

RIGHT WHALE NEWS

The Newsletter of the Southeastern United States Implementation Team for the Recovery of the Northern Right Whale and the Northeast Implementation Team

Volume 8 Number 4 November 2001

Breakaway Gillnet Float Wins Top Eubalaena Award

Competition Rewards Innovative Ways to Prevent Entanglement

A new design for breakaway gillnet floats has received the Canadian Whale Institute's *Eubalaena* Award for 2001. Eric deDoes of Plante's Lobster Escape Vents, Inc., in Somerville, Maine, received a cash prize of \$10,000 for the design.

Honorable Mention, with a cash prize of \$2,500, was awarded to José Rivera, Ed and Shari Wyman, and Andre and Robin Labonte for their trap line storage devices to prevent whale entanglements. The Visionary Award, also with a cash prize of \$2,500, went to Dianne Allen for her degradable polymer fishing line.

The Canadian Whale Institute established the *Eubalaena* Award Competition to encourage the discovery of new ways to prevent entanglements of right whales in fishing gear. This year's awards were announced by Sarah Haney at the annual meeting of the North Atlantic Right Whale Consortium, and the cash prizes were presented on behalf of the Canadian Whale Institute and the New England Aquarium.

The new design for breakaway gillnet floats resembles gillnet floats currently in use. The outside football shape is made up of two halves that are fastened together by screws. Internally, there are two barbed clips that grasp each end of the float line. The clips come in different sizes to accommodate rope of different sizes and breaking strength. The line inside the float is then cut in two. When a whale encounters the float, one end of the float will pull free, reducing the risk of entanglement.

The winning trap-line storage devices to prevent whale entanglements, one for shallow water and one for deep water, keep rope coiled at the bottom until the end of the trap fishing period. A galvanic time release corrodes at a pre-selected and predictable rate, releasing the float to rise to the surface for recovery. These devices seek to reduce the time that a vertical trap line is in the water column, thus reducing the exposure to right whales, as well as to other species of marine mammals and sea turtles.

Dianne Allen, recipient of the Visionary Award, employed a chemical approach for her degradable polymer fishing line, in which chemicals would be added to the mix during manufacturing. Using this approach, a fishing net retains its original mechanical properties for a specified and controllable period, followed by rapid degradation under certain conditions, at which point the net would break free and no longer be able to entangle a whale. The degradation can be accelerated with several different chemicals and light. More research on this concept is needed, but the approach looks promising.

The other two finalists in the competition were Becky Woodward, who designed a net gun that remotely deploys a tail harness (a lasso) during the disentanglement process; and David Silvia, for a spring-loaded fly-away knife to cut entangled line, with a blunt version that can grab entangling line.

A total of 21 ideas were submitted in this year's competition by 18 people from all over the world. The jury looked especially for devices that were practical, could be implemented quickly, and could make a difference in the survival of right whales. They also wanted to promote creative thinking and "outside the box" ideas. In the first round of the competition last July, five finalists were chosen and given funding to further develop their ideas. The finalists demonstrated their devices in October at the North Atlantic Right Whale Consortium meeting, where the winners were chosen and announced.

For more information about the winning ideas, contact: Eric deDoes (breakaway gillnet floats), 207-549-7204 or plantes@ctel.net; José Rivera (trap line storage devices), 787-831-3426 or jarivera@msn.com; Dianne Allen (degradable polymer fishing line), 818-788-9471.

Right Whale Numbers Offer Some Hope *But Research Continues to Suggest Long-term Decline*

The New England Aquarium's North Atlantic Right Whale Catalog currently lists 410 North Atlantic right whales. According to Phil Hamilton, 15 of these are known to be dead, and 95 are presumed to be dead. (If a right whale has not been seen for six years, it is presumed dead.) Thus, 300 animals are believed to be alive.

Thirty-one calves were born during the 2000-2001 calving season. Thirty of these were observed off the Georgia/Florida coast; the 31st calf was not spotted until it reached northern waters. This number is the highest count since photo-identification efforts started in 1980.

