

# RIGHT WHALE NEWS

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

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## **The 2014 North Atlantic Right Whale Population Estimate: 526**

### **Status of the North Atlantic Right Whale Population Seen Through the Eyes of the Photo-Identification Catalog**

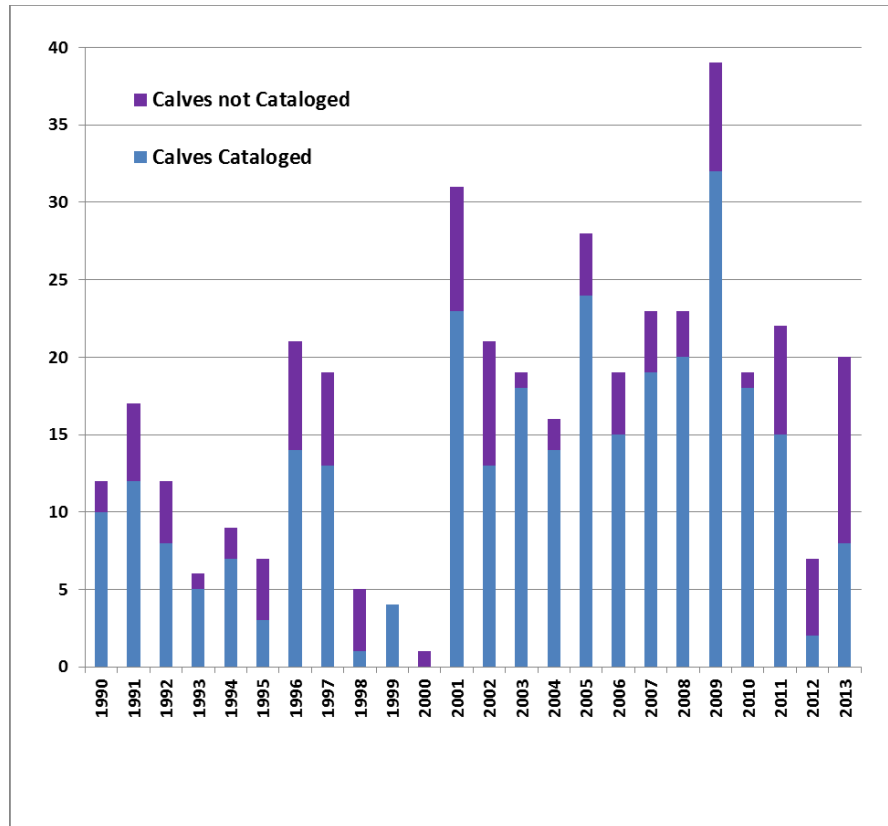
*Contributed by Philip Hamilton and Heather Pettis, New England Aquarium*

In November 2015, we produced the annual report card assessing the North Atlantic right whale population, as well as the related research and management activities. The living, photographed population number in 2014 is estimated to be 526, up four whales from the previous year.

There are a number of factors that impact the Catalog and the numbers that are generated from it. At the top of the list is the number of sightings contributed to the Catalog, which is impacted by both the amount of survey effort and the overlap of those surveys with whale distributions. In recent years, the survey effort has remained relatively stable, but right whale presence in most of the survey areas has decreased (in all areas except Cape Cod Bay). The decrease in sightings in many areas impacts our ability to accurately monitor vital rates and makes cataloging recent calves challenging. A calf's callosity pattern—the main identifying feature—does not fully develop for a year or so; therefore, if they are not seen after March, linking juveniles back to their calf images may not be possible. For example, the percent of calves that were photographed well enough to be cataloged has dropped in the last few years, from 62% and 83% in the 1990's and 2000's, respectively, to 46% since 2010 (see figure below). Notice also that fewer calves have been born in recent years. This may be, in part, caused by the decreased number of active cows known to be alive, which has dropped from an all-time high of 135 in 2004 to 115 in 2014. Although this decrease is unsettling, there are still dozens of living cows that are available to give birth each year that do not do so. Clearly, reduced calving is not solely caused by cow mortality.

