RIGHT WHALE NEWS

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

Volume 24 Number 1

March 2016

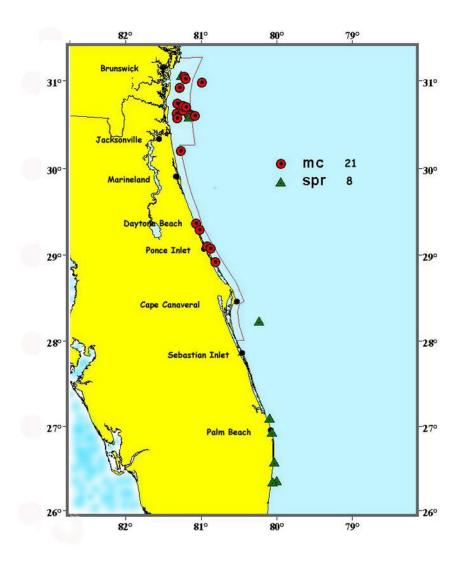
The SEUS season to date: High hopes, low numbers

Jim Hain

Something is changing—that is for sure! As of late February, three-quarters of the way through the season, only a handful of right whales have been sighted on the calving ground. The summary compiled by Florida Fish and Wildlife researchers lists 20 adult right whales sighted—far fewer than the 200 whales sighted years back. This change is due in large part to the absence of juveniles and sub-adults—the social groups of up to 12 and 15 individuals seen for the better part of a decade, but not seen in recent years. Likewise, the calf count to date is 14, with one lost (the calf of Catalog #3440, *Cypress*), giving a net of 13 known calves. Given that the population includes about 108 reproductive females, and that the average calving cycle is four years (Source: Philip Hamilton, New England Aquarium), then ~ 25 calves per year might be expected. For several years now, the calf production has fallen short of that number.

How have the sightings been distributed? As *Right Whale News* has done in past years, the sightings for a 10-day period centered around 1 February are provided below. The majority of sightings are around the Florida/Georgia border and in southern Georgia; this is often termed the "core" area. Another cluster of sightings (appearing more like "outliers") occurred from South Daytona to New Smyrna Beach (mostly re-sightings of the same mother-calf pair, Catalog #3450, *Clipper*, and her first calf). The sightings of *Clipper* and calf included an unusual excursion (see article below). Also south of Cape Canaveral, several sightings of Catalog #1968, an unwell female, were reported. There were no sightings of groups of ≥ 3 .

To the north, Corey Accardo, Center for Coastal Studies, describes that the 2016 season has started off slowly, but has begun to pick up with 44 identified individuals documented to date in Cape Cod Bay (CCB). Although the previous five seasons confirmed right whale sightings in CCB during December—this did not hold true this season. Last year, the CCB survey area saw a drop in the high numbers of individuals in the area relative to those observed over the past decade. But with over 100 individuals in the Bay during 2015, this habitat still came in with the largest number of sighted individuals in a given habitat for the year. We're all excited to see what 2016 holds in store for the whales and survey teams everywhere!



Right whale sightings for a 10-day period, 27 January through 5 February 2016, centered around 1 February. This figure provides a general impression of the numbers and distribution at the approximate mid-point of the season. Total sightings for the period (n=30) were concentrated in a core area around the Florida/Georgia border. Taking into account re-sightings of a given individual, 14 adult right whales were sighted. Twelve of the 13 mother-calf pairs known at the time were sighted. Weather and survey effort are factors in this plot, and half the days within the period had no aerial surveys. Key: mc=mother-calf pairs, spr=singles and non-mother-calf pairs, red line=boundary of (former) critical habitat. The collaborative data are from the Sea to Shore Alliance, Georgia Department of Natural Resources, Florida Fish and Wildlife Conservation Commission, Marineland Right Whale Project, and the Marine Resources Council.

