Alliance, NOAA Permit #20556.

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we believe this broad distribution is not that unusual—right whales may well be spread out along the entire Eastern Seaboard during the winter.

Although there is a slight chance a calf may be seen in 2018 in northern waters, what does a year of no right whale calves mean?

First of all, it will be unprecedented. At least one right whale calf has been seen somewhere in their range every year since surveys began in 1980. Although the apparent cessation of calving is deeply troubling, we know that they have bounced back from times of low reproduction in the past. In 2000, just a single calf was born, and that was after a mere nine calves had been born the previous two years, but then the calf counts rebounded to an average of 24 per year for the next decade.

Right whales are a long-lived species that can weather tough times for short periods. However, the drop in calving on the heels of so many deaths (17 last year and one so far this year—most, if not all, caused by humans) makes the picture that much more dire. Especially given that those deaths included eight females: at least two calving females in their prime, three that had just reached sexual maturity but had not yet calved, and two young whales—just one and two years old. The loss of these females is the loss of hundreds of potential new whales to the population from the next two generations alone. It is clear that we need to lessen or eliminate this human-caused mortality for this species to avoid extinction.

So, the news for right whales is grim, but there are still some optimists among us who hope that a few calves will be found this year. Last year, there were only three calves seen on the calving grounds, but two more discovered off Massachusetts during the spring (see *Spring in Cape Cod Bay* in *RWRN December 2017*). Those two mothers were whales who are rarely seen and may have calved outside of the calving ground survey area. There are currently a number of surveys being conducted around Cape Cod, so our fingers are crossed that a calf or two will yet be discovered...and that they will be females.

—Philip Hamilton

Cape Cod Bay

If it's springtime, it must be time for fieldwork in Cape Cod Bay! As it has been doing every year since 1998, the Center for Coastal Studies (CCS) conducts aerial surveys of the Bay from January to May. This year, researchers discovered that right whales arrived in numbers earlier than usual. Fourteen whales were seen on January 6, and 50 were photographed on February 24—a record for Cape Cod Bay in February! This meant that other research efforts in the Bay also began earlier. As in previous years, members of the Anderson Cabot Center Right Whale Team have joined our colleagues from NOAA Fisheries to collect photos and skin samples of right whales not yet biopsied. These biopsy samples will be added to the DNA database at Trent University in Canada to advance genetic studies of this population (see *How to Identify...* in *RWRN May 2016*). In addition, we are helping our colleagues from Woods Hole Oceanographic Institution/Southwest Fisheries Science Center as they use an unmanned aerial system (UAS, also known as a “drone”) to collect photogrammetry images and respiratory blow samples (see *Unmanned Aerial Systems...* in *RWRN May 2016* and whoi.edu/oceanus/feature/whales-and-drones).