The shift in right whale distribution, if it continues, will artificially inflate the number of presumed mortalities and, over time, decrease the population estimate. This will happen if whales go unsighted for more than six years, not because they have died, but because they are using areas that have little to no survey effort at the time those whales are present. Successfully finding and photo-documenting right whales also have implications outside the scope of monitoring the population status. Efforts to document and monitor impacts such as entanglements, vessel strikes, injury rates, and individual right whale health rely on adequately

photographing right whales every year. Researchers are attempting to shift their survey strategy in response to the demographic shifts, and we will be keen to learn how successful that effort will be. For more details, see the North Atlantic Right Whale Report card at: <http://www.narwc.org>.



*Annual numbers of right whale calves born and whether or not they were photographed well enough to be cataloged. Years 2014 and 2015 are not included due to incomplete data processing; there were 11 and 17 calves born in those years respectively.*

## **The Life and Death of Right Whale #2320, Piper: A Telling Example**

### **A Look at Right Whale Deaths in Canada**

*Tonya Wimmer, Marine Animal Response Society, Halifax, Nova Scotia*

While it is always difficult to deal with incidents involving marine animals, it is even more so when it involves a well-known right whale. On 24 June 2015, the marine mammal emergency hotline in Quebec, Canada, received a call about a dead whale floating off the Gaspé Peninsula. Despite few remaining identifying features, the team at the New England Aquarium quickly, and sadly, identified this adult female as Catalog #2320, Piper.

The loss of *Piper* hit the right whale community particularly hard as she was very well known, having been observed and studied by researchers since 1993. People had followed her throughout her life as she regularly visited all known right whale critical habitats and, in 2000, researchers observed the details of her movements along much of the eastern seaboard when a satellite tag was placed on her.

We were excited to witness the births of three calves over her lifetime, but saddened to have observed her entangled in fishing gear on two separate occasions. In both cases though, she apparently shed the gear herself. *Piper* had lived quite a full life, and given her age, she should have had much more time. But, on 24 June 2015, *Piper* was found dead approximately two miles off Percé, Quebec, at the eastern tip of the Gaspé Peninsula. The carcass was brought to shore on 26 June. Finding her dead and in an area where she didn't usually roam was of great concern to everyone. As with any dead cetacean, especially endangered ones, it certainly warranted a further investigation.



*The carcass of right whale #2320, Piper, was towed in to Percé at the eastern tip of the Gaspé Peninsula on 26 June 2015. (Photo: GREMM)*

Similar to the US, efforts to respond to incidents involving marine animals have been ongoing in Canada for some time. However, unlike our southern counterparts, we do not have a federally mandated government program under which to operate. Response in eastern Canada has been developed and lead primarily by the NGO community. Through their dedication and, thankfully, with the support of many international colleagues, particularly around developing

protocols for conducting right whale necropsies, extensive expertise has been amassed in Canada, despite all the challenges.



*Right whale #2320 being brought ashore for necropsy on 26 June 2015. (Photo: Canadian Whale Institute)*

Three marine animal response networks exist in eastern Canada—one in Quebec, another in Newfoundland & Labrador, and one for the three Maritime Provinces. All are comprised of multiple partners who are dedicated to providing responses to a wide range of incident types—entanglements, live and dead strandings, entrapments, and solitary sociables—and gathering vital information on the species involved and threats they face. These efforts are particularly important for our many at-risk species, including the North Atlantic right whale. While all groups involved are extremely dedicated to providing a high-quality service, response has often been very challenging due to the lack of funding and capacity, and the limited and often inconsistent support from the federal government.

Our east coast networks faced a difficult challenge this summer when *Piper* and two other right whales were found floating dead: all were in the Gulf of St. Lawrence, and within a three-week period from late June to mid-July. Up until this summer, only one other right whale had been found dead in the Gulf in the past 35 years. This was an unprecedented event and one which proved to be very frustrating for colleagues on both sides of the border as various challenges made response very difficult and resulted in only one of the animals, *Piper*, being examined in any detail.

A team led by Dr. Stéphane Lair and including volunteers with the Group for Research and Education on Marine Mammals (GREMM) and the Canadian Whale Institute, conducted the necropsy of *Piper*. The necropsy showed that there were no signs of recent entanglement or trauma; however, her head was not examined. While the necropsy did not provide any conclusive findings as to her cause of death, it is imperative that these investigations are conducted as often and as thoroughly as possible, because, as Michael Moore has said ... “*if you don’t look, you don’t see*”.

