



New England
Aquarium

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Right Whale

RESEARCH NEWS

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Marilyn Marx

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Marianna Hagbloom

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Brooke Wikgren

Amy Knowlton

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In this newsletter all photographs of right whales in U.S. waters were taken under NMFS/NOAA permit 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 a particular aspect of our project at www.neaq.org.



The 2013-2014 Calving Season

Philip Hamilton

This year's calving season off the southeastern U.S. has come to a close. The Florida Fish and Wildlife Conservation Commission, Sea-to-Shore Alliance, the Georgia Department of Natural Resources and other researchers in the area found it to be similar to last year's calving season: For the last two years, only 50 to 60 whales have been documented in the region, and relatively few of the whales were juveniles. This count and composition has actually been more the norm over the 30 years of study in the area; the 150 to nearly 250 whales, many of them juveniles, seen on the calving ground from 2005 to 2011 seems to be an exception.

There were 10 calves documented (compared to 19 seen in the region last year), but sadly, one has already been lost (see *The Unusual Case...*). One interesting observation is that most of the moms this year were older animals, with only one first-time mom out of the 10. This is unexpectedly low. In most years there have been from two to as many as 11 new mothers. There were only two years since the early 1980s with such low recruitment of new mothers: 1999 (1 new mom) and 2000 (0 new moms). And those were also the two lowest calving years on record with just four calves and one calf born respectively. Are the younger whales not

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Twenty-four-year-old Naevus (Catalog #2040) with her newborn calf, her fifth, east of Sapelo Island, Georgia, on December 20, 2013. Photo: Sea to Shore Alliance, NOAA/NMFS Permit #15488.

Calving Season

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fairing as well in these times of changing food distributions? Only time will tell.

Right whales are in Cape Cod Bay now, and the research community is eagerly awaiting the northern appearance of these nine moms and their calves. As this newsletter goes to press only one pair, **Couplet (Catalog #2123)** and calf, has been sighted there. Who knows, one or two additional moms may be discovered during surveys throughout the feeding ground. Stay tuned!

The Unusual Case of Half Note

Philip Hamilton

Half Note (Catalog #1301) has one of the most unusual reproductive histories in this population. Born to **Fermata (Catalog #1001)** in 1983, she gave birth to her first calf at the age of 6 in 1989—the second-youngest age at first calving in the population. While she was able to raise that calf (**Catalog #1931**) to weaning age, it was not seen after 1990 and likely did not survive. The average time between calvings is three to five years, but **Half Note** waited 14 years before giving birth to her next calf, **Neptune (Catalog #3301)** in 2003. **Neptune** is the only one of **Half Note's** offspring believed to still be alive. Since then she has had four more calves, most recently this year, yet all of them have died on the calving ground—unprecedented in this population. The last two, in 2012 and 2014, appeared very thin in their last sightings. **Half Note** looks quite healthy while in the calving ground and is clearly robust enough to carry a calf to term; the dysfunction appears to be in the nursing or rearing of her calves. The cause of this problem is unknown.



Half Note and her calf off Little Talbot Island, FL on January 20, 2014. The pair was last sighted three weeks later, and on March 11 Half Note was seen alone.

Photo: Florida Fish and Wildlife Conservation Commission, NOAA/NMFS Permit #15488.

Besides a very challenging calving history, **Half Note** is also known for her frequent sightings with another female, **Bud (Catalog #1158)**; theirs is the longest association of any two whales other than a mother and her calf. The pair remained associated for seven months in 2000-2001, eight months in 1997-1998, and for at least a week in 2012. They have also been seen on the same day in

the same area, but not swimming side by side, in six other years. Given that whales likely only need to be in acoustic range to be associated, such long-term pairings may be more common than we know. We hope that **Half Note's** nursing/rearing problem can somehow improve and that this odd and interesting whale will have better reproductive success in the future.

Great news for right whales!

Speed Rule Continues in Perpetuity

A ship speed rule enacted in 2008 to protect right whales has been extended in perpetuity! This rule restricts vessels 65 feet and greater to speeds of 10 knots within 20 miles of port entrances and in specific right whale high-use areas.