This also has been a record high year for deaths. Seven right whales died (or can reasonably be assumed to have died) this year. Four were calves; three were adults. Two of the calves were killed as a result of ship collisions, one off Assateague, Virginia, and the other off Long Island, New York. One of the adults (Churchill, #1102) was seriously entangled; its satellite tag stopped transmitting on September 16. This international media celebrity probably died offshore in deep water; its body has not been recovered. Another adult (#1114, a female) was satellite-tagged in the Bay of Fundy this summer and tracked to waters off the southeast coast of Nova Scotia. The last contact with the animal occurred on September 2 when the transmitter recorded 27.5 hours without a dive. Dr. Bruce Mate concludes that a catastrophic event occurred at about that time, killing the whale. The proximity of the whale's last known location to the major shipping lanes to and from Europe provides circumstantial evidence as to the cause of death, but unless the carcass can be recovered, the cause will remain unknown. A third adult (#1238, a male) was reported dead floating off the Magdelene Islands in the Gulf of the St. Lawrence, Quebec, Canada, on October 25. The whale was entangled in green polypropylene line. The cause of death has not been determined yet, but a necropsy is planned.

Last year, Dr. Stormy Mayo of the Center for Coastal Studies successfully predicted last season's increase in calves, based on an increase in food supply, especially in Cape Cod Bay. Dr. Mayo now observes that based on the food resource alone, the 2001-2002 calving season should be even better than the last. However, he notes that population demography suggests there are fewer "waiting mothers" this coming season, so calf production should be high but not record-setting.

The long-term prognosis is not so bright. Masami Fujiwara and Hal Caswell of the Woods Hole Oceanographic Institution report that their recent studies confirm earlier findings (1999) that under current conditions, the population is doomed to extinction. The declining survivability of mothers is

primarily responsible for the overall downward trend for the species. According to Phil Hamilton, the calving interval continues to increase. The mean is now 6.2 years (it was 3.67 years for the period between 1980 and 1992, and 5.8 years for 1990–1998).

SAMs, DAMs and Gear Limits:

NMFS Proposes to Amend the Atlantic Large Whale Take Reduction Plan

The National Marine Fisheries Service has proposed three new regulations to amend the Atlantic Large Whale Take Reduction Plan (TRP) and further reduce the risk of entanglement of right whales. The first, issued on October 1 as a proposed rule (Federal Register 66 (190): 49896 – 49908), addresses modifications to gillnet and lobster fishing gear in the northeast, Mid-Atlantic and southeast. The second, issued on October 2 as a proposed rule (FR 66 (191): 50160 – 50163), seeks to create dynamic management areas (DAM). The third, issued a day later as an advance notice of proposed rulemaking (FR 66 (192): 50390 – 50394), would create a seasonal area management system (SAM).

As a result of pressure from Federal Judge Woodlock, who in a recent court hearing accused NMFS of "a mañana approach to rulemaking," the agency is expected to issue a new proposed rule for a seasonal area management system by November 23. Final rules on all three regulations are due by December 30. The public comment periods for all three of the rules proposed in October have already expired. The comment period for the proposed SAM rule has not been announced but is expected to be very brief.

The draft rules can be accessed through the NMFS Northeast Regional Office TRP web site: www.nero.nmfs.gov/whatetrp/

Implementation Teams Respond to Draft Ship Strike Recommendations

At its September 24–25 meeting, the Southeast U.S. Right Whale Recovery Plan Implementation Team (SEIT) developed a response to proposals to require the re-routing of ships around whales, restrict speed and mandate shipping lanes in right whale habitat (see *Right Whale News* 8 (3):12 for background). The SEIT outlined its response in a letter to Dr. William T. Hogarth, director of the National Marine Fisheries Service. The Northeast Implementation Team met on October 24 to review the proposals, and a letter from team chair Tom French is being developed.

