# **RIGHT WHALE NEWS**

An independent forum for right whale conservation and recovery, publishing several times each year.

Volume 31 Number 1

August 2023

This Issue:

SEUS Season Summary, SEIT Update, Cape Cod area summary, SE New England Update, Vineyard Wind and Offshore Wind Update, RW documentary, In Memorium–Roger Payne, Calendar, Literature

## **SEUS Calving Season 2023 Summary**

Each season, we hope for the best—a strong calf count with perhaps an increase. In the 2023 season (defined as November 2022 through April 2023), 11 calves were born (12th calf described below). The hoped-for increase (which we might take as evidence of a rebound) did not materialize. On the other hand, there were bright spots. Female catalog #1204, > 41 years of age, had her 10th calf, with only a four-year interval between this and her previous calf. At the other end of the spectrum, female #4340, 10 years of age, had her first calf. First-time mothers are recorded with enthusiasm, as evidence of additional reproductive females being brought into the population. A sobering note, however, is that the average calving interval was 7.8 years—a number that continues to be greater than the 3.5 year interval recorded during better times.

The total number of right whales recorded in the Southeast U.S. (SEUS) this season was 48. Of these, there were 11 mothers, 14 males, and 12 of unknown gender (this includes at least five yearlings from the 2022 season). For the total, add the 11 calves, which brings it to 59. The presence of the 14 males could be taken as reflective of some previous years, where there was diversity in the migrants to these calving grounds.

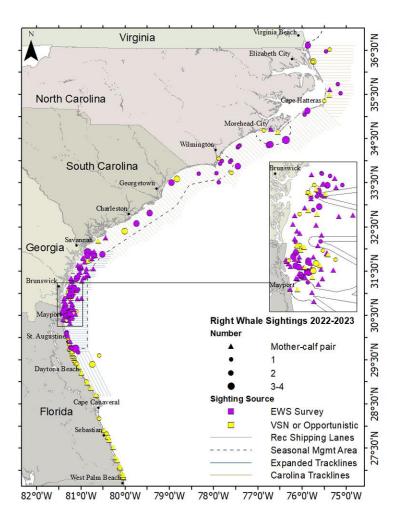
Injuries and entanglements continue to be an issue. In fact, there were more than usual. A right whale calf was reported dead off Beaufort, North Carolina, on 7 January (cause of death unknown). Reproductive female, #3560, *Snow Cone*, who was prominent in the documentary, *Last of the Right Whales*, was judged to be dead based on her most recent sighting in September 2022, south of Cape Cod.

Mother-calf pairs in the SEUS during the 2023 season. Noteworthy is first-time mother, #4340, Pilgrim, and two females, #1204 Spindle and #3293 Porcia, with short calving intervals. Female #1204, Spindle, is also noteworthy as she is greater than 41 years of age and has produced ten calves to date, more than any previous mother. Table compiled by Florida Fish and Wildlife staff.

Whale ID	Name	Age	# of calves	Years b/w calves
1012	Pediddle	>45	9	6
1204	Spindle	>41	10	4
1208	Medusa	>42	7	11
1701	Aphrodite	36	7	8
1711		36	4	6
1812	War	>35	7	7
2029	Viola	33	4	12
2605	Smoke	27	4	8
3293	Porcia	>21	3	12
3370	Archipelago	>20	3	4
4340	Pilgrim	10	1	-

Female #4340, *Pilgrim*, was noteworthy, in that, upon arrival in the SEUS, she passed unreported by the more northern and central surveys and was subsequently sighted by the Volunteer Sighting Network off Canaveral National Seashore on 30 December, with a response and documentation by the Marine Resources Council (MRC). Shortly thereafter, on 2 January, drone video taken by staff of the MRC showed the mother-calf pair being approached (likely harassment) by boaters off Sebastian Inlet. The pair was sighted several additional times, and was documented as far south as Juno Beach, Florida. On 27 March, *Pilgrim* and calf were sighted, apparently healthy, in Cape Cod Bay (see also p. 6).