Katerva Award

Tim Werner

The Consortium for Wildlife Bycatch Reduction, based out of the Aquarium's Research Department, was the recipient of the 2013 Katerva Ecosystem Conservation Award. The Bycatch Consortium is a network of fishermen and scientists and is coordinated by the Aquarium. Besides the Aquarium, the other members are the Maine Lobstermen's Association, the University of New Hampshire, the Bluewater Fishermen's Association and Duke University. The Consortium supports collaborative research to identify practical solutions to reduce the bycatch of threatened and protected species, such as sea turtles, whales, sharks and seabirds. Some of the research has included evaluation of several potential deterrents to right whale entanglement, including colored fishing ropes and ropes with reduced breaking strengths (See *Dynamics of...* in *RWRN May 2011* and *Outreach...* in *RWRN Dec 2012*).

The Katerva Award is hailed by some as "the Nobel Prize of Sustainability." Now in its third year, Katerva draws upon experts from science, business, academia, finance and government to identify innovative projects in 10 different categories that have the "greatest potential for both impact and scale" and have the potential to be applied in other locations and situations.

Get more information on the award and the Consortium's research program online. www.bycatch.org.

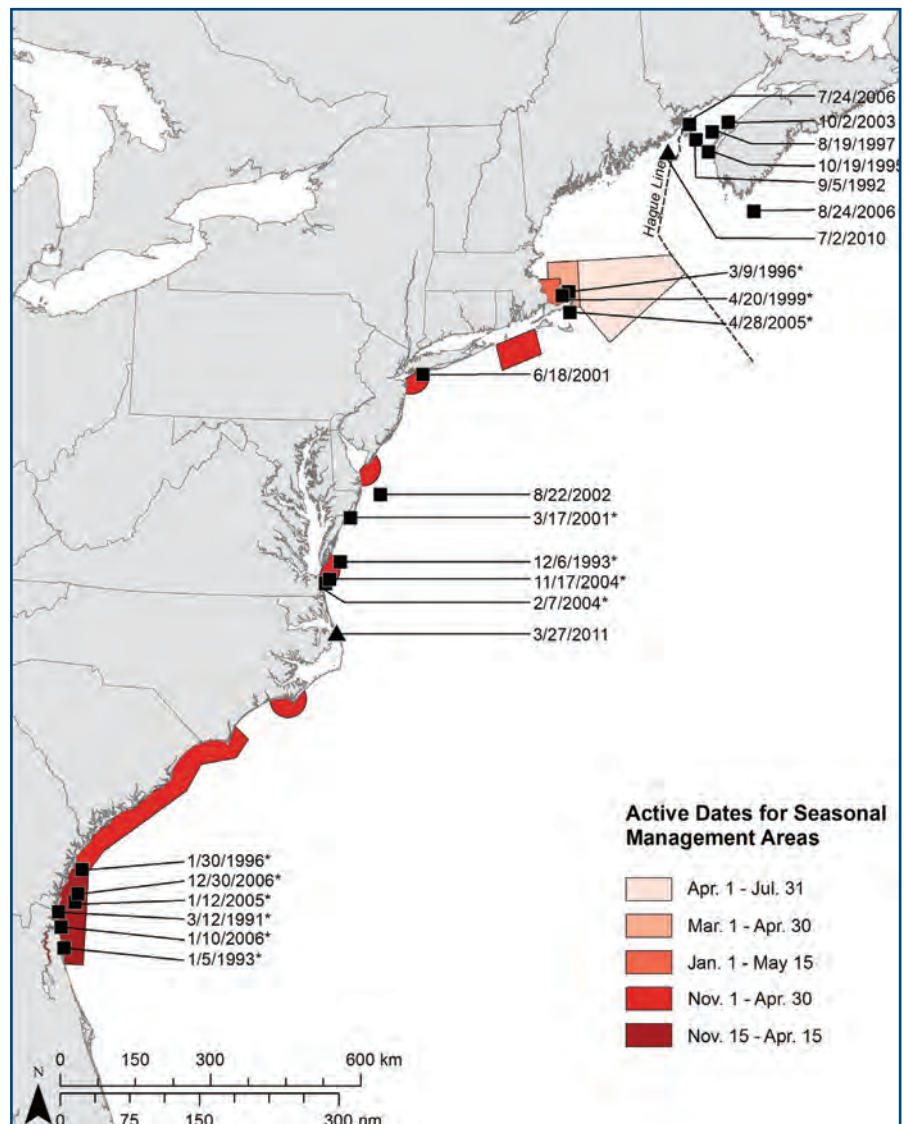


Evaluating Speed Rule Effectiveness

Readers of our newsletter will be familiar with the ship speed rule and the long and challenging process it took for the National Marine Fisheries Service (NMFS) to get it approved and implemented. To help evaluate its effectiveness over the past five years, Amy Knowlton and Dan Pendleton of the Aquarium, in collaboration with lead author David Laist of the Marine Mammal Commission, analyzed the data and were able to statistically show the rule had been effective during the five years it had been in place. The resulting paper, *Effectiveness of mandatory vessel speed limits*

for protecting North Atlantic right whales, was recently published and is available online from the journal *Endangered Species Research*. www.int-res.com/articles/esr_oa/n023p133.pdf