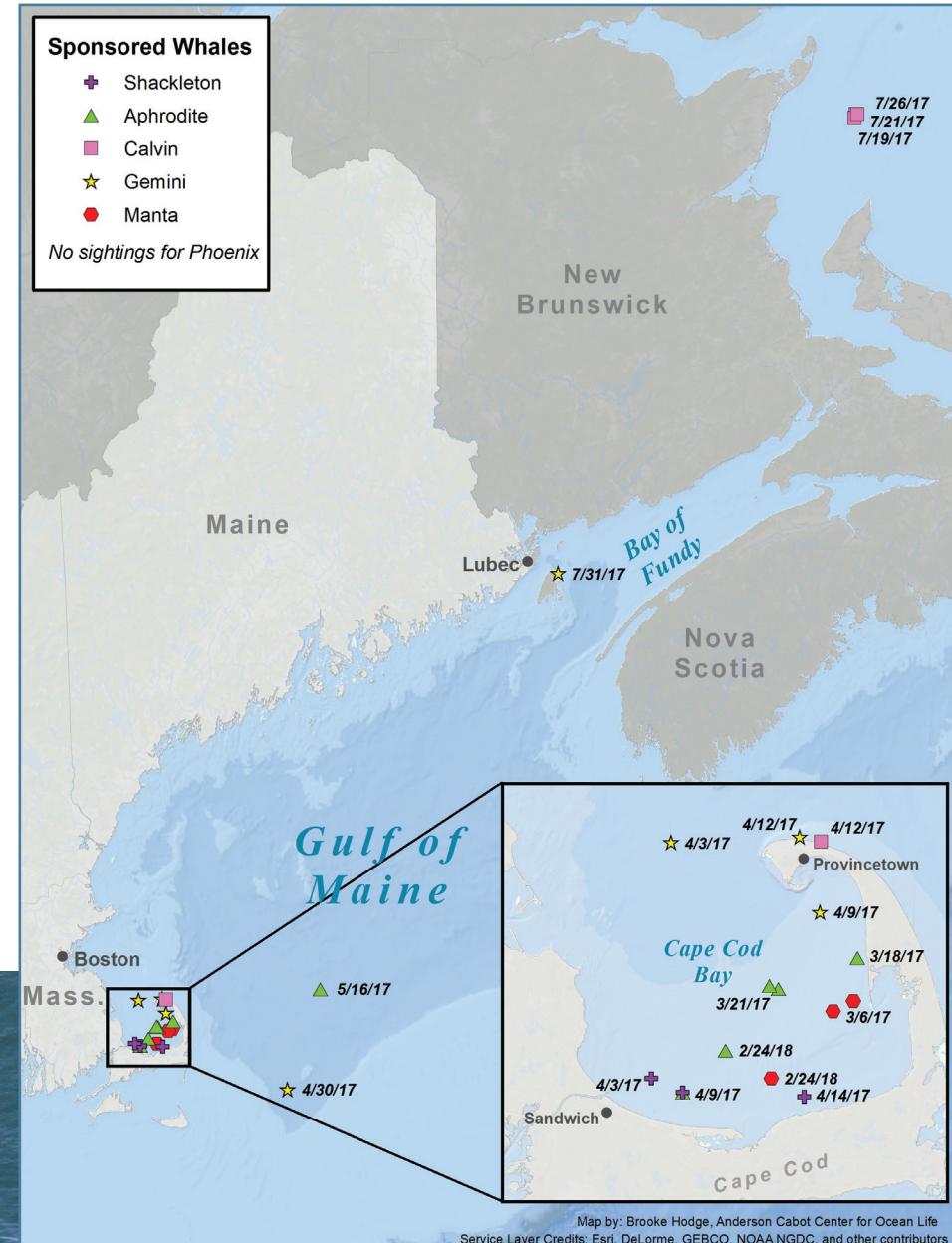
Photographer Peter Flood was on Race Point Beach in Provincetown on March 24 when this right whale, Catalog #3329, breached just offshore. She is a 15-year-old female and had been seen two weeks earlier by the Center for Coastal Studies subsurface feeding in Cape Cod Bay. Photo: Peter Flood

Sponsorship Whale Sightings

The following sightings were contributed by the Center for Coastal Studies from its Cape Cod Bay surveys. Besides the recent sightings, we are also including a few updates from spring 2017 that were recently processed. We are still reviewing 2017 data, so we may discover more sightings of these individuals. Please check out the map to see where the whales have been in the last year!