In Canada, we continue to face challenges to ensure that the well-being and safety of these animals are a priority. This includes our ability to investigate and understand their causes of death, which, given they are an endangered species, means our ability to protect and recover them is limited. This will be important in the coming years given the apparent shifts in right whale distribution into areas such as the Gulf of St. Lawrence where they have previously not regularly been observed. If events are going the way scientists are predicting, Canada may just be at the beginning of its challenging times.

As for *Piper*, her skeleton will be prepared and displayed at the GREMM facility in Tadoussac, Quebec.

## **Can You Hear Me Now? Listening for Right Whales off Eastern Canada**

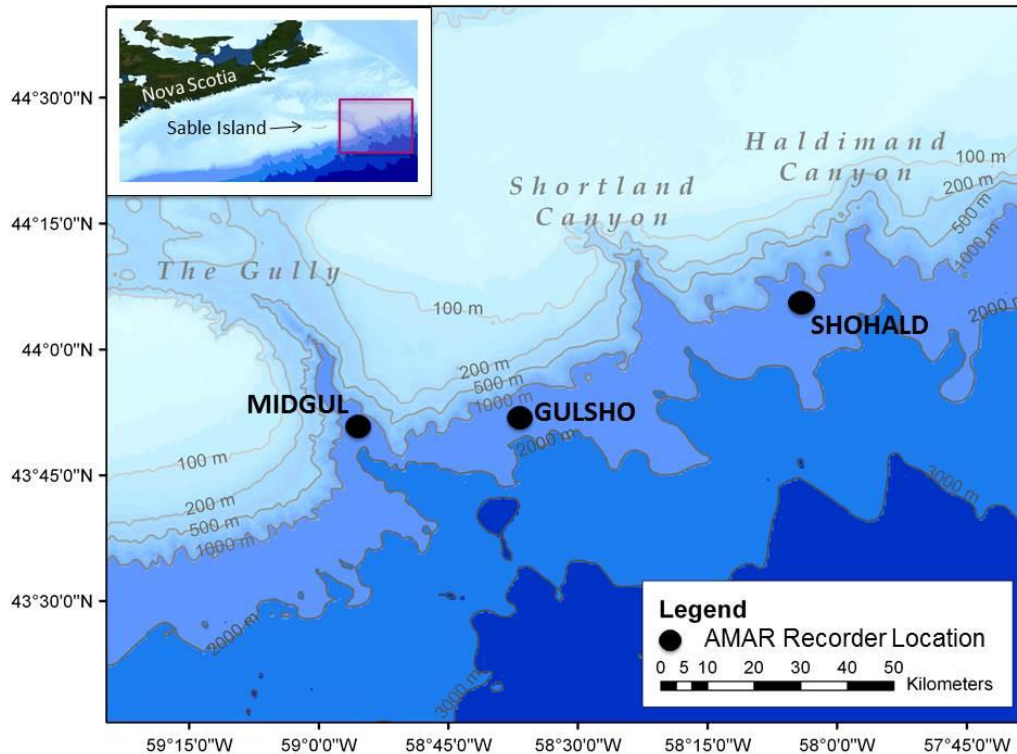
*Hilary Moors-Murphy, Fisheries and Oceans Canada,  
Bedford Institute of Oceanography, Dartmouth, Nova Scotia*

Given that whale distribution appears to be changing, acoustic methods are increasingly being brought on line as one of the principal means of searching for and detecting whale species.

North Atlantic right whales, like many whale species, produce distinctive sounds that can be heard underwater for kilometers, even tens of kilometers. Listening for their sounds via passive acoustic monitoring can provide a means of collecting information on where and when whales occur in an area.