For more offshore information, Tim Cole, NMFS Northeast Fisheries Science Center, provided a summary for 7 November 2015 through 12 January 2016. The 20 flights occurred off Rhode Island, in the Great South Channel, and in the Gulf of Maine (GOM). Only seven right whales were sighted. Tim describes that there are not many whales in the GOM this year. According to Tim, NMFS is not sure what is going on, but it could be that the whales are there but dispersed—making it more difficult to detect them. The NEFSC survey flights will resume on/about 22 March.

As described by Pettis and Hamilton (2015), during the last several years, surveys in the areas mentioned above have indicated that right whale distributions and patterns of habitat use have shifted, in some cases dramatically, from expectations based on previous studies. These shifts have been observed throughout the range of North Atlantic right whales and have direct implications on research and management activities. As such, the North Atlantic Right Whale Consortium believes that identifying potential extralimital and new critical habitats, and developing alternative survey effort strategies to respond to the distributional changes, should be a priority.

Pettis, H.M. and Hamilton, P.K. (2015). North Atlantic Right Whale Consortium 2015 annual report card. Report to the North Atlantic Right Whale Consortium, November 2015. Available at: www.narwc.org.

Sebastian Inlet Incursion by Catalog #3450 (Clipper) and 1st Calf

Julie Albert, Contributing Editor

The staff and volunteers of Sebastian Inlet State Park (SISP) had no idea what they were in for when they attended a right whale volunteer training class on 21 January 2016. Little did they know that about two weeks later, they would be using their identification and reporting skills as Catalog #3450 (*Clipper*) and her first calf entered Sebastian Inlet, Florida, and headed toward the Indian River Lagoon—something I have not seen in my 17 years of coordinating the Marine Resources Council's (MRC) Volunteer Sighting Network.

At 08:40 on 8 February, Peggy Bentley, a SISP employee, called MRC's right whale sighting hotline (888-97-WHALE) to report that there was a mother and calf in Sebastian Inlet west of the bridge. (Sebastian Inlet is 38 nmi south of Cape Canaveral and 11 nmi south of the southern boundary of the right whale critical habitat.) As part of the response, two Florida Fish and Wildlife law enforcement (FWC LE) vessels and the Harbor Branch Oceanographic Institute's (HBOI) RIB were on the water from about 11:00 to 18:45, monitoring boat traffic at the inlet and helping to keep noise at a minimum. Boaters who hoped to exit the inlet were turned away and redirected, and one fisherman was escorted into the inlet via FWC LE.

Onlookers watched from shore, hoping to get a rare glance of the whales that dwarfed any other animal that has come and gone through Sebastian Inlet. *Clipper* swam a north-to-south pattern where the inlet meets the Indian River as the tides and currents were monitored along with her movements. By dark, she had not made any progress eastward, so FWC LE and the HBOI RIB returned to the dock with the expectation to return to the inlet at dawn to assess *Clipper*'s situation.

On Tuesday, 9 February, *Clipper* was still there, but farther eastward in the channel. From 07:30 and for the next five hours, *Clipper* slowly headed eastward—her progress was gauged by noting her location relative to channel markers, buoys, and natural landmarks. Eventually, people poured onto the catwalk of the Sebastian Bridge to watch *Clipper* make 16 attempts to move

through the bridge pilings between the fenders. As she approached, she would position herself in front of the calf and turn around to block the calf as if she were second-guessing whether or not the calf could safely get through. The pair would retreat about 100 yards and attempt it over and over again. It was noted that she would turn around where the bridge cast a shadow on the water, which moved eastward as the sun moved—exactly the direction she needed to go. Around noon, the current pulled the pair under the bridge and they spent the next 25-30 minutes making their way from the bridge to the mouth of the inlet. FWC monitored her movements as the pair headed northeast and out of sight. She was last spotted on 28 February off Savannah, Georgia.



