

Right Whale Research News

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Scarf (#1429), a 39-year-old male, lifts his flukes for a deep dive in the Gulf of St. Lawrence.
Photo: Nick Hawkins, taken under SARA permit.

Right Whales in the Gulf of St. Lawrence

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The year 2020 has been an odd year all around, and that was definitely true for research efforts in the Gulf of St. Lawrence. This area has become an important habitat for right whales since 2015, with nearly one-third of the population feeding there from early June into December. Unfortunately, due to concerns around COVID-19, at least three research teams were unable to do their annual surveys in the area — the Northeast Fisheries Science Center (NEFSC) aerial survey team, which had been surveying the Gulf for four of the last five years; the Aquarium's usual joint survey effort with Dalhousie University, University of New Brunswick, and Canadian Whale Institute aboard the *JD Martin*; and the Mingan Island Cetacean Studies 40-plus year program based on the northern edge of the Gulf.

Luckily for the right whale research community, the Canadian Department of Fisheries and Oceans (DFO) and

Transport Canada were able to increase their effort and fill some of the gaps left by these missing teams. Their effort is primarily aerial, which is important to understand the wider distribution of right whales in the Gulf, but shipboard surveys are vital. They allow researchers to obtain high-quality photographs of whales to assess their body condition and scars and collect skin biopsies and fecal samples for genetics and health. Although we were disappointed that our team was unable to be on the water, there were two vessel-based efforts in the Gulf this year — Nick Hawkins, a Canadian biologist and wildlife photojournalist along with his wife Andrea, and a DFO team headed by Andrew Wright aboard the *R/V Coriolis*.

We shipped both teams the proper equipment to collect and store any fecal samples that they might find. The fecal samples are extremely valuable as they can be used to determine pregnancy, stress, and potential shifts in hormone

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Right Whales...

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levels prior to mating. Nick was able to collect one such sample from **Scarf (Catalog #1429)**, a 39-year-old male, and he photographed more than 50 individual whales. Our team provided matching assistance so he and Andrea knew which whales they were seeing. Because they operated from a small boat low to the water, his lateral images are particularly

helpful in assessing right whale body condition. These photos were especially valuable for two young and injured whales he documented, **#4440** and **#4423**, who had both been entangled last year (see *Mortalities and Entanglements...* in *RWRN December 2019*). Both whales are believed to be gear-free and Nick's images allow us a close, detailed look at the healing process that many of these whales go

through after entanglements. The DFO team, working in another area of the Gulf aboard the *Coriolis*, also collected photographs and drone footage of numerous individuals, and used smaller boats to attach small tags and collect biopsy samples. We look forward to receiving their data and learning more about the whales they studied.

Reviewing the initial matching done by our team and colleagues at DFO and NEFSC, a total of at least 120 whales were seen in the Gulf including five mothers and calves of this year. One of those pairs was sponsorship whale **Calvin (#2223)** with her fourth calf. **Calvin** had always been a regular visitor to the Bay of Fundy, and she took her first three calves there, but this year she took her calf up to the Gulf, bypassing her historical feeding area.

By mid-August, right whales seemed to disperse from the aggregation area east of Miscou, New Brunswick, and as of the mid-October, they were scattered around the Gulf, with some north of Anticosti Island, some way up the St. Lawrence River near Tadoussac, Quebec, and others in the middle of the Gulf. It is such an interesting and dynamic area for right whales; one never knows what to expect there. We sincerely hope that by next summer we will be able to return to this exciting habitat. —*Philip Hamilton and Amy Warren*

If you want to keep an eye on survey efforts and right whale sightings in Canadian waters, visit whalemap.ocean.dal.ca/WhaleMap/. To monitor right whale sightings in both Canada and the U.S., visit bit.ly/NEFSCWhaleMap

The 2020 calf of Echo (#2642), born in January, shows its emerging callosity pattern—the primary feature we use to identify and catalog right whales. Photos of calves on the northern feeding grounds are important for future identification. Photo: Nick Hawkins, taken under SARA permit.