Sponsored Whales	
+	Shackleton
▲	Aphrodite
■	Calvin
★	Gemini
●	Manta

No sightings for Phoenix



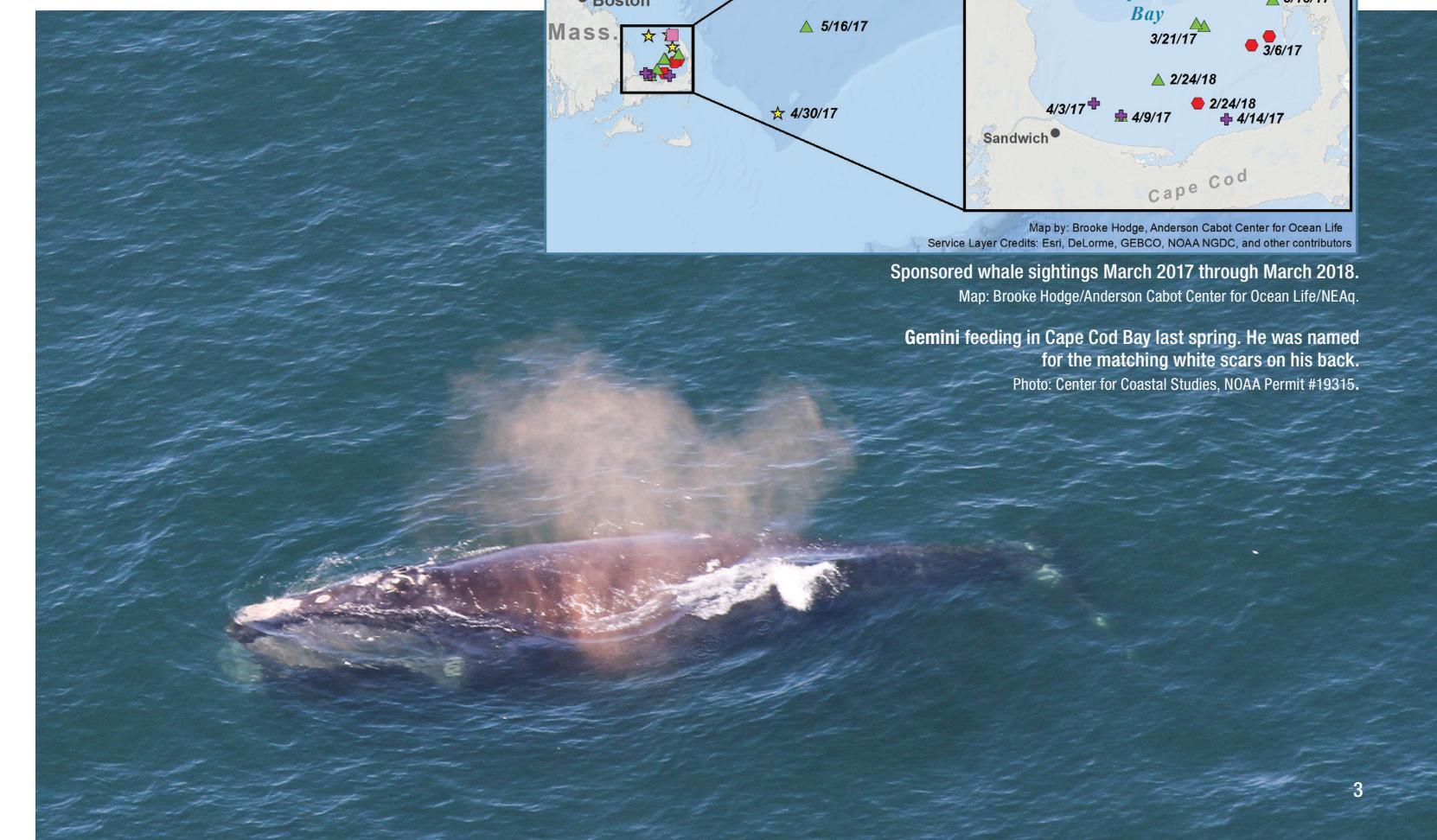
Map by: Brooke Hodge, Anderson Cabot Center for Ocean Life
Service Layer Credits: Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors

Sponsored whale sightings March 2017 through March 2018.

Map: Brooke Hodge/Anderson Cabot Center for Ocean Life/NEAQ.

Gemini feeding in Cape Cod Bay last spring. He was named for the matching white scars on his back.

Photo: Center for Coastal Studies, NOAA Permit #19315.



Mortality and Entanglement UPDATE



In each newsletter we report on the most recent mortality and entanglement events. In our last issue, that update filled nearly three pages after a tragic period with 17 mortalities and five live entanglements (see *The 2017 Mortalities... in RWRN December 2017*). Thankfully there is less to report this time, but as always, it is important to remember that it is a minimum number of cases. Distribution shifts may affect our detection of dead and/or entangled whales and could lead to an underrepresentation of mortality and entanglement events.

Mortality Identification (previously reported)

We recently discovered that one of the whales that died in the Unusual Mortality Event last summer was misidentified as **Catalog #4111**. This was the carcass discovered on July 30, 2017, on the rugged and remote coast of southwestern Newfoundland (one of four carcasses found on that coast). Due to the advanced state of decomposition there were virtually no physical features available to identify the whale, so we relied on genetics to help tell the story. A biologist from the Department of Fisheries and Oceans Canada had visited the site and obtained a sample of bone for DNA analysis. The sample was compared to the North Atlantic right whale genetics database at Trent University in Ontario and was initially identified as **#4111** (a 6-year-old female). However, this past winter **#4111** was seen alive off the coast of Georgia, so the whole case was reassessed. We learned that the data had not been finalized at the time of our last newsletter. Sadly, the true identity of the carcass was revealed to be **#4111's** 28-year-old mother, **Mystique (#1911)**. **Mystique** had been seen frequently over the years and had been reproductively successful, producing at least four calves.