Right whale #3450 (Clipper) as she slowly headed east in Sebastian Inlet the morning of 9 February 2016. She was accompanied by her first calf as the pair entered the Inlet the day before. They spent approximately 29 hours in Sebastian Inlet before leaving on their own and heading northward. An excellent video can be found at https://vimeo.com/154985197. (Photo: J. Albert, MRC)

Acknowledgement goes to the staff and volunteers at Sebastian Inlet State Park for quickly acting on the situation. Kudos also go to the biologists and volunteers with FWC, HBOI, MRC, Hubbs-Sea World Research Institute, and NOAA who all converged on the scene to monitor *Clipper's* well-being and movements, limit human activity in the area, and document her progress back to the open sea.



On 9 February, hundreds of people lined the Sebastian bridge as Clipper and calf finally made it under the bridge and into the inlet approaching the open ocean. (Photo: S. Schoolfield)



Onlookers lined the walkway and jetties on both sides of the inlet as Clipper and calf proceeded slowly toward the open ocean. By 12:57 on 9 February, the pair had exited the inlet and was in open water heading north. (Photo: S. Schoolfield)

While this incursion received a great deal of attention, it was not all that unique. Philip Hamilton, New England Aquarium, provided several additional records:

#2440 "Shackleton"- Delaware River past Philadelphia, 3-7 December 1994

#3103 in Cape Cod Canal, 15 April 2002

#3139 in Cape Cod Canal, 17 May 2002

```
#3308 in St John's River, 21 January2004
#3302 in St John's River, 25 January 2004
#2223 and calf in Cape Cod Canal, 29 April 2005
#3640 and 3591 in Indian River Inlet in Delaware Bay, 23 January 2007
#3745 in St John's River, 6 January 2008
#4094 in St John's River, 24 January 2011
```

Finally, in late April and early May of 2015 there were a number of right whales near the mouth of Cape Cod Canal and several of them wandered into the Canal various times. As a sidenote, #4094 (from the 2011 incursion) was back in Florida in 2016—with her first calf.

Critical Habitat for North Atlantic Right Whale Expanded

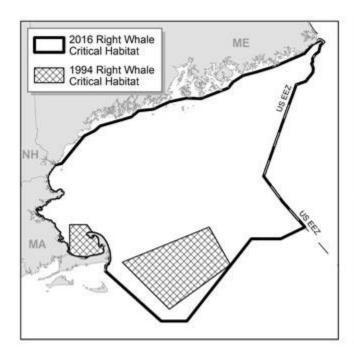
Source: www.greateratlantic.fisheries.noaa.gov

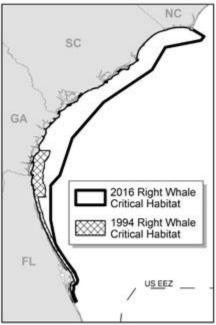
On 26 January 2016, NOAA Fisheries announced the expanded critical habitat for endangered North Atlantic right whales (posted in the *Federal Register*, 27 January 2016, 81 FR 4837). The expanded area covers the northeast feeding areas in the Gulf of Maine/Georges Bank region, and the southeast calving grounds from North Carolina to Florida. NOAA scientists and managers determined that a critical habitat expansion was necessary for species recovery. Under the Endangered Species Act, critical habitat within the range of the species consists of areas that contain physical or biological features essential to the conservation of the species. Federal agencies conducting, funding, or permitting activities are required to work with NOAA Fisheries to avoid or reduce impacts on critical habitat. The rule became effective 26 February 2016.

The process began on 1 October 2009, when NOAA received a petition to revise the 1994 critical habitat designation for right whales in the North Atlantic. On 20 February 2015 (80 FR 9314), NOAA proposed replacing the 1994 critical habitat designation for the population of right whales in the North Atlantic Ocean with two new areas of critical habitat for the North Atlantic right whale.

NOAA received 261 letters and general comments on the proposed rule and supporting analyses via Regulations.gov, letter, fax, and email. In addition, 20,826 form letters were also received via letter and email. NOAA received 20,325 form letters from an environmental advocacy group stating their general support for the proposed designation of critical habitat and urging NMFS to include a migratory corridor in the final designation. The agency received an additional 500 form letters from a second environmental advocacy group as well as 210 (additional) form letters that contained slight variations to the main form letter. They also received two petitions from environmental advocacy groups with approximately 17,420 and 2,069 signatures, respectively, stating general support for designating critical habitat and urging the inclusion of a migratory corridor.