The Gully Marine Protected Area offshore of Nova Scotia is a well-known whale hotspot. To increase the understanding of the species that use this submarine canyon, three bottom-mounted passive acoustic monitoring devices (Autonomous Multichannel Acoustic Recorders or AMARs; © JASCO Applied Sciences) were deployed in and adjacent to the Gully (see figure below) to collect near continuous year-round acoustic recordings between October 2012 and September 2014. These recordings are currently being analyzed for the presence of whale vocalizations and have thus far revealed interesting and surprising trends. With their calls occurring on at least 26% of the recordings (and on over 88% of days at any one location), the fin whale was the dominant baleen whale recorded. Peaks in fin whale calling rates occurred during winter, primarily in October through February. Similarly, blue whale calls (1.6% of files, 7% of days) and humpback whale calls (2.4% of files, 15% of days) were also heard most often

during the winter, with maximum calling rates between November and January. Sei whale calls (4.1% of files, 35% of days) were recorded most often during summer months with peaks in May through September. These recordings were also examined for vocalizations produced by right whales, but no confirmed right whale calls have been found to date (an automated right whale call detector resulted in 736 right whale detections, but all of these have been manually examined and determined to be false detections). The presence of toothed whale vocalizations is also being examined.

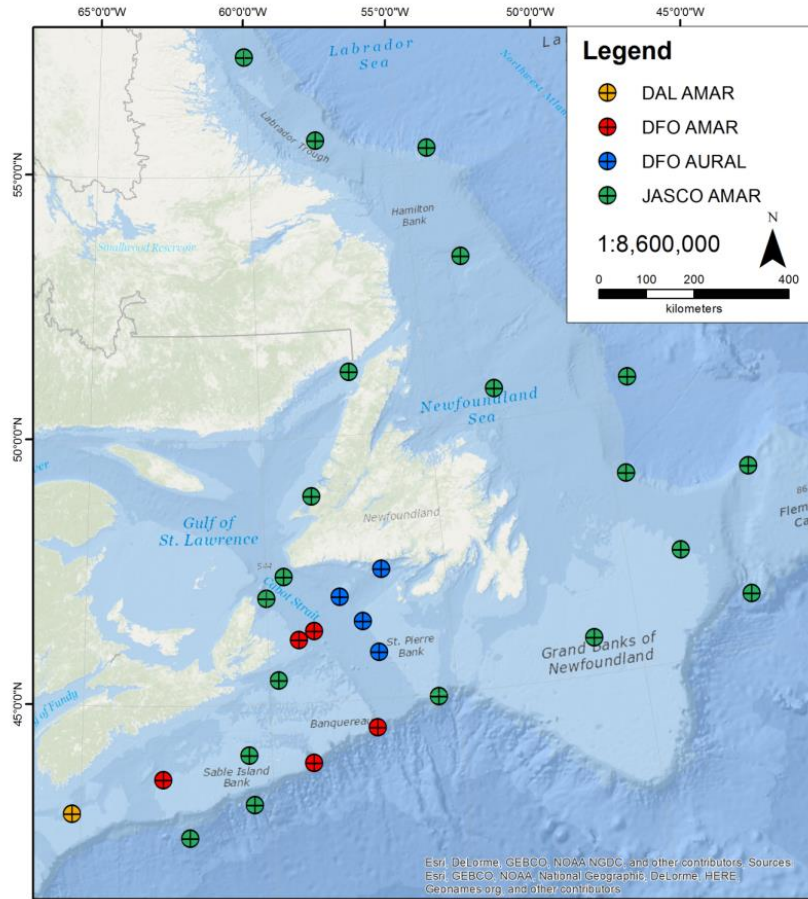


*Location of the three Autonomous Multichannel Acoustic Recorders (AMARs) deployed between October 2012 and September 2014. No confirmed right whale calls have been found to date (an automated right whale call detector resulted in 736 right whale detections, but all of these were manually examined and determined to be false detections).*

This dataset has demonstrated the value of using passive acoustic monitoring to assess the year-round occurrence of whales in areas of interest, and acoustic monitoring efforts off eastern Canada are being expanded. As part of a large collaborative effort between several organizations, including Fisheries and Oceans Canada, JASCO Applied Sciences, Dalhousie University, and others, more than 30 bottom-mounted acoustic recorders were deployed throughout waters off Nova Scotia, Newfoundland, and Labrador during summer 2015 (see figure below). Background noise and biological sounds will be recorded at these locations over the next few years. Known and potential right whale habitats, including Roseway Basin and Emerald Basin, are among the sites being monitored. The acoustic data collected from this large network of recorders will also be used to characterize ambient background noise levels in waters off eastern Canada, and to

examine vocal presence of various whale species to assess their habitat use and migration patterns over several temporal (*e.g.*, daily, monthly, seasonally) and spatial scales.