This study supported efforts by NMFS to get the rule put in place in perpetuity. Continuation of this rule is a huge step forward for this small population, and we applaud NMFS for their hard-won efforts. We also thank the shipping industry for doing their part to help this species stay on the road to recovery.



Locations and dates where all North Atlantic right whales killed by ships were found before and after Seasonal Management Areas (SMAs) were established on December 8, 2008. These data confirmed the effectiveness of the speed rule and led to the extension of the rule in perpetuity. Map: Brooke Wikgren/NEAQ.

Update on Injury, Entanglement and Mortality

Monica Zani

In each newsletter we report on new injuries, entanglements and mortalities that the North Atlantic right whale population has suffered in the preceding six months and update the on-going cases. The following is a brief summary of all these known (documented) events.

Mortalities

Since our last newsletter no mortality events have been documented. However, in the past six months there has been limited survey effort (extremely limited in the mid-Atlantic), so it is possible that mortalities have gone undetected.

New Entanglements

Two new right whale entanglements have been documented in the last six months.

- **WR-2014-02** is the temporary code given to a newly entangled whale seen off the coast of New Jersey in April. Due to the quality of the images we have only been able to make a tentative match to **Catalog #1142**, a female at least 37 years old. We will need another sighting and more photographic information before we can confirm this whale's identity. The whale was sighted late in the day and approximately 100 miles offshore, and thus no disentanglement response was logistically possible.
- **Catalog #4057** (4-year-old male) was sighted in February approximately 40 miles east of Jacksonville, Fla. A disentanglement team was able to respond and by the following morning had cut and shortened much of the trailing line. The hope is that the remaining line will be shed without further intervention. However, the whale has yet to be resighted.

Previously Entangled Whales

- **Catalog #3946** (5-year-old female) was sighted in September 2013 in Roseway Basin (south of Nova



Catalog #4057 was first seen entangled in February approximately 40 miles off the coast of Jacksonville, Fla. Photo: Florida Fish and Wildlife Conservation Commission. NOAA/NMFS Permit #15488

Scotia, Canada) with an entanglement through the mouth but little trailing gear. Disentanglement attempts were unsuccessful at that time. **Update:** This whale was sighted in March in Cape Cod Bay and appeared to be gear free and feeding.

Previously Entangled Whales with No Current Update

Entanglements are documented every year, and not all cases can be resolved through disentanglement. Often we don't have any updates on previous cases because the whale has not been resighted. To our knowledge these entanglements may still

persist or, in some cases, the whale may have died offshore. Currently there are **10** such entanglement cases from the past five years. If these whales are not sighted for six years, we presume they are dead.

Injury

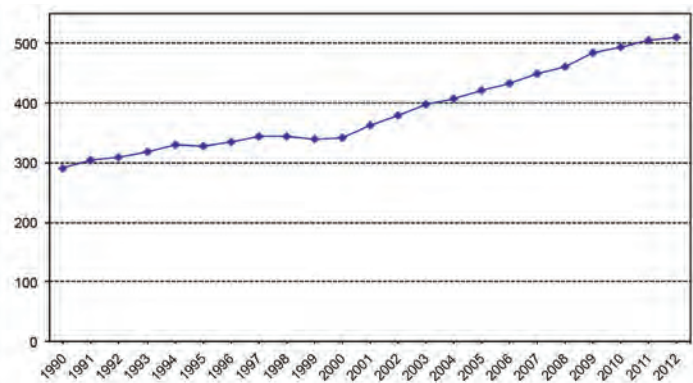
Each year some whales are documented with severe new scars or wounds that indicate either a serious entanglement (but with no gear attached) or a vessel strike has occurred in the recent past. We don't typically include such cases but plan to do so in our next newsletter in an effort to more accurately report on potential impacts on this population.