Entangled whale **Kleenex** photographed south of Nantucket Island, MA, in March 2018. She had not been seen since her first sighting with the entanglement in 2014.
Photo: Peter Duley/NOAA/NEFSC, NOAA Permit #17355.

New Mortality

Unidentified (probable adult female): On November 26, 2017, the 17th and last known dead right whale for the year was discovered on the island of Nantucket in a very decomposed condition. It was later determined from photographs provided by locals that the carcass had originally washed up in early November on the neighboring island of Martha's Vineyard and eventually the surf and current drove it east, scattering bones as it went. Cause of death could not be determined. Samples were taken for genetic analysis, and we hope to have a confirmed identity soon. We will provide an update in the next issue of *RWRN*.

Catalog #3893 (10-year-old female): found entangled and floating off the Virginia/North Carolina coast on January 22, 2018. Due to the whale's location far from shore, it took six days before the whale was successfully towed to land for a necropsy. Cause of death was determined to be from entanglement. **Catalog #3893** was just entering into her reproductive years when she died.

Entanglement Update

Kleenex (Catalog#1142; adult female, unknown age): **Kleenex** was first seen in 1977 and was of reproductive age

at the time as she was with her first known calf. Therefore, it is safe to say that she is at least 50 years old and we know she has had at least eight calves. In April 2014, she was photographed off the coast of Delaware with an entanglement leading from her mouth and wrapping tight around her rostrum. At that point, her fate was uncertain, but we were concerned that we would not see her again. Almost four years passed, and then in late March 2018, **Kleenex** was resighted, this time south of Nantucket. She is still entangled, but it has loosened and is now a lasso-like piece of line extending from both sides of her

mouth and knotted together across her blowholes. On April 12, the Center for Coastal Studies Marine Entanglement Response Team attempted to free **Kleenex**, but due to her evasiveness and a worsening seastate, they were only able to partially cut the lines around her head. We hope that the small nicks they made will eventually cause the lines to completely break, releasing her from her long entanglement.

—Monica Zani



Catalog #3893 lies on a Virginia beach prior to necropsy. Towing and securing a whale and conducting a necropsy are huge collaborative efforts by many organizations and agencies. Photo: Florida Fish and Wildlife Conservation Commission, MMHSRP Permit #18786-2.

Monitoring Right Whale Injuries

Injured whales, particularly those with severe entanglement wounds that are not observed carrying gear, are often overlooked in conversations about population status and anthropogenic (human-caused) impacts on the population. With generous support from the Volgenau Foundation, and in collaboration with right whale survey teams and the North Atlantic Right Whale Consortium, we developed and implemented a standardized protocol for reporting, assessing, and monitoring the impact of serious injuries on right whale health starting in 2013. Since then we have monitored 88 right whales with human-caused injuries. Every six months (in June and December) we assess these known cases to determine whether these whales have declined, improved, or have likely died. New cases are also added. (See *Monitoring Right Whale Injuries* in *RWRN, December 2015*).

Between December 1, 2016, and December 1, 2017, scientists detected 14 new severely injured right whales. Thirteen of these injuries were entanglement-related, including seven

whales with attached gear. One whale had a new injury of unknown origin, and five whales with new injuries were determined to be in declining condition coinciding with injury. The impact of injury on the health of the other nine was inconclusive. Twenty-seven previously injured whales had additional sightings to assess. Of these, five whales showed improvement in condition and one whale was removed from the list because of continued improvement. Five whales became presumed dead (not sighted in the six years after injury). There are currently 70 whales being monitored on the Serious Injury/Human Impact Monitoring List (see table below), up from 61 in December 2016 (See *Monitoring...in RWRN May 2017*). We provide these reports to government managers to ensure that the impact of injuries on the health of this population is presented near real time in the hopes of informing and improving management efforts.