We look forward to the annual meeting of the North Atlantic Right Whale Consortium in October for an update on the population status. What will the numbers tell us ?



Sightings in the 2023 SEUS season from all sources. The total number of individually identified individuals is 48, with an additional 11 calves (see also summary table above for mothers and calves.) Number and distribution of sightings influenced by sighting effort. Plot prepared by Florida Fish and Wildlife staff.

**Meetings of the SEUS Recovery Plan Implementation Team Resume** 



The first post-pandemic in-person meeting of the SEIT public forum component took place on Wednesday, 10 May 2023, at the Guana-Tolomato-Matanzas National Estuarine Research Reserve facility in Ponte Vedra Beach, Florida. There were about 61 in-person attendees, with an additional 24 on line. Tom Pitchford, Florida Fish and Wildlife Conservation Commission (FWCC), moderated the meeting.

The previous in-person Forum meeting was prior to the COVID-19 pandemic in May 2019. In the fall of 2019, the Northeastern U.S. right whale recovery plan implementation team (NEIT) and the SEIT met jointly, so they opted not to have a fall SEIT Forum meeting. In the time since, the pandemic derailed activities. Virtual meetings were held until the in-person meetings resumed this past May.

At the outset, Leslie Ward, FWCC, and SEIT Team Leader, reported on the virtual Forum held in May 2022. The SEIT recommendations were as follows:

- \* develop and circulate consistent messaging about risk from/to boaters
- \* improve enforcement of non-compliant regulated vessels > 65 ft in length
- \* meet with fishing tournament folks to develop practices that reduce risk to right whales
- \* develop dockside education programs
- \* work with enforcement for active boater outreach

\* create multi-organizational working group to engage with recreational boaters

- \* evaluate collision risk from regulated and unregulated vessel traffic
- \* consider options to reduce risk near inlets

The overarching SEIT topics include:

- \* assess inter-annual variation in reproduction
- \* evaluate population monitoring
- \* plan education and outreach strategies
- \* monitor fisheries, ropeless fishing, engage fishery managers
- \* assess cumulative effects of nonlethal impacts including noise

As a product of the SEIT, Chair Leslie Ward submitted a letter to Andy Strelcheck, Regional Administrator, NMFS Southeast Regional Office (SERO), on 25 February 2022. The letter, an avenue for conveying advice from the SEIT to NMFS, reflected the recommendations listed above. As a related product, a Key Outcomes document from the May 2023 meeting can be found at : <u>https://www.fisheries.noaa.gov/s3/2023-09/SEIT-May-2023.pdf</u>.

There were several personnel changes following on the retirement of Barb Zoodsma (see RWN December 2022). Kara Shervanick is the new NOAA Fisheries Southeast Regional Office (SERO) Right Whale Coordinator and will be serving as the NOAA Fisheries Liaison to the SEIT. Per the SEIT Terms of Reference, the SEIT Liaison is not an SEIT team member nor a decision maker for the team. Rather, Kara's role will be to provide advice and guidance to the SEIT, serve as a conduit for communication between the SEIT and SERO, and collaborate with the SEIT on recovery tasks. Clay George, formerly with the Georgia Department of Natural Resources (DNR), is SERO's Large Whale Recovery Program Coordinator, which includes Rice's whales, sperm whales and the work that Kara and others are doing on right whale conservation. He will assist Kara with SEIT coordination and planning. The Georgia DNR position (with a seat on the SEIT) vacated by Clay is currently unfilled.