Keeping a Count

Amy Knowlton

As the curators of the right whale photo-identification catalog, we keep careful tabs on the individuals sighted by the network of right whale research teams up and down the Eastern Seaboard. Each year we query the database for an annual tally of right whales presumed living (those seen in the past six years). In the population graph below,

you can see the population growth has been slow but steady since 2000 and just recently reached the 500 whale mark. This population still has a long road to recovery but we are excited that it is trending in the "right" direction!



The Loss of an Old Friend

Philip Hamilton

On June 27, 2010, a right whale was found floating entangled and dead off the New Jersey coast by the U.S. Coast Guard. Over the next several days, the carcass was towed to a site in Delaware Bay where it could be fully necropsied (an animal autopsy).

By the time it made it to the beach, there was very little skin left on the animal and virtually no detectable features to help match him to a whale in the Catalog. A skin sample was collected, but until recently he was unidentified.

That is until last November. While reviewing images of the dead whale, I found one taken by the Coast Guard that showed some distinctive scars on a fluke tip that had been overlooked. I knew those scars. With a sinking feeling, I called up comparable images from the Catalog and had my suspicions confirmed—those scars belonged to an old friend: **Tip's (Catalog #1124)**. This match was further supported by looking at the head of the carcass with this potential ID in mind, and by his sighting history, which showed he was last seen in January 2010. The genetic sample is



still being processed, but the preliminary results are also consistent with this identification.

Tip's was first seen in 1980 and his fluke tips were already scarred way back then (thus earning him his name), so he may have been an old whale at his death. He was known for some particularly interesting behaviors. There were many sightings of him close to land in an unusual area in the Bay of Fundy, near an island chain called The Wolves. He was seen repeatedly there in 1980, 1981 and 2009, and he was often the only whale in the area. He was also known for swimming circles around boats, blowing bubbles under water as he did so. Most right whales ignore boats (or avoid them) so this behavior was unexpected; we will probably never know why he did this.

Tip's skeleton will be maintained as part of the Smithsonian's research collection in Suitland, Maryland. Every right whale death is sad, but this one is more poignant to many of us because of **Tip's** rich history. He will be missed.



Photo: Cyndi Browning/NEAQ. Top Photo: Philip Hamilton/NEAQ

Wind Energy Surveys Update: Year Two Review

Sarah Leiter

The New England Aquarium's aerial survey team has been surveying the offshore waters south of Nantucket since October of 2011. The Aquarium team is part of a group called the North Atlantic Large Pelagic Species Collaborative (NLPSC) tasked with creating a baseline data set for offshore wind development planning. Our partners in this effort include Cornell University (acoustics), the University of Rhode Island (survey statistics) and the Center for Coastal Studies (aerial and shipboard support). As the NLPSC team wraps up this second year of surveys, we look back at some of the memorable sightings over the past twelve months. This includes all species seen by observers as well as those detected in vertical photography collected during each flight. During the past year a rare sighting of a sei whale mother and her calf was photographed, as well as the largest aggregation of basking sharks (the second largest fish in the world) ever recorded! The team was also lucky enough to document many large whales during the second year of surveys, including 26 individual North Atlantic right whales. This brings the total of individuals seen over the course of two years to 46! Some notable names in attendance this past year were **Clover, Smoke, Harmonia, Van Halen** and **Mohawk**.

The NLPSC team is currently preparing to begin a third year of surveys and conduct its 50th flight. At the end of this year of surveys, the team will have collected the first three consecutive years of strategic data for wind energy development planning on the East Coast.