Many gaps remain in our understanding of the seasonal distribution of whales off eastern Canada. These extensive passive acoustic monitoring efforts will vastly increase our knowledge of when and where various species are occurring, thus helping us to better protect whales and their habitat, including endangered North Atlantic right whales.



*Locations of bottom-mounted recorders deployed off Nova Scotia, Newfoundland and Labrador in summer 2015. It is hoped that acoustic detections will provide insight into a changing distribution of whales, including right whales.*

*Acknowledgements: Many thanks to all of the funding agencies, collaborators, fieldwork support and analysts who contributed to the 2012-2014 project and to the work being conducted from 2015 onward, including JASCO Applied Sciences, Dalhousie University, the Environmental Studies Research Fund, the Marine Environmental Observation Prediction and Response Network, the Fisheries and Oceans Canada Strategic Program for Ecosystem-Based Research and Advice, National Conservation Plan, Gully Marine Protected Area, and Species at Risk funding.*

# Searching for Right Whales in Canada: Request for Sighting Reports

*Danielle MacDonald, Department of Fisheries and Oceans, St. Andrews Biological Station, St. Andrews, New Brunswick*

As part of the response to changing right whale distributions, the assistance of the public and mariners is requested. Given a large area with limited search effort, the resulting sighting reports may be invaluable. Several hundred of these posters have been distributed throughout Atlantic Canada and the Gaspé Region of Quebec. The posters have also been inserted into all the fisher logbooks throughout the Maritimes Region of Atlantic Canada. Local knowledge and reporting is being elevated.

	Fisheries and Oceans Canada	Pêches et Océans Canada	
<b>WANTED</b>			<b>RECHERCHÉ</b>
Information requested on the whereabouts of <b>NORTH ATLANTIC RIGHT WHALES</b> in Canadian waters.			On cherche à connaître les allées et venues des <b>BALEINES NOIRES DE L'ATLANTIQUE NORD</b> dans les eaux canadiennes.
HEAD/TÊTE 			DOS ET NAGEOIRE CAUDALE/BACK AND FLUKE 
<b>THESE WHALES CAN BE RECOGNIZED BY THE FOLLOWING:</b> <ul style="list-style-type: none"> <li>• A broad back with no dorsal fin</li> <li>• White patterns on the head</li> <li>• Broad paddle-shaped flipper and a smooth Y-shaped fluke</li> <li>• V-shaped blow</li> </ul>			<b>LA BALEINE NOIRE EST RECONNAISSABLE PAR LES CARACTÉRISTIQUES SUIVANTES:</b> <ul style="list-style-type: none"> <li>• Un large corps noir dépourvu de nageoire dorsale</li> <li>• Des tâches blanches sur la tête</li> <li>• Des larges nageoires pectorales en forme de rame</li> <li>• Une nageoire caudale lisse en forme de "Y" et un souffle en "V"</li> </ul>
<b>PLEASE DO NOT APPROACH BUT RECORD:</b>			<b>SVP N'APPROCHEZ PAS MAIS NOTEZ:</b>
<ul style="list-style-type: none"> <li>• Date</li> <li>• Location (coordinates)</li> <li>• Number observed</li> <li>• Photographs (if possible)</li> </ul>			<ul style="list-style-type: none"> <li>• La date</li> <li>• L'emplacement (coordonnées)</li> <li>• Le nombre observé</li> <li>• Les photos (si possible)</li> </ul>
<b>PLEASE SEND INFORMATION TO/VEUILLEZ SVP CONTACTER</b> email/courriel: <a href="mailto:XMARwhalesightings@dfo-mpo.gc.ca">XMARwhalesightings@dfo-mpo.gc.ca</a> Ph/Tél: 1-844-800-8568			
EMERGENCY CONTACT NUMBER FOR ENTANGLED, ENTRAPPED, STRANDED OR DEAD WHALES/ NUMÉRO D'URGENCE POUR LES BALEINES ENCHEVÊTRÉES, PIÉGÉES, ÉCHOUÉES, OU MORTES MARINE ANIMAL RESPONSE SOCIETY 1-866-567-6277			

(DFO/2013-1853)