Give the Gift of Endangered Species Conservation

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

Started in 1980, the Aquarium's Right Whale Research Program is one of the longest continuously-running 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 assure the survival of these majestic creatures.

Right whale-themed gifts and tax-deductible sponsorships are available with proceeds going directly towards our research and conservation work focused on saving this most endangered whale.

Visit rightwhaleresearch.bigcartel.com to learn more!



A few highlights from the Bay of Fundy 2020: A breaching humpback (top) and the orca, Old Thom, with two Atlantic white-sided dolphins (lower left). Photos: Marlanna Hagbloom/ACCOL/NEAQ Lower right: A leatherback turtle snacks on a Lion's Mane jellyfish. Leatherbacks are the largest turtle in the world. Photo: Marilyn Marx/ACCOL/NEAQ



Bay of Fundy Surveys

The COVID-19 pandemic affected everything from our daily lives to our planned field work in 2020. Unable to conduct our annual field research in Cape Cod Bay and the Gulf of St. Lawrence, our Bay of Fundy season became our main focus. Following very strict COVID protocols set forth by the Anderson Cabot Center for Ocean Life and our own field team, we condensed our field season into a six-week block of time (August 1 to September 15) to minimize travel and team turnover, and made the best of a tough summer. While we had a shortened season compared to past years, we were able to conduct our field season safely and managed to clock an important milestone: The Right Whale Research Program's 40th consecutive vessel-based Bay of Fundy field season!

Since 2010, we've seen major shifts in North Atlantic right whale distribution along the eastern seaboard. One of the habitats most affected by this change has been the Bay of Fundy. Once a

major feeding habitat for right whales, it no longer appears to be the reliable and heavily-utilized habitat of the past four decades. We've had variable right whale presence in the Bay in recent years, but this was our first season since the inception of the Aquarium's Right Whale Program that we've recorded no right whales on our surveys. However, two were seen and photographed in and around the Bay of Fundy by other colleagues, including a juvenile seen off Eastport, Maine, on July 21 (before our team had arrived), and an adult male seen near Brier Island, Nova Scotia, in August. Although it's no fun to go through a right whale field season without seeing any right whales, that "negative data" is still an incredibly important data point in our 40-year time-series on their presence and habitat usage in the Bay of Fundy.

While we unfortunately did not document right whales this summer, we were able to collect loads of data on a variety of other species! Over 12

survey days, we covered 1214 nautical miles and recorded 18 basking sharks, two blue sharks, 31 fin whales, 39 gray seals, 1205 harbor porpoises, 41 harbor seals, 109 humpbacks (third highest year on record!), six leatherback turtles, 28 minke whales, 58 ocean sunfish, eight common dolphins, 50 tuna, 306 white-sided dolphins, and two sightings of the orca, Old Thom. We also saw lots of birds and jellyfish, and we made sure to record other vessels and fishing gear. Since we weren't spending our time photographing right whales, we were able to focus more on photographing humpback whales and, so far, have identified more than 50 individuals. As for the leatherback turtles, our team has only ever recorded two in total, both in 2015, so our count of six is a new record for us. Even though right whales were absent, the Bay of Fundy was still teeming with life and remains a dynamic habitat for many species. Forty years down, and hopefully many more to come. — *Kelsey Howe*

For more details on summer field work, check out our blog: accol.org/category/right-whale-research.



Sponsored Whale Update

Sponsored whale sightings October 2019 through October 2020. Map: Brooke Hodge/ ACCOL/NEAQ

Thanks to our Canadian colleagues, the presence of right whales in the Gulf of St. Lawrence was well-documented in spite of COVID-19, and we're happy that some of those sightings included our female sponsorship whales! We have no new sightings of the males **Gemini (Catalog #1150)**, **Shackleton (#2440)**, and **Resolution (#3532)**, but hopefully we will have an update on them in the next newsletter.