## 2023 Cape Cod Bay Report

#### Contributed by Ryan Schosberg, Center for Coastal Studies, Provincetown, Massachusetts

The Center for Coastal Studies (CCS) Right Whale Ecology Program experienced another busy year in 2023. The CCS aerial team took to the skies on 34 survey days from December 2022 through May 2023, conducting 24 surveys over Cape Cod Bay, eight surveys over Massachusetts Bay, and four surveys along the eastern shore of Cape Cod. Right whales were observed on the first flight of the season on 21 December and continued to be sighted on every survey of Cape Cod Bay through April. The last right whale sighting of the season was on 27 April, though

survey flights continued through 12 May. This marks an earlier departure than usual, as right whales have been observed in local waters into the first two weeks of May in recent years.

Unfortunately, the New England weather presented a larger challenge than usual this season. Inclement weather throughout March and April meant fewer available survey days and limited our hours in the air on days when we were able to fly. Even so, the aggregation of right whales that made themselves at home in the southwest corner of Cape Cod Bay in late March kept us very busy. We documented as many as 75 individual right whales in this quadrant of the bay in a single day in late March, with many individuals concentrated near the mouth of the Cape Cod Canal and even a couple within the canal itself.

Despite survey challenges, a large percentage of the right whale population was documented in local waters this season. Sightings are still being processed, but as of this report, 199 right whale individuals representing over 55% of the total population have been identified through CCS aerial and vessel documentation. The demographic distribution was similar to previous years, with the majority being adult males (42%) and adult females (28%). (The ratio of males/females is reflective of the skew towards males that is observed in the general population.)

Cape Cod Bay was once again a popular stop for right whale mothers with calves making their way up the east coast. Ten of the 11 mother-calf pairs documented in the SEUS calving grounds were observed here this season. A particularly exciting visitor was #4340/*Pilgrim*, who was first observed in the bay as a recently born calf in January of 2013, making her one of the few known, living cases of a right whale born in the northern region. Since then, she's been documented in Cape Cod Bay every year, and we were happy to see her bring her first calf to the area as well. *Pilgrim* and her calf were observed on six surveys over 38 days making them the mother-calf pair that resided in Cape Cod Bay the longest this season.

The CCS Right Whale Ecology Program is currently hard at work reviewing data and photos from the 2023 field season and plan to begin next season's survey flights as early as October 2023. These fall flights will be mainly supporting survey efforts in the Southern New England/Nantucket Shoals area, in addition to some local CCB work as well.

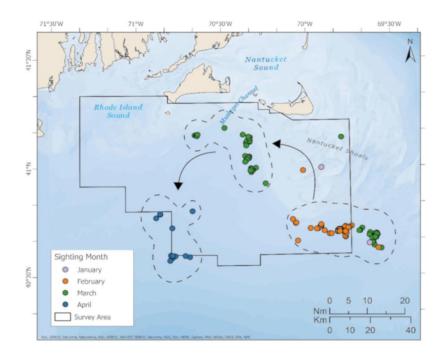
## Southern New England Survey Report

### Contributed by Katherine McKenna, New England Aquarium

The New England Aquarium's (NEAQ's) aerial surveys documented more than 102 right whales in Southern New England waters from January through April 2023. Although it is thought that the whales come to Southern New England to feed, social behaviors, such as surface-activegroups (SAGs) are seen. One of the largest SAGs this year was a group of eight whales with an adult female, #3860, as the focal female.



The aerial survey team, Sharon Hsu, Orla O'Brien, and Katherine McKenna, next to the Partenavia P68 survey aircraft.



Right whale sightings recorded during the January through April 2023 surveys. The movement of the whales is dynamic, as the distribution of sightings shifts across the survey period.

Of the 102 individuals sighted, 77 were sighted only once this year, and no whale was sighted more than three times. Only one individual appeared to stay in the area for three months, while others stayed one to two months. It was fascinating seeing how many different individuals were utilizing the area. Even though our total number of whales per survey could be similar every few days, the turnover of individuals within each aggregation was more variable than expected. However, we did have a fair number of individuals that were re-sighted on our surveys both within and between months, including one individual that was seen in all three aggregation locations over a two month period.