## Fishermen Join In

*Jim Hain*

On Thursday, 5 November 2015, at the annual meeting of the North Atlantic Right Whale Consortium, John Haviland, President of the South Shore Lobster Fishermen's Association, Green Harbor, Massachusetts, reported on efforts to mitigate the entanglements of right whales. Placards with contact information have been provided to their vessels, and fishermen are encouraged to stand by an entangled whale sighting until a response team arrives. Further, this group is working to modify fishing gear: Haviland described a breakaway section of line with a known breaking strength inserted into their lines at 40-foot intervals. In this development, the association has worked with disentanglement experts at the Center for Coastal Studies, Provincetown, Massachusetts. Currently, 8-10 fishermen are using this gear as a test. The stated goal of the organization, which includes 90 active commercial lobstermen, is to co-exist through pro-active involvement, so as to continue their livelihood. Relative to this work, a recent paper by Knowlton *et al.* (see Scientific Literature on p. 12) suggests that the broad adoption of ropes with breaking strengths of  $\leq 1,700$  lbs could reduce the number of life-threatening entanglements for large whales by at least 72%, and yet could be strong enough for many fishing operations.



*Michael Lane, Vice-President, and John Haviland, President, South Shore Lobster Fishermen's Association, holding a sample of lobster pot line that incorporates a breakaway section (the green line) at 40-ft intervals. Tests are underway to evaluate its effectiveness in reducing entanglement of right whales in fishing gear. (Photo: J. Hain)*

## News Bytes

*Jim Hain*

“*Survive to Thrive.*” The Office of Protected Resources, National Marine Fisheries Service, Silver Spring, Maryland, has initiated a Species in the Spotlight Campaign. Eight endangered species with declining populations were selected as the focus of this campaign. However, neither the North Atlantic nor the North Pacific right whale was selected. In response to queries, Donna Wieting, Office Director, described that the list is not static. As new information is received, additional considerations may occur. This initial program is for two years, and will culminate in a report to Congress. Information, a video, and further information are available at <http://www.nmfs.noaa.gov/pr/>.

*Marine Mammal Commission Report.* The Performance and Accountability Report for Fiscal Year 2015 (12 pp.) is available at [www.mmc.gov](http://www.mmc.gov).

*Navy EIS/OEIS for Atlantic Fleet Training and Testing.* The Navy has published a notice of intent in the Federal Register to prepare an Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS) to evaluate the potential environmental effects associated with conducting training and testing activities in the Atlantic Fleet Training and Testing (AFTT) Study Area beginning in November of 2018. Proposed training and testing activities are similar to the types of activities that have been occurring in the Study Area for decades. The announcement describes that the Navy follows strict guidelines and employs protective measures while training and testing to reduce effects on marine species. Activities being evaluated in the AFTT document are required in order for the Navy to maintain, train, and equip combat-ready naval forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. The announcement on 12 November 2015 begins a public scoping period for the EIS/OEIS. The scoping period will end on 16 January 2016. Scoping is an important part of the EIS/OEIS process, and provides the public with an opportunity to submit comments on environmental concerns that they believe should be addressed in the EIS/OEIS. Interested stakeholders and members of the public are encouraged to visit the project website, to find more information and submit comments online at [www.AFTTEIS.com](http://www.AFTTEIS.com).

Comments can also be mailed to:

Naval Facilities Engineering Command Atlantic  
Attention: AFTT EIS/OEIS  
Project Manager, Code: EV22LDN  
6506 Hampton Blvd.  
Norfolk, VA 23508-1278

Comments must be postmarked or received online by 16 January 2016, for consideration in the Draft EIS/OEIS.

*Atlantic Marine Assessment Program for Protected Species (AMAPPS).* Debra Palka, Northeast Fisheries Science Center, reports that the National Marine Fisheries Service (NMFS) is now in the second 5-year inter-agency agreement with both the Navy and Bureau of Ocean Energy Management (BOEM). The website ([www.nefsc.noaa.gov/psb/AMAPPS](http://www.nefsc.noaa.gov/psb/AMAPPS)) describes that