Aphrodite (#1701) was seen in the Gulf throughout the month of July. She was seen by a DFO aerial survey team on July 2 in a surface active group with **Toothbrush (#3193)**. DFO also saw her on July 16, 19, 22, and 23. Nick Hawkins' vessel-based team documented her again on July 18 and 19. **Aphrodite** had her last calf in 2015, so we are hopeful that she is building her fat stores so that she can continue to reproduce!

Calvin (#2223) and her calf were seen in the northern Gulf on June 22 by DFO, and her calf was associating with the calf of **Harmony (#3115)**! On June 27, **Calvin** and calf were spotted close to shore by a photographer on Cape Breton Island, about 162 miles "as the crow flies" from where they were five days prior.

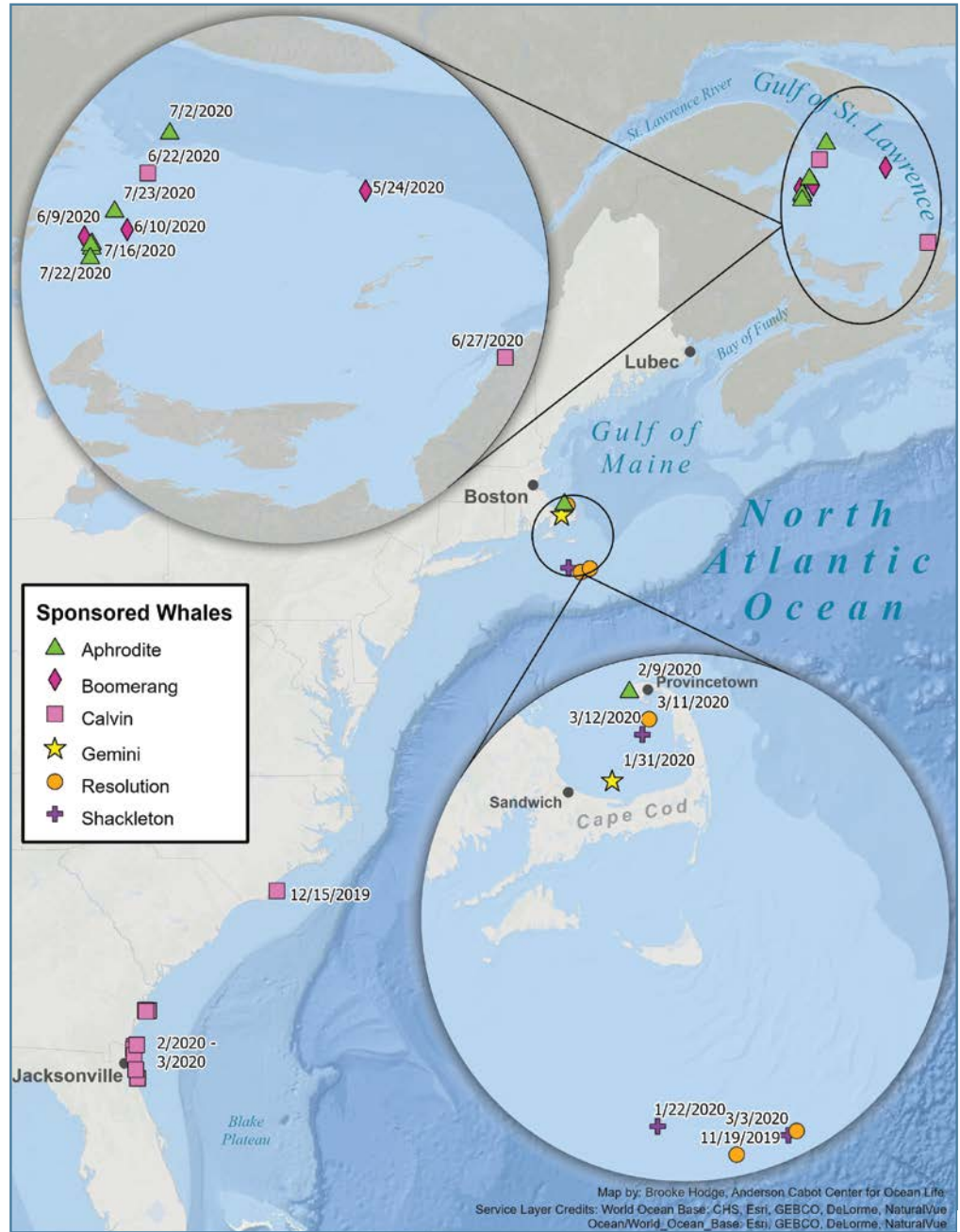
Boomerang (#2503) was seen by DFO in the Gulf on May 24 and June 10. Nick Hawkins' team saw her on June 9. **Boomerang** had her last calf in 2019 and is considered to be in a resting year since right whales can give birth every three years.