In response to comments received, one change to the proposed rule was made. The proposed SEUS critical habitat was extended farther south to include an area that was part of the 1994-designated critical habitat—increasing the area by approximately 341 nmi². The area now extends from Cape Fear, North Carolina to approximately 27 nmi south of Cape Canaveral, Florida.





Comparison of the 1994 and 2016 right whale critical habitat designations. In the Northeast, critical habitat for feeding was expanded from 2,925 nm² to 21,334 nm². In the Southeast, calving critical habitat was expanded from 1,611 nm² to 8,429nm².

FY17 NOAA/NMFS Budget Briefings

Jim Hain

On 9 February, President Obama submitted his budget request to Congress for Fiscal Year 2017. Within the request is the funding for the National Oceanic and Atmospheric Administration (NOAA). On Friday, 4 March 2016, *Right Whale News* joined a teleconference briefing for stakeholders that provided information on the NOAA FY 2017 budget request. The summary slides were available for download on the previous day. NOAA Administrator Dr. Kathryn Sullivan led the briefing. Among the information provided was that the demand for endangered species consultations has grown. In one recent year, there were 400 consultations. Currently, there are nearly 1,200. Most are in the Southeast Region and related to the *Deepwater Horizon* oil spill event. The backlog is exacerbated by the staff vacancies in the agency. Currently there are 1800 empty positions for an average vacancy rate of 7 percent. Dr. Sullivan described that this affects the ability of the agency to provide products.

On 11 March, a week after the Sullivan briefing, there was a briefing on the FY17 budget request for NOAA fisheries (NMFS) by Director Eileen Sobeck. Slides were provided by webinar and participation was by phone-in. The FY16 enacted NMFS appropriation was \$914.9M, an increase of ~ 3% over FY15. For FY17, the request for NMFS is just under \$1B. For the protected resources science and management component, \$216.8M was requested—an increase of \$31.8M. The justification for the increase was given so as to stay even with statutory requirements. Echoing what was said previously by NOAA director Sullivan, a focus is on the increasing number of ESA/MMPA Section 7 consultations. The consultations have increased 80 to 90% in the last three years. In the previous year, there was a backlog of 600—this has grown to 1,100. These were described as a "choke point" for economic activities. On another item, an increase of \$16.0M was requested for Species Recovery Grants—a focus on recovering listed species, but limited to states, territories, and tribes. In response to a query about support for endangered species (right whale) work by NGOs (an item not addressed in the budget proposal), Sobeck responded that the avenue lies with opportunities provided by interaction with Congress.

The NOAA FY 17 Budget Bluebook:

http://www.corporateservices.noaa.gov/nbo/fy17_bluebook/FY17_BB_Final_508.pdf (large doc, may take a few seconds for link to open)

The slides from the NOAA Fisheries budget briefing from Friday, March 11: http://www.nmfs.noaa.gov/mb/financial_services/docs/noaa_fisheries_2017_budget_briefing.pdf

News Bytes

Jim Hain

Ships Cut Speed. Even with fuel at its cheapest price in almost a decade, the ships that carry goods around the world have been reducing speed in line with the slowdown in China, the biggest exporter. Shipping companies have been "slow steaming" since the global financial crisis in 2008, as a way to save costs and keep as many ships as active as possible. According to data compiled by Bloomberg, vessels are now operating at an average of 9.7 knots, compared with 13.1 knots seven years ago. "This is the new norm," said Rahul Kapoor, a Singapore based shipping director. "The overall speed of the industry has gone down and there is no going back." (Source: *Cape Cod Times*, 20 December 2015)

<u>Cetacean Density Models</u>. Jason Roberts, Duke Marine Geospatial Ecology Lab, and co-authors have announced the publication of a new set of cetacean density models for the U.S. Atlantic and Gulf of Mexico. This project integrated nearly 1.1 million linear km of line transect survey data collected since 1992, with the objective of developing the most comprehensive and detailed density maps possible for these regions. The paper and all results are open access, freely downloadable, and reusable under a CC-BY 4.0 License.