the National Oceanic and Atmospheric Administration (NOAA), BOEM, US Fish and Wildlife Service (USFWS), and the US Navy are working to develop models and associated tools to provide seasonal, spatially-explicit density estimates incorporating habitat characteristics of marine mammals, turtles, and seabirds in the western North Atlantic Ocean. Underlying these will be the collection of broad-scale data over multiple years on the seasonal distribution and abundance of these taxa using direct aerial and shipboard surveys conducted by scientists from NMFS and the USFWS. The AMAPPS program will provide enhanced data to managers by addressing data gaps that are essential to supporting conservation initiatives mandated under the National Environmental Policy Act (NEPA), Marine Mammal Protection Act (MMPA), Migratory Bird Treaty Act (MBTA), and Endangered Species Act (ESA). Final reports are available for the years 2010, 2011, 2012, 2013, and 2014 at <http://www.nefsc.noaa.gov/psb/AMAPPS/>

*Wind Energy Area Report.* The multi-year surveys of the Massachusetts-Rhode Island wind energy area (see *Right Whale News*, September 2014) were concluded in June 2015. Bill White, Director of Offshore Wind Development, Massachusetts Clean Energy Center, expects that the final reports will be available early in 2016. See also <http://www.masscec.com>.

*Revised Critical Habitat.* On 1 October 2009, NMFS received a petition to revise the 1994 critical habitat designation for right whales in the North Atlantic. On 20 February 2015, NMFS published a proposed rule to expand the critical habitat (see *Right Whale News*, March 2015). David Gouveia, NMFS, reports that a final rule is expected in February 2016.

*Ship Speed Petition.* On 31 July 2013, the American Pilots' Association submitted a letter to NMFS to consider modifications to the vessel speed rule in the area of certain channels. This subsequently was treated as a petition for rulemaking, and a public comment period was initiated (see *Right Whale News*, February 2014). On 15 October 2015 (80 FR 62008), NMFS announced that it had considered the information in the petition, the public comments received, and related information, and found that the petitioned action is not warranted. The NMFS/OPR website posting describes that NMFS believes that the safety exemption provision in the existing rule that allows for deviating from the speed restrictions when adverse conditions exist already provides mariners and pilots with sufficient latitude to ensure their vessel's safety. NMFS will review and revise the existing compliance guide to provide clarifying information about the navigational safety exception (*i.e.*, the 10 October 2008 final rule's deviation provision) for the speed restrictions.

*Southern Right Whale 5-Year Review.* In 1970, all members of the genus *Eubalaena* were placed on the list of Endangered and Threatened Wildlife under the Endangered Species Act (ESA). The 5-year review is conducted to ensure that the listing remains accurate. The most recent 5-year review for the southern right whale (*Eubalaena australis*) was published on 21 October 2015. Recent information is summarized in the 53-page report. The recommendation by NMFS was to "Downlist to Threatened". The report is posted at <http://www.nmfs.noaa.gov/pr/>.

*Applications for Incidental Harassment Authorization, Geophysical Surveys in the Atlantic Ocean.* In 2014, BOEM produced a Programmatic Environmental Impact Statement (PEIS) to evaluate the effects of geological and geophysical activities on the mid- and south Atlantic Outer

Continental Shelf. These activities include geophysical surveys. The document is available at <http://www.boem.gov/Atlantic-G-G-PEIS>. On 23 July 2015, a request for public input was posted (*Federal Register* 80:45195). (See also *Right Whale News*, February 2014.) The comment period closed on 28 August 2015.

## Book Review

*Jim Hain*

*M.R. O'Connor. 2015. Resurrection Science: Conservation, De-Extinction and the Precarious Future of Wild Things. St. Martin's Press, New York. 266 pp.*

Maura O'Connor's book is quiet, scholarly, and informative. She did her homework. The result is a collection of eight chapters about frogs, rhinos, panthers, pupfish, crows, the passenger pigeon, Neanderthals, and right whales. The story of right whale #1334 explores the relationship between genes, behavior, and the environment. In a sweeping examination of this whale, the story of right whales and their researchers is told. O'Connor describes the complexity of oceans, climates, and whales, and, both the challenges and successes of research. She quotes Bob Kenney, University of Rhode Island, "...once researchers believe something about the whales, they go and do something different". Amen. For those interested in conservation, whales, and wild things, should you read this book? Absolutely! (For more information on right whale #1334, see also *Right Whale News*, June 2013.)

## Calendar

13-18 December 2015. Society of Marine Mammalogy Biennial Conference. San Francisco, California.

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