As of mid-October, there are still right whales being seen in the Gulf, so we will be on the lookout for more sightings of all the sponsorship whales.

Thank you so much for sponsoring a whale and supporting our research!

—Marianna Hagblom

Aphrodite (#1701) photographed on July 23 in the Gulf of St. Lawrence. Photo: Angélique Ollier/DFO Science.



Status of Management Efforts to Save Right Whales

What will it take to save right whales from extinction? A lot more changes to how we use the ocean right now. Unfortunately, leadership at the U.S. and Canadian government agencies responsible for protecting this critically endangered species has not been adequately doing the job that they are legally required to do under the Endangered Species Act and Marine Mammal Protection Act in the U.S. and the Species at Risk Act in Canada. Whether as a result of failed leadership or safety measures too localized to protect the wide-ranging whale population, right whales continue to suffer and die from both vessel strikes and fishing gear entanglements. To counter this lack of action, numerous lawsuits have been filed and congressional bills proposed that could shift the needle in a better direction for right whales. Below is a list of current actions that are being taken on behalf of right whales:

- A lawsuit spearheaded by the Conservation Law Foundation along with other non-governmental organizations (NGOs) against NOAA Fisheries regarding their lack of response to the increase in right whale entanglements has resulted in the judge mandating that NOAA Fisheries publish a final rule aimed at reducing entanglements by May 2021. Learn more: bit.ly/NARWlawsuit.

Lawsuits by a different organization against the states of Massachusetts and Maine's nearshore lobster fisheries are pending.

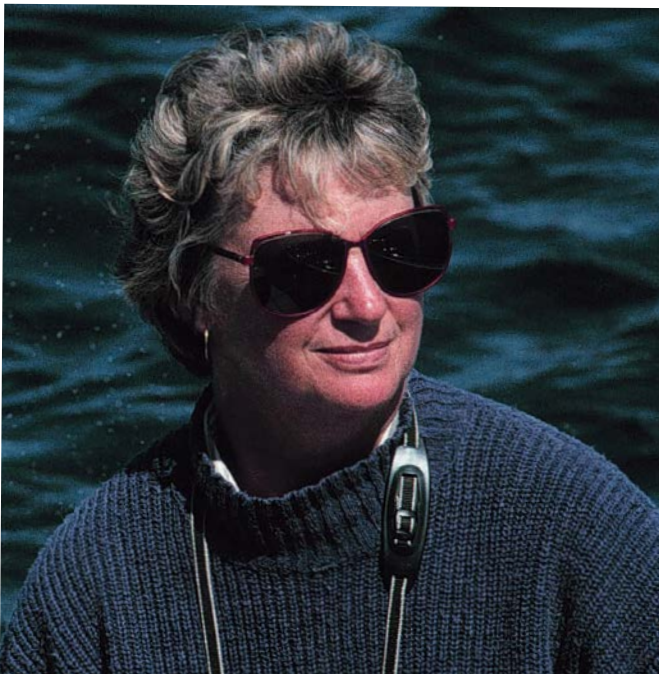
- In a surprising and welcome turn of events, geophysical surveys in the U.S. Atlantic Ocean will not be proceeding for the foreseeable future. In late 2018, NOAA issued five Incidental Harassment Authorizations (IHAs) to geophysical companies planning to conduct seismic surveys along the Atlantic seaboard to map potential fossil fuel reservoirs. Nine states, including Massachusetts, sued the federal government over this decision. In the interim, the Bureau of Ocean Energy Management never issued the required permits for the surveys to proceed. The IHAs will expire on November 30, 2020. Because there is no

statutory mechanism available to NOAA by which the IHAs can be extended, renewed, or reissued, this means that the geophysical companies must reapply and start the process again. As such, on October 6, the Judge in the lawsuit dismissed the case, which means that plans for seismic surveys in the Atlantic have been halted indefinitely—a great outcome for North Atlantic right whales and other marine wildlife. Learn more: bit.ly/offshoresismic.