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

Sponsored Whale Update

Marianna Hagbloom

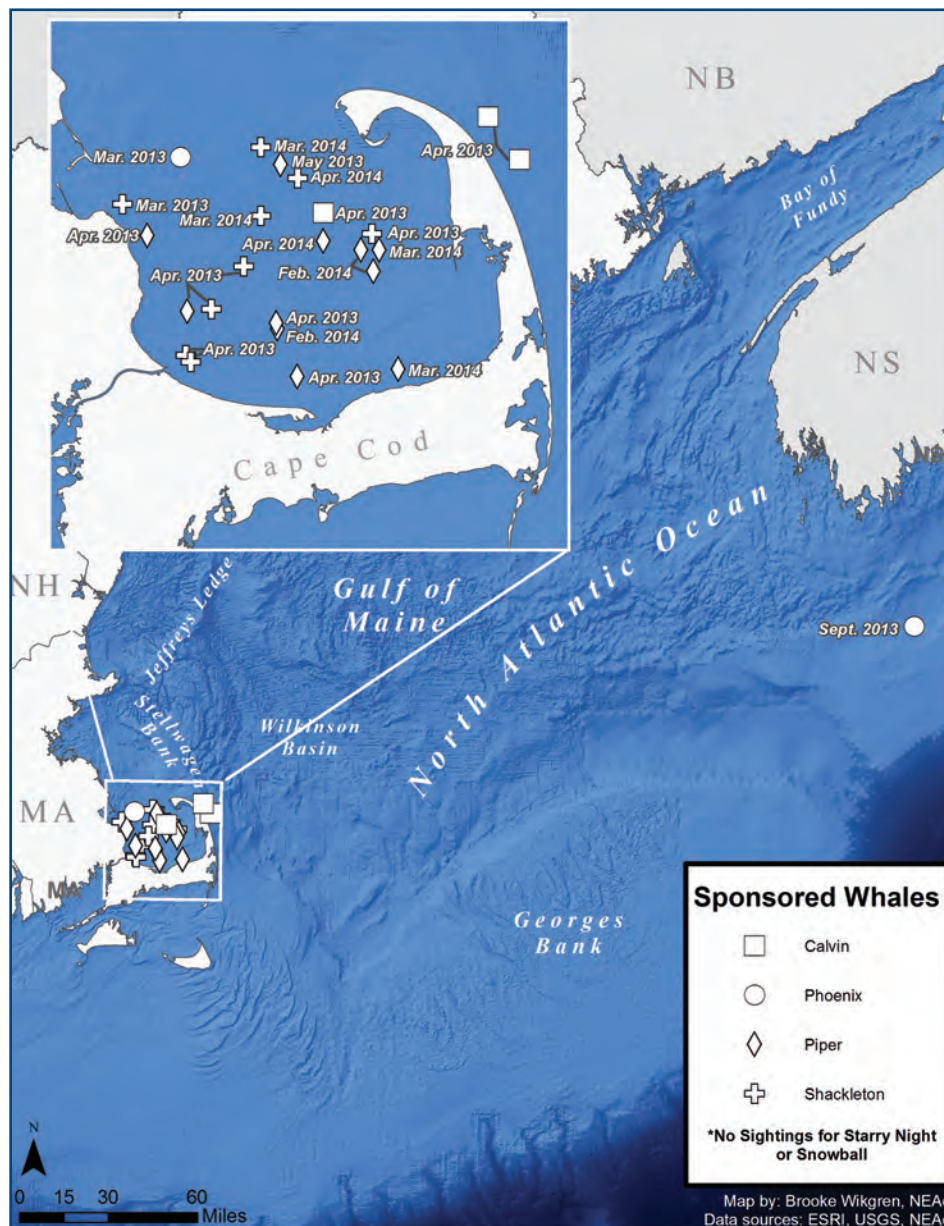
Over the span of these last 12 months, only one habitat has been known to see a substantial aggregation of right whales: Cape Cod Bay. Given the unusual movements of these whales, it's not surprising that only two of our Sponsorship whales have been sighted since our last newsletter in December:

Piper (Catalog #2320) has been sighted in Cape Cod Bay several times this year by the Center for Coastal Studies (CCS). She was first seen on February 1, and on February 20 she was sighted taking advantage of the blossoming food resource by feeding both under and at the surface.

Piper didn't venture very far—she was seen feeding there again on several occasions in March and early April.

Shackleton (Catalog #2440) has also traveled to Cape Cod Bay and was seen by CCS on March 23 and 25, both skimming and subsurface feeding.

Even though **Calvin (Catalog #2223)**, **Phoenix (Catalog #1705)**, **Starry Night (Catalog #1028)** and **Snowball (Catalog #1131)** haven't been seen in a while, we have a hunch that at least one of our other sponsored whales will show up to the feast in Cape Cod Bay! Stay tuned for the updates in our next newsletter, and as always, our team thanks you for your much needed support of our research.