Other teams, the CCS, and the Northeast Fisheries Science Center, are also surveying in the area. The combined data shows that 201 individuals were documented in the Southern New England area this winter and spring. While there were many individuals sighted by both teams, there were also individuals that were only seen by one team, particularly in the spring. (For an earlier report, see also RWN August 2021.) In April, right whale sightings decreased as the whales moved into other habitats.

The survey groups share preliminary sightings data, so we know that there are individuals that were seen in both Southern New England and in Cape Cod Bay. For whales seen in both areas, some individuals were seen in Southern New England first before moving into Cape Cod Bay and vice versa. However, there were also individuals that were seen in Southern New England but not in Cape Cod Bay or Massachusetts Bay this year.

An interesting aspect of these surveys is the belly-camera system that records marine megafauna sightings and human activity along the trackline. In 2023, we upgraded our belly camera system so that we now have three cameras which allow expanded coverage below the plane. A publication on the belly camera system is provided below.

#### **Aerial Surveys** WINTER/SPRING 2023 SNAPSHOT The Aerial Survey Team at the New England Aquarium's Anderson Cabot Center for Ocean Life BY THE NUMBERS monitors changes in animal populations, identifies various species, and documents animal use trends in New England waters. This crucial data is used to protect marine species and their habitats. 2,864 PHOTOS (January-April nautical miles flown OURS IN FLIGHT whales new to our survey 12 INDIVIDUAL WHALE DEMOGRAPHICS BY % RESIGHTINGS BY unknown 10% male female 64% IDENTIFIED 26% whales seen whales seen again by our survey by our survey after in last two years a gap of 2+ years 18 77

Summary of New England Aquarium aerial surveys in Southern New England area, from January through April 2023.

### References

Quintana-Rizzo, E.S., S. Leiter, T.V.N. Cole, M.N. Hagbloom, A.R. Knowton, P.Nagelkirk, O. Obrien, C.B.Kahn, A.G. Henry, P.A. Duley, L.M. Crowe, C.A. Mayo, and S.D. Kraus. 2012. Residency, demographics, and movement patterns of North Atlantic right whales, *Eubalaena glacialis*, in an offshore wind energy development in southern New England, USA. Endangered Species Research 45: 252-268.

Taylor, J.K.D., R.D. Kenney, D.J. LeRoi, and S.D. Kraus. 2014. Automated vertical photography for detecting pelagic species in multitaxon aerial surveys. Marine Technology Society Journal 48(1): 36-48.

## Installation Underway for First Commercial Wind-Area Project

In June 2023, the first monopole tower in Vineyard Wind's offshore wind farm was installed in continental shelf waters south of Martha's Vineyard. The 800 megawatt project is described as the nation's pioneer commercial-scale offshore windfarm. In all, 62 towers will be installed, positioned one nautical mile apart.

In early August, Vineyard Wind provided an update (*Cape Cod Times*, 4 August 2023). A substation structure, where the cables from each turbine are joined, was well underway The project's turbine blades and tower parts are already in New Bedford, and will soon be loaded onto barges and transported offshore for installation. Power generation will begin as soon as October. Commercial operation is said to begin in mid-2024.

There are many dimensions to the project. Not all are directly related to the offshore installations. Concerns have been expressed about the location of the submarine cables that will relay the wind-generated power to the mainland. Shore-side communities have expressed concern about when and where cables are proposed to come ashore under beaches and near coastal communities.

On an additional issue, in May 2023, a federal judge rejected a lawsuit brought by Nantucket residents who argued that the wind turbines off the island threatened the survival of endangered right whales (Associated Press). The judge found that the group failed to show that either the U.S. Bureau of Ocean Energy Management (BOEM) or the National Marine Fisheries Service (NMFS) violated the Endangered Species Act or the National Environmental Policy Act in issuing a 2021 biological opinion or final environmental impact statement for the wind energy project.