- The Canadian Department of Fisheries and Oceans continues to take important steps aimed at reducing ship strikes and entanglements in the Gulf of St. Lawrence after two disastrous years (2017 and 2019) of very high levels of mortality and entanglements. While it is encouraging that no deaths or entanglements were observed there in 2020, we remain concerned about the broader situation for fishing activities in Canada beyond the Gulf of St. Lawrence. There is a lot of fixed-gear fishing occurring in offshore waters of the Gulf of Maine in Canada and in the U.S. In October, two right whales were found entangled off of New York and south of Nantucket and appear to

have been so for weeks or months. One of them had last been seen in the Gulf of St. Lawrence in July, but it is unknown in which country it got entangled. Canada has been doing testing of ropeless gear and weak sleeves so hopefully there will be a shift to using safer gear throughout Canadian and U.S. waters soon. Learn more: bit.ly/CanadianMeasures

- The SAVE Right Whales Act introduced by Massachusetts Congressman Seth Moulton in the House and New Jersey Senator Cory Booker in the Senate has yet to pass either Chamber during this Congress. Among other things, the SAVE Right Whales Act would authorize \$5 million in support of right whale research and conservation efforts. Even though the bill itself has yet to pass, the proposed FY2021 NOAA budget approved by the House of Representatives appropriates \$6.5 million in support of right whale research and conservation. The House budget has yet to pass the Senate, but if it does become law, it will essentially achieve the same outcome as if the SAVE Right Whales Act passed. — *Amy Knowlton and Kelly Kryc*



Sandy Prescott

Earlier this year, our dear friend, Sandy Prescott, passed away. Sandy was connected to the right whale team for 40 years initially through her husband, the late John Prescott, the Aquarium's first executive director. She continued annual visits to our field station in Lubec, Maine where she and her partner, Eric Nelson, shared trips out to sea and lively conversations at the dinner table. Sandy cared deeply about right whales as well as the researchers who share this passion. We will miss her.

Mortality and Entanglement Report

In each newsletter we report on new entanglements and mortalities that the population has suffered since the last issue. This brief summary of documented events should be viewed with the understanding that there may be others that have not been reported or were not observed. The recent shifts in right whale distribution affect our detection of dead or entangled whales, which could lead to an underrepresentation of mortality and entanglement events.

Mortality

2020 Calf of #3560 (~6-month-old male): On June 25, a dead right whale calf was found off the coast of Elberton, New Jersey. Floating on its side, propeller cuts from a vessel were visible, but only a necropsy could determine if the cuts were pre- or post-mortem. The carcass was towed to shore and the necropsy was conducted on June 27. The calf had evidence of at least two separate vessel collisions—the wounds from the first were likely several weeks old based on healing. However, the wounds from the second vessel strike led to this whale's immediate death.

This whale was the first documented calf of this season (and the first for his 15-year-old mother). He was born sometime between November 26 and December 16, 2019. In February and March, the pair was sighted several times in the Gulf of Mexico, which is an uncommon place for them to roam but they made it back to Atlantic waters and were last seen off Cape Lookout, North Carolina on April 6. We hoped that the vessel strike that killed the calf had not killed or injured his mother, #3560, so we were relieved when she was photographed unharmed on July 22 in the Gulf of St. Lawrence by the DFO aerial survey team.

Unfortunately, this is the second of the 10 calves born in 2020 to die as a result of a vessel strike (see *A New Year Sees the Same Old Problems* in *RWRN July 2020*).