Sponsored whale sightings March 2013 through April 2014. Map: Brooke Wikgren/NEAQ

A Heartwarming Sponsorship Story

Amanda Thompson

One of the most rewarding parts of my job at the Aquarium with the Right Whale Team is getting to hear from people who have gone above and beyond to show their compassion toward North Atlantic right whales and support the work we are doing to help address their struggles. Here's one of those special stories:

Thirteen-year old Ryan Yanchar in Ohio learned about the plight of right whales and asked his mother if he could sponsor one through our program. His mother, Lois Davies, was impressed and offered to match whatever he could save. Well, Ryan saved up \$500 dollars! Davies, as promised, put in her \$500, but it doesn't end there. She told her co-workers the story, and when company management heard about it they said they would match her and Ryan's donation! As a result, \$2,000 has been given to the Right Whale Research Program to sponsor **Shackleton** and **Starry Night**. It's just great how the generosity of one can inspire others! Thanks so much to Ryan, his mother and her employer for helping right whales by supporting our Sponsorship Program!

Sharing Our Knowledge

Amy Knowlton

In December 2013, six members of our team attended and presented at the 20th Biennial Conference on the Biology of Marine Mammals held in Dunedin, New Zealand. These international conferences provide a valuable opportunity to share findings of our recent studies on right whales and other species and to network with researchers from around the world. In addition to the conference, we also attended a one-day workshop focused on the three right whale species that exist in the world—North Atlantic, North Pacific and Southern. We were able to come together with fellow right whale researchers to discuss emerging issues, share compelling findings and think about how to best conserve these unique beasts. It was an inspiring gathering and made us all realize we want to get together again soon for a longer period of time to really delve into these crucial topics since right whales are such an important ambassador for our oceans!

Presentations on right whales were given at the Conference by team members Moira Brown, Kathleen Hunt, Amy Knowlton and Scott Kraus and covered such topics as seasonal occurrence in the Gulf of St. Lawrence, detecting hormones in respiratory vapor samples, assessing the status of reproductive females and evaluating whether colored ropes could be used to prevent entanglements. In addition, two of our colleagues, Dan Pendleton and Roz Rolland, presented on bowhead habitat use modeling and fecal hormone studies in Blainsville's beaked whales. As you can see, the work carried out by our team is quite varied and even spans beyond right whales!

Ocean Awareness Contest

Kristie Jochmann, *guest contributor*

To honor the research and work done by students in the 2013 From the Bow Seat Ocean Awareness Student Contest, Linda Cabot has sponsored **Piper (Catalog #2320)**, a resilient right whale who has survived two entanglements and given birth to three calves. **Piper** embodies the spirit of the right whale, exemplifying both the challenges they face and their hope for the future.

The Ocean Awareness Student Contest was founded in 2011 by Boston resident Linda Cabot to promote next generation ocean stewardship. Each year the contest challenges high school students to think critically about a timely issue impacting the ocean. In the 2013 contest, many students explored the plight of the North Atlantic right whale. As Linda puts it, "I initially hoped to inspire the students, but through their incredible essays, they inspired me!"


In November, Linda met with Sidni Frederick, the first place contest winner, and Dr. Brianna Brown, Sidni's AP Environmental Science teacher at Brookline High School. Sidni was awarded \$2,500 for her first-prize essay and the Brookline High science




Ocean Awareness contest winner Sidni Frederick (center) with her teacher, Dr. Brianna Brown (right) and Linda Cabot.

department was awarded an additional \$2,500 to support ocean/environmental programming for students. As Linda noted, "Dr. Brown has worked the contest into her curriculum in exceptional ways. We hope her model of actively teaching the contest in the classroom will inspire other teachers across the country to engage their students in real world environmental dilemmas and use this as a springboard for building knowledge."

The right whale has more than 100 new friends thanks to the Ocean Awareness Student Contest!

Learn more about the contest and read Sidni's essay at: 
<http://www.fromthebowseat.org/winners.php>

Supporting Right Whales Through Art!

The North Atlantic right whale limited-edition print was created by artist John Vilhauer and is available through the Endangered Species Print Project website. www.endangeredspeciesprintproject.com. 


All proceeds from the sales of these special prints are provided to the North Atlantic Right Whale Consortium (NARWC) and are used to support travel and fees for student presenters at the NARWC Annual Meeting. The prints are lovely, unique and make wonderful gifts!





New England Aquarium

Central Wharf
Boston, MA 02110-3399

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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 before, and we truly appreciate your generosity. Sponsorship funds are used by the New England Aquarium Right Whale Program to support activities that directly contribute to the conservation of North Atlantic right whales.

Your support makes our work possible!

Thank you for being a sponsor. The support of people like you is essential for our work to continue. Please renew your sponsorship today and consider purchasing gift sponsorships for friends and family.

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