 $\frac{http://www.nature.com/articles/srep22615}{GOM-2015/} \ and \ \frac{http://seamap.env.duke.edu/models/Duke-EC-GOM-2015/}{}$

Making Your Science Matter

Amy Whitt, Contributing Editor

We've all been there. A friend, family member, or complete stranger asks us what we do and within a few seconds of giving what we think is the most accurate and thorough explanation of our research and passion for marine mammal conservation, their eyes glaze over a bit or they politely nod their head to feign interest and understanding. And then perhaps they smile, say "how interesting", and walk away leaving you baffled that they didn't ask more questions or seem more absorbed in multicovariate distance sampling for estimating densities, oxygen isotope analyses of cetacean dentine, or the pleiotropic role of blubber. Hmm...maybe our communication skills need some tweaking.

What can we do to improve our outreach and communication skills so that we can engage others, particularly policy makers, in our research findings? This was the very topic of one of the liveliest and most insightful panel discussions at the recent 21st Biennial Society for Marine Mammalogy (SMM) Conference on the Biology of Marine Mammals held in San Francisco, California in December 2015. The panel "How to Make Your Science Matter" was moderated by Nancy Baron, the Director of Science Outreach for COMPASS, a non-profit organization devoted to helping scientists effectively engage in the public discourse and decision-making about the environment. COMPASS' team empowers scientists to build communication skills, networks, and relationships through trainings, coaching, and real-world connections. "Good leaders are also good communicators." Nancy's introductory statement really hit home for many of us in attendance. If we want our science to change the world and ultimately contribute to the conservation of the animals we study, then we need to be true leaders in our field of study, and we must learn how to communicate our science to our intended audiences.

The six panel members included scientists, journalists, and editors who each gave tips and insight on how all scientists can improve their communication skills. **Dr. Jane Lubchenco** (U.S. Science Envoy for the Ocean and former head of NOAA) kicked off the panel discussion. She suggested that we learn to listen, have a core message that includes answers to the "why care?" question, be warm and not just competent, and learn the language of lay people.

Nick Gales (SMM President) stressed the importance of taking science to policy, which is a particularly important action for scientists studying right whales and other threatened and endangered species. He suggested that we delve into the social sciences a bit by learning what drives stakeholder behaviors. We can more effectively communicate our research findings to policy makers, managers, and other stakeholders if we understand what drives their social and economic behaviors. Nick also reminded us that the science required for policy changes may not be publishable but is still important to influence change.

Marcia McNutt (former head of the U.S. Geological Survey and current editor-in-chief of *Science* magazine) encouraged us to frame our science discussions to our audience. To do so, we must first learn who our audience is, what motivates them, and what we want them to do with the information we provide. Our outreach approach may differ depending on our audience and the actions we want them to take.

Charles Littnan (leader of the NOAA Fisheries Hawaiian Monk Seal Research Program) emphasized the importance of showing the public some hope for our research subjects and/or programs. This may be difficult for some of us whose research subjects and circumstances appear to be all doom and gloom. However, according to Charles, the public is more likely to support your research if you show that there is at least a small bit of hope. Charles also suggested designing research studies to involve citizens in order to gain local trust. For example, NOAA Fisheries has successfully gained the trust and support of local Hawaiians by involving them in crittercam research on Hawaiian monk seals.

To those scientists who expressed difficulties in getting certain people interested in their work, **David Malakoff** (*Science* Deputy News Editor) said "every story has an audience". We are lucky that our research subjects are naturally charismatic and interesting to the general public. However, our specific research topics may not seem inherently stimulating to our current audience. Therefore, we can alter our communication techniques to express our research in a way that resonates with our current audience, and we may also need to find a new target audience.