The substation platform where cables from the turbines converge, and from which energy will be sent ashore.

Vineyard Wind is not alone. At the 10 May 2023 SEUS right whale implementation team meeting, Greg Fulling, BOEM, reported 14 additional offshore wind projects in the pipeline. The small five-turbine Block Island windfarm, Deepwater Wind, is operational and supplies 100% of the power for the island (RWN September 2016). In 2018, Orsted, a Danish company and the world's largest offshore wind developer, purchased the Rhode Island-based Deepwater Wind. The acquisition resulted in the creation of Orsted U.S. Offshore Wind — a new company that will have more than 8,000 megawatts in development in Massachusetts, Rhode Island, New Jersey, Delaware, and Virginia (For further information, see www.orsted.com.)

*National Fisherman* magazine, Spring 2023, reports that a major increase in funding for scientific fisheries surveys is required. In a March letter to a Congressional appropriations subcommittee, the Seafood Harvesters of America and the Responsible Offshore Development Alliance recommended \$2M a year for fisheries surveys managed by NMFS, plus \$10M more for each of the six NMFS regional science centers to address issues with wind energy developments.

Overall, (BOEM) is the responsible agency (see <u>www.boem.gov/renewable energy</u>). Study and advisory groups have been formed. Their mission is described as being responsible for overseeing off- shore renewable energy development in federal waters in an economically and environmentally sound manner. These include a North Atlantic Right Whale (NARW) strategy group to protect and promote the recovery of the species while responsibly developing offshore wind (OSW). BOEM and NMFS are currently reviewing public comments. Likewise, BOEM has been working with NOAA's National Centers for Coastal Ocean Science (NCCOS) to develop a spatial suitability model to de-conflict areas and define areas most suitable for leasing. Reports on both activities will be published shortly (and referenced in RWN). For earlier reports on this topic, see RWN March 2020, July 2018, and June 2017. Documents and project photos are available at vineyardwind.com and boem.gov. Information on permitting is also provided at these sites.

## **Right Whale Documentary Availability Expanded**

The recent right whale documentary, *Last of the Right Whales* (see RWN March 2022), has been edited into a PBS Nova program, trimmed in length to 53 minutes and renamed, "Saving the Right Whale." The DVD is available from PBS/Store and by streaming for PBS Passport members.

## **In Memorium**

Roger S. Payne, died on Saturday, 10 June, at his home in South Woodstock, Vermont. He is perhaps best known for his recordings and descriptions of the songs of humpback whales. The 1970 recording, *Songs of the Humpback Whale*, initially sold more than a 100,000 copies. The songs have been incorporated into music by Judy Collins, Pete Seeger, Paul Winter, The New York Philharmonic, and others. In 1977, the songs of Roger's humpback whale song recordings were carried aboard the NASA-launched Voyagers 1 and 2. Roger's work helped bring an end to commercial whaling in the 1970s and a global moratorium in the 1980s.

In September 1970, Roger began the long-term study of right whales off Peninsula Valdes in Patagonia, Argentina. This study included describing the patterns of white callosities as a tool for individual identification, description of behaviors, and development of observation and research methods. In the course of his work over seven decades, he collaborated with Frank Watlington, Scott McVay, his first wife, Katy, Chris Clark, Berndt Wűrsig, Victoria Rowntree, and many others.

Dr. Payne was the author of several books, including "Among Whales" (1995), contributed to a number of National Geographic articles (October 1972 and March 1976), collaborated on six

documentaries including an IMAX movie, and founded Ocean Alliance, which is now based in Gloucester, Massachusetts.

A memorable occasion took place many years ago. Roger gave a talk at the Marine Biological Laboratory in Woods Hole, Massachusetts. In the midst of a description of humpback whale songs, their components, and how they evolved, Roger stepped behind a curtain to the rear of the stage, and brought out his cello. The cello enhanced the telling of the story, revealed the nature of this scientist, and further illustrated the effective and engaging communication of the science.