—Heather Pettis

	Entanglement		Vessel Strike	Other	Total
	Gear Present	No Gear Present			
Decline in Condition	9	12	2	2	25
Inconclusive	15	16	5	0	36
No Decline in Condition	1	4	1	0	6
Extended Monitor	1	1	1	0	3
Total	26	33	9	2	70

Impact of anthropogenic injury on health by injury type for North Atlantic right whales on the active Injury Monitoring List.

Managing the Right Whale Crisis

Even before the tragedies that befall right whales in 2017 and early 2018, the research community was worried that right whales were not doing well. Recent analyses showed a population decline—calving was down and, concurrently, human-caused mortalities were up. As a result of these concerns, two lawsuits have been filed against NOAA Fisheries regarding its failure to address right whale entanglements. It is working hard to find a path forward with U.S. fishermen. This spring, NOAA has organized two working subgroups of Atlantic Large Whale Take Reduction Team members to discuss the feasibility of using ropeless fishing and whale-release ropes, both solutions that Anderson Cabot Center scientists have been instrumental in developing and testing (see *Fishing Ropes And Whales...in RWRN May 2016* and ropeless.org). Our hope is that both of these options will be broadly adopted in all fisheries, making gear whale-safe, but also still effective at fishing.

In Canada, where many of the 2017 right whale deaths and live entanglements occurred in the Gulf of St. Lawrence, the Department of Fisheries and Oceans and Transport Canada announced a variety of measures aimed at stopping impacts from vessel strikes and entanglements in heavy snow crab gear. They have implemented a change in the snow crab fishing season to occur earlier (before the whales arrive) with some parts of the Gulf closed to snow crab fishing altogether. They are also imposing a 10-knot speed restriction from April 28 to November 15 for all vessels larger than 65 feet.

We will continue to work closely with industry and government to find solutions that address fishing gear entanglements and ship strikes, allowing right whales to stay alive and thrive.

—Amy Knowlton

What Can I Do to Help?

The plight of the endangered North Atlantic right whale has garnered extraordinary press coverage over the last year, primarily in response to the unprecedented mortalities in 2017 followed by the news of no calves born to the population this winter. The attention is warranted: this species is staring down the barrel of extinction.

With the increased focus on the species and its dire situation has come a resounding public call of, “What can we do?” Scientists, engineers, fishermen, shipping companies, and management agencies are moving with urgency to research, test, and implement measures that will reduce right whale mortalities and serious injuries. But what can the general public do?

Here are a few suggestions:

- Be aware of the situation right whales are facing and educate others. People need to understand what little time we have to save these critically endangered whales.

- Support local fishermen and organizations who are working to change fishing practices to make their gear whale-safe, such as the South Shore Lobster Fishermen's Association in Massachusetts.

- Tell your local, state, and federal representatives that you encourage and support policies designed to protect right whales. Vote for candidates who support ocean conservation.

- Support organizations that are working to improve policies aimed at reducing human impacts on right whales.

- Advocate for bans on single-use plastics and Mylar balloons. These items are often seen in right whale feeding areas. Plastics of all types can end up in the ocean and lead to major problems for whales (and other marine animals) if ingested.




Artist Spotlight: Mary Ann Biehl

Over the years we have met many talented artists who have found inspiration in right whales, including Mary Ann Biehl from Williston Park, N.Y. Mary Ann has used photographs of right whales to create fascinating pieces that have been featured in several exhibitions, including her piece “Descent,” which was in the show *Science Inspires Art: OCEAN* at the New York Hall of Science.

Mary Ann recently had a watercolor of **Catalog #4290**, entitled “Breaching” accepted into the exhibition *Going Green: Celebrate the Earth*, which showed at the Art Guild in Port Washington, N.Y., March 31-April 29, 2018. The inspiration for this piece comes from a photograph taken by Anderson Cabot Center for Ocean Life researcher Philip Hamilton in the Bay of Fundy. Speaking about her work, Mary Ann said, “It is hoped this painting will encourage viewers to learn more about this endangered species of whales, who are worthy of our respect and care.”



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Read more about our project at
andersoncabotcenterforoceanlife.org.

You may access past issues of *Right Whale Research News* on our website at neaq.org/rightwhale. 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.