Ken Weiss, a Pulitzer Prize-winning writer, offered a nice lead-in to the introduction of the 14 SMM 2015 Journalist Fellows who write and produce for a variety of outlets, such as *BBC*, *National Geographic*, *The New York Times*, *Science*, and *Nature*. Ken encouraged us to speak to journalists so that we can help them tell our stories. As a follow-up to the panel discussion, COMPASS hosted a reception during which scientists could practice engaging the Fellows in their research in hope that the journalists would share their stories with the world. During the conference, COMPASS also offered a hands-on workshop for scientists to practice their 30-second elevator speech on journalists.

Using the excellent tips shared by the panel, we must now regularly plan, practice, and perfect our communication skills so that we can all find our voice and effectively bring our science into the conversation whether that's in an elevator speech or in a meeting with policy makers.

Calendar

- 1 May 2016. New England Right Whale Festival, Harbor Terrace, New England Aquarium, Boston, Massachusetts, 10:00 a.m. to 3:00 p.m. For more information: www.neaq.org/rightwhalefestival.
- 11-12 May 2016. Southeast Implementation Team meetings, Guana-Tolomato-Matanzas Research Reserve facility, 505 Guana River Road, Ponte Vedra Beach, Florida. The public Forum is on the 11th; the closed Team meeting is on the 12th.
- 2-3 November 2016. North Atlantic Right Whale Consortium Annual Meeting, New Bedford Whaling Museum, New Bedford, Massachusetts.

Scientific Literature and Reports

- Abadi, S.H., W.S.D. Wilcock, M. Tolstoy, T.J. Crone, and S.M. Carbotte. 2015. Sound source localization technique using a seismic streamer and its extension for whale localization during seismic surveys. Journal of the Acoustical Society of America 138(6):3951-3963.
- Brillant, S.W., A.S.M. Vanderlaan, R.W. Rangeley, and C.T. Taggart. 2015. Quantitative estimates of the movement and distribution of North Atlantic right whales along the northeast coast of North America. Endangered Species Research 27:141-154.
- Carroll, E.L., R.M. Fewster, S.J. Childerhouse, N.J. Patenaude, L. Boren, and C.S. Baker. 2016. First direct evidence for natal wintering ground fidelity and estimate of juvenile survival in the New Zealand southern right whale *Eubalaena australis*. PLoS ONE 11(1):e0146590. doi:10.1371/journal.pone.0146590
- Davies, K.T.A., A.S.M. Vanderlaan, R.K. Smedbol, and C.T. Taggart. 2015. Oceanographic connectivity between right whale critical habitats in Canada and its influence on whale abundance indices during 1987-2009. Journal of Marine Systems 150:80-90.
- Fleishman, E., M. Burgman, M.C. Runge, R.S. Schick, and S.D. Kraus. 2016. Expert elicitation of population-level effects of disturbance. Pp. 295-302, *In*, A.N. Popper and A. Hawkins (eds.), The Effects of Noise on Aquatic Life II, Springer, New York.
- Hunt, K.E., R.M. Rolland, and S.D. Kraus. 2015. Conservation physiology of an uncatchable animal: The North Atlantic right whale (*Eubalaena glacialis*). Integrative and Comparative Biology 55(4):577-586.
- Linchant, J., J. Lisein, J. Semeki, P. Lejeune, and C. Vermeulen. 2015. Are unmanned aircraft systems (UASs) the future of wildlife monitoring? A review of accomplishments and challenges. Mammal Review 45:239–252. doi: 10.1111/mam.12046.
- Loffler S.G., V. Rago, M. Martínez, M. Uhart, M. Florin-Christensen, G. Romero, and B. Brihuega. 2015. Isolation of a seawater tolerant *Leptospira* spp. from a southern right whale (*Eubalaena australis*). PLoS ONE 10(12):e0144974. doi: 10.1371/journal.pone.0144974
- Marón, C.F., L. Beltramino, M. Di Martino, A. Chirife, J. Seger, M. Uhart, M. Sironi, and V.J. Rowntree. 2015. Increased wounding of southern right whale (*Eubalaena australis*) calves by kelp gulls (*Larus dominicanus*) at Península Valdés, Argentina. PLoS ONE 10(11):e0142969. doi: 10.1371/journal.pone.0142969
- McDonald, S.L., R.L. Lewison, and A.J. Read. 2016. Evaluating the efficiency of environmental legislation: A case study from the US marine mammal take reduction planning process. Global Ecology and Conservation 5: 1-11.
- NMFS (National Marine Fisheries Service). 2016. Endangered and threatened species; critical habitat for endangered North Atlantic right whale. Federal Register 81(17):4838-4874.
- Oedekoven, C., E. Fleishman, P. Hamilton, J. S. Clark, and R. S. Schick. 2015. Expert elicitation of seasonal abundance of North Atlantic right whales *Eubalaena glacialis* in the mid-Atlantic. Endangered Species Research 29:51-58.
- Parks, S.E., K. Groch, P. Flores, R. Sousa-Lima, and I.R. Urazghildiiev. 2016. Humans, fish, and whales: How right whales modify calling behavior in response to shifting background noise conditions. Pp. 809-813, *In*, A.N. Popper and A. Hawkins (eds.), The Effects of Noise on Aquatic Life II, Springer, New York.
- Rolland, R.M., R.S. Schick, H.M. Pettis, A.R. Knowlton, P.K. Hamilton, J.S. Clark, and S.D. Kraus. 2016. Health of North Atlantic right whales *Eubalaena glacialis* over three decades:

- From individual health to demographic and population health trends. Marine Ecology Progress Series 542:265-282.
- Sanders, J.G., A.C. Beichman, J. Roman, J.J. Scott, D. Emerson, J.J. McCarthy, and P.R. Girguis. 2015. Baleen whales host a unique gut microbiome with similarities to both carnivores and herbivores. Nature Communications 6(8285).
- Schick, R.S., S.D. Kraus, R.M. Rolland, A.R. Knowlton, P.K. Hamilton, H.M. Pettis, L. Thomas, J. Harwood, and J.S. Clark. 2016. Effects of model formulation on estimates of health in individual right whales (*Eubalaena glacialis*). Pp. 977-985, *In*, A.N. Popper and A. Hawkins (eds.), The Effects of Noise on Aquatic Life II, Springer, New York.
- Simeone, C.A., F.M.D. Gulland, T. Norris, and T.K. Rowles. 2015. A systematic review of changes in marine mammal health in North America, 1972-2012: The need for a novel integrated approach. PLoS ONE 10(11):e0142105.
- Smith, C.E., S.T. Sykora-Bodie, B. Bloodworth, S.M. Pack, T.R. Spradlin, and N.R. LeBoeuf. 2016. Assessment of known impacts of unmanned aerial systems (UAS) on marine mammals: Data gaps and recommendations for researchers in the United States. Journal of Unmanned Vehicle Systems. doi: 10.1139/juvs-2015-001.
- van der Hoop, J.M., P. Corkeron, J. Kenney, S. Landry, D. Morin, J. Smith, and M.J. Moore. 2015. Drag from fishing gear entangling North Atlantic right whales. Marine Mammal Science. doi: 10.1111/mms.12292
- Wright, A.J. and A.M. Cosentino. 2015. JNCC guidelines for minimizing the risk of injury and disturbance to marine mammals from seismic surveys: We can do better. Marine Pollution Bulletin 100(1):231-239.

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, Scott Kraus, Hans Neuhauser, and Amy Whitt.

The current and back issues of *Right Whale News* published between 1994 and 2015 are available at the North Atlantic Right Whale Consortium website, www.narwc.org, under the *Right Whale News* tab.

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

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 2014-2004 is posted at the North Atlantic Right Whale Consortium website, www.narwc.org—under the *Right Whale News* tab. Indexing for the period 2004-1994 is underway.