Throughout his career, Roger was a voice for, and an advocate of, whale conservation and planetary health.

## Calendar

23 October 2023, Ropeless Consortium meeting, Halifax Convention Center, Halifax, Nova Scotia, Canada.

24-25 October 2023, North Atlantic Right Whale Consortium Annual Meeting, Halifax Convention Center, Halifax, Nova Scotia, Canada.

Fall meeting of the Southeast U.S. Right Whale Implementation Team. Leslie Ward, Team leader, advises that there will be no fall Forum meeting.

4-5 November 2023, Right Whale Festival, Main Beach Park, 32 N. Fletcher Avenue, Fernandina Beach, Florida.

13-15 February 2024. North Atlantic right whale vessel strike risk-reduction workshop. Washington D.C. and virtual. See <u>narw.vesselstrike@noaa.gov.</u>

## **Literature and Reports**

Agrelo, M., C. F. Marón, F.G. Daura-Jorge, V.J. Rowntree, M. Sironi, P.S. Hammond, S.N. Ingram, F.O. Vilches, J. Seger, and P.C. Simões-Lopes. 2023. Effect of kelp gull harassment on southern right whale calf survival: A long-term capture–recapture analysis. Biology Letters 19(6). http://doi.org/10.1098/rsbl.2023.0119

Brillant, S. 2023. The future of North Atlantic right whales and fishing and shipping interactions. Ocean Yearbook Online 37.1:207-220. https://doi.org/10.1163/22116001-03701011 Web.

Brown, M.G. 2023. A directional spectrum evolution model for ship noise. Journal of the Acoustical Society of America 153(6):3469-3469. doi:10.1121/10.0019851.

Ceballos, V., C. Taggart, and H. Johnson. 2023. Comparison of visual and acoustic surveys for the detection and dynamic management of North Atlantic right whales (*Eubalaena glacialis*) in Canada. Conservation Science and Practice 5(2).e12866. https://doi.org/10.1111/esp2/12866.

Christiansen, F., K.R. Sprogis, M.L.K. Nielsen, M. Glarou, and L. Bejder. 2023. Energy expenditure of southern right whales varies with body size, reproductive state and activity level. Journal of Experimental Biology 226: jeb245137. doi: 10.1242/jeb.245137.

Crossman, C.A., M.C. Fontaine, and T.R. Frasier. 2023. A comparison of genomic diversity and demographic history of the North Atlantic and Southwest Atlantic southern right whales. Molecular Ecology early view. doi:https://doi.org/10.1111/mec.17099.

Crowe, L.M., T.V.N. Cole, H.J. Foley, and D.M. Cholewiak. 2023. Shiny tools for management rules: Interactive applications that aid in conservation strategies for North Atlantic right whales. Journal of Open Source Software 8(88):5436. https://doi.org/10.21105/joss.05436

Danielson R.E., H. Shen, J. Tao, and W. Perrie. 2023. Dependence of ocean surface filaments on wind speed: An observational study of North Atlantic right whale habitat. Remote Sensing of Environment. 287:113494. https://doi.org/10.1016/j.rse.2023.113494.

Dedden, A.V., C.M. Kemper, G. Truong, M.R. McCurry, P.D. van Ruth, and T.L. Rogers. 2023. Stable isotopes infer the diet and habitat of the enigmatic pygmy right whale (*Caperea marginata*) off southern Australia. Frontiers in Marine Science 10:1190623. doi: 10.3389/fmars.2023.1190623

Findlay, C.R., L. Rojano-Doñate, J. Tougaard, M.P. Johnson, and P.T. Madsen. 2023. Small reductions in cargo vessel speed substantially reduce noise impacts to marine mammals. Science Advances 9(25):eadf298. https://www.science.org/doi/10.1126/sciadv.adf2987

Hudak, C.A., K. Stamieszkin, and C.A. Mayo. 2023. North Atlantic right whale *Eubalaena glacialis* prey selection in Cape Cod Bay. Endangered Species Research 51:15–29.