Entanglement

Catalog #4680 (4-year-old male): On October 11 the American Princess Whale Watch photographed an entangled



right whale off Sea Bright, New Jersey. The small whale has line embedded around its rostrum but it is unknown if there is more gear entangling it. He is in extremely poor condition with large, open wounds and is unlikely to survive. Tragically, #4680, is the son of **Dragon (#3180)**, who was last seen fatally entangled in February (see *A New Year Sees...* in *RWRN July 2020*). To have two members of the same right whale family become severely entangled in the same year highlights the entanglement threat that right whales are facing every day.

Cottontail (#3920), 11-year-old male): On October 19, during a survey to relocate #4630 for a potential disentanglement attempt, the Center for Coastal Studies (CCS) aerial team sighted yet another entangled right whale south of Nantucket Island. This whale has line through its mouth, and wrapped around its rostrum with 100 feet of trailing gear. The CCS Marine Animal Entanglement Response team responded and was able to remove much of the trailing gear. They also attached a telemetry buoy so he can be relocated to make another attempt to remove the gear on the head.

Update on Previous Entanglements

Catalog #4423 (6-year-old male): First found entangled in Great South Channel east of Cape Cod on April 25, 2019. Several attempts to disentangle him by the Campobello Whale Rescue Team (CWRT) in the Gulf of St. Lawrence in July and August 2019 were thought to be unsuccessful. However, on October 29, 2019, he was confirmed to be gear-free so it is suspected that alterations made to the entanglement by the CWRT in July allowed the gear to be shed. He was resighted in August 2020 in the Gulf but his condition remains uncertain.

These recent cases highlight the fact that management measures presently in place to address vessel strikes and entanglements are inadequate. As right whales shift their distribution as a result of climate change and changing food resources, they clearly are at greater risk throughout their range. It will only be through more proactive management by the U.S. and Canadian governments, as well as a willingness for maritime and fishing industries to change operational practices, that we can help this endangered species avoid extinction. —*Marilyn Marx*

Population in Decline

The North Atlantic Right Whale Consortium released its annual population estimate for the North Atlantic right whale in late October and it reinforces what we have known for years: they are in steep decline. The population estimate for the end of 2019 stands at 356 whales. In just the past five years, scientists estimate more than 100 whales have died—largely due to human

impacts from ship strikes, entanglement in fishing gear, and impacts from climate change. Unfortunately, very little is being done to reverse this trend—especially in the United States. In fact, New England Aquarium scientists have observed a steadily increasing level of severe injuries and deaths related to entanglements and ship strikes. Aquarium scientists have been researching the species

for 40 years, generating solutions that support a balanced use of the ocean. Those solutions include shifting to weaker fishing ropes and ropeless fishing gear, as well as expanding fishery closures and vessel slow down areas. The species can recover, but the U.S. and Canadian governments have to take swift and decisive action if North Atlantic right whales are to survive.

Aquarium Aerial Surveys in the Coronavirus Pandemic

Left: **Cottontail (#3920)** photographed south of Nantucket Island in October. The line entangling him is wrapped through his mouth, around his rostrum and trails beneath him. Photo: Center for Coastal Studies, NOAA Permit #18786.

Below: **Catalog #4360** sighted among a group of four whales off Nantucket during a September aerial survey of offshore wind energy areas sponsored by MassCEC and BOEM. Photo: New England Aquarium, NOAA Permit #19674.

The New England Aquarium has participated in aerial surveys of an area sited for wind energy development south of Martha's Vineyard and Nantucket since 2011*. These surveys, funded by Massachusetts Clean Energy Center (MassCEC) and the Bureau of Ocean Energy Management (BOEM), are flown one or two times a month and focus on collecting line transect data necessary to calculate density and abundance of important marine mammal and turtle species of southern New England. While right whales are not the only target species of these flights, the presence of these animals has been consistent over the years and sightings have been increasing, especially in the summer and fall.