Hodul, M., A. Knudby, B. McKenna, A. James, C. Mayo, M. Brown, D. Durette-Morin, and S. Bird. 2023. Individual North Atlantic right whales identified from space. Marine Mammal Science 39(1):220–231. https://doi.org/10.1111/mms.12971.

Lonati, G.L., N.J. Hynes, K.R. Howe, D. Durette-Morin, M.W. Brown, and K.T. Davies. 2022. Observations of adult–calf nonreproductive copulatory behavior in North Atlantic right whales (*Eubalaena glacialis*). Aquatic Mammals 48(6):639-645. Doi:10.1578/am.31.2.2005.157.

Matthews, J.N., S. Brown, D. Gillespie, M. Johnson, R. McLanaghan, A. Moscrop, D. Nowacek, R. Leaper, T. Lewis, and P. Tyack. 2023. Vocalization rates of the North Atlantic right whale (*Eubalaena glacialis*). Journal of Cetacean Research and Management 3(3):271-282. doi:10.47536/jcrm.v3i3.878.

Moore, M.J., 2023. Policy enabling North Atlantic right whale reproductive health could save the species. ICES Journal of Marine Science 80(2):237-242. https://doi.org/10.1093/icesjms/fsac239

Silber, G., A. Dangerfield, J. Smith, D. Reeb, and J.J. Levenson. 2023. Offshore wind energy development and North Atlantic right whales. OCS Study BOEM 2023-051: Prepared for U.S. Department of the Interior, Bureau of Ocean Energy Management, Sterling, Virginia by Blue World Research Institute, Cocoa, Florida.

Sorochan, K.A., S. Plourde, and C.L. Johnson. 2023. Near-bottom aggregations of *Calanus* spp. copepods in the southern Gulf of St. Lawrence in summer: Significance for North Atlantic right whale foraging. ICES Journal of Marine Science 80(4):787-802. https://doi.org/10.1093/secewjms/fsad003.

Wöhle, S., E. Burkhardt, I. van Opzeeland, and E. Schall. 2023. Exploring and verifying the acoustic presence of southern right whales (*Eubalaena australis*) off Elephant Island, Antarctica. Journal of the Acoustical Society of America 153(6):3301-3311. doi:10.1121/10.0019633.

## **Right Whale News**

*Right Whale News* is a publication of Associated Scientists at Woods Hole. It is disseminated online through the courtesy of the North Atlantic Right Whale Consortium. The Editor is Jim Hain. The Editorial board consists of Julie Albert, Robert Kenney, Hans Neuhauser, and Amy Whitt. The current and back issues of *Right Whale News* published between 1994 and 2022 are available at the North Atlantic Right Whale Consortium website, <u>www.narwc.org</u>, under the *Right Whale News* tab.

To submit ideas, article topics, and comments, contact Editor Jim Hain at <u>jhain@earthlink.net</u> and place "RWN Editorial" in the subject line. To subscribe, please use the "Mail Chimp" system at: <u>http://eepurl.com/JvmKf</u>. The link is also available via the *Right Whale News* tab on <u>www.narwc.org</u>.

**Citing** *Right Whale News*: The requested format for citations from *Right Whale News* is: Right Whale News Volume(number): page(s). Alternatively, a less formal citation may simply use month and year of issue.

An index to *Right Whale News*, subject and author, for the period 2004–2014 is posted at the North Atlantic Right Whale Consortium website, <u>www.narwc.org</u>—under the *Right Whale News* tab. Indexing for the period 1994–2004 is underway.

Support for *Right Whale News* is provided by the Island Foundation and the Massachusetts Environmental Trust.

Jim Hain, Editor of Right Whale News, is a member of the Society of Environmental Journalists.