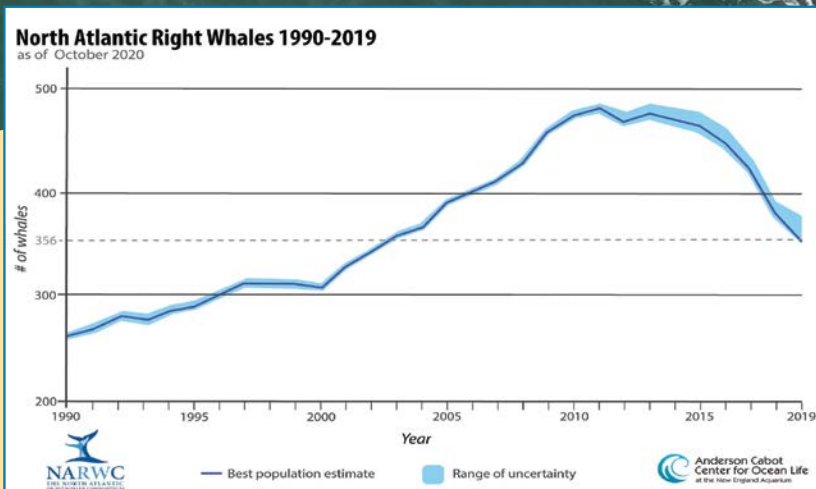
Flights for 2020 were scheduled to start in the spring, but after just one flight in March the team was grounded due to the coronavirus spread in Massachusetts. After devising and implementing a set of

safety guidelines to ensure the health of pilots and observers, we resumed surveys in June and have flown nine surveys since for a total of 10 so far in 2020.

Our first right whale sighting came on July 25—we sighted **Catalog #4360**, a whale of unknown age and sex, but one that was very familiar to us as we had identified it on five different days in 2019. Since then, we have observed right whales on every flight, for a total of eight individuals so far. This includes five adult males, two juveniles (one male, one female), and one whale of unknown age or sex.

While we haven't observed any surface feeding, these whales have been photographed defecating and with mud on their heads, leading us to believe they are feeding at depth. We expect that this small but consistent group will grow as the weather gets colder. In the past, most of our right whale sightings occur in this area during winter. We'll be sure to update you all with who we see out there! —*Orla O'Brien*

*For previous articles about the MassCEC project, see *RWRN* Dec. 2011, Dec. 2012, May 2013 and May 2017.



This graph estimates the number of North Atlantic right whales alive from 1990 to 2019. The dark blue line represents scientists' best estimate for the species count, and the light blue area represents the range of uncertainty. With 95% confidence, scientists report a right whale count between 353 and 377 at the end 2019, with a best estimate of 356. Data from the 2020 NARWC Report Card.



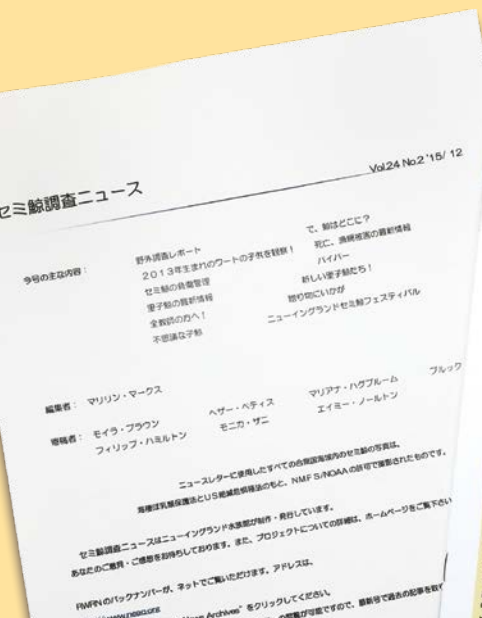
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Japanese Newsletter

For many years now our friend and past volunteer, Hiroko Wada, of Fukushima, Japan, has translated Right Whale Research News (see *How's your Japanese?* in *RWRN May 2016*). This has helped our sponsors in Japan (yes, there are a few!) stay updated about our work. If you or someone you know would like to read the Japanese version of *RWRN*, please let us know and we will provide a copy!



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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 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.