The SEIT letter, signed by chair Barb Zoodsma, reads as follows:

Dear Dr. Hogarth:

Enclosed please find a report entitled *Recommended Measures to Reduce Ship Strikes of North Atlantic Right Whales*. The report, prepared by Bruce Russell with contributions from Amy Knowlton and numerous others, was submitted to the Southeast U.S. Right Whale Recovery Plan Implementation Team (SEIT) for consideration and comment. The purpose of this letter is to convey our comments to the NMFS regarding the report and Southeast U.S.-related recommendations contained therein.

The SEIT discussed the subject report at our 24-25 September meeting conducted in Fernandina Beach,

Florida. The Team unanimously agreed that the process used in generating the report was very inclusive and offered our constituents and us numerous opportunities to provide input. We commend Bruce Russell, Amy Knowlton, Barb Zoodsma and others specifically mentioned in the report for their hard work in collecting available information, listening to concerns, and attempting to consolidate various issues while formulating the recommendations contained within the report.

We discussed the report's four recommended vessel-operating restrictions that will affect Southeast U.S. ports. These recommendations include:

1. Establish seasonal management areas at major port entrances and approaches from Block Island, RI, south to and including Savannah, GA.
2. Establish mandatory or designated recommended routes for the ports of Brunswick, GA; Jacksonville, FL; and Fernandina Beach, FL.
3. Establish a seasonal 10-knot speed restriction for vessels calling at the ports of Brunswick, GA; Jacksonville, FL; and Fernandina Beach, FL.
4. Require...that each vessel, prior to entering critical habitat or dynamic or seasonal management area, check steering, ensure engines are ready for maneuvering, and post trained lookouts (not necessarily additional lookouts).

The SEIT unanimously supported the prudent seamanship recommendation (item number 4 above). Additionally, we generally agreed with the report that numbers 1-3 are reasonable approaches to minimizing collisions between whales and ships. The SEIT also concurred with the report in that additional research needs to be completed prior to settling upon the optimal management scheme for the Southeast U.S (SEUS). For instance, Team members were concerned about minimizing economic impacts of proposed regulations on SEUS ports while implementing the management scheme with the highest probability of reducing threats to whales. Therefore, the SEIT unanimously recommends these options for vessel operating restrictions be further considered after the following studies are conducted or sufficient information exists regarding risk reduction for each of the various recommendations. Specifically, we are interested in the following:

- Model the economic impact of routes: from extreme routing measures (e.g., one route per port entrance), to limited routing measures (e.g., elimination of one route per port entrance), and seasonal versus year-round/permanent routing changes. This model should be similar to the model constructed to analyze economic impacts of speed restrictions.
- Model the economic impacts of seasonal and/or year-round 10 knot speed restriction versus a 13 knot speed restriction.
- Members that represent port authorities are concerned that speed or routing restrictions will result in the elimination of port calls to their facilities. Speed and/or routing restrictions may also cause delays. These members would like to see a model that reflects the economic impact if ships are delayed or if ships refrain from calling on their ports and opt to call on ports with fewer restrictions (e.g., from Jacksonville to Charleston).
- What is the measurable reduction in risk that will result from speed restrictions or routing measures?
- Conduct a risk assessment to determine what will result in the greatest reduction of threats to whales, while minimizing economic impacts to ports. We believe this work should be conducted following the sightings-per-unit-effort analysis for 1992/1993 to 2000/2001 Southeast U.S. right whale aerial survey data that is currently underway by the Florida Marine Research Institute.

- Conduct a Port Access Route study.

The SEIT recognizes the urgent need to enhance right whale protection efforts. Therefore, we propose that, while the above studies are completed in preparation of well-founded, long-term management plans, efforts continue between NMFS and the SEIT to:

1. Develop and implement voluntary measures such as those adopted by the Crowley Liner Service and presented to the SEIT by Mike Getchell, Jacksonville Marine Transportation Exchange;
2. Enhance the development and distribution of educational materials;
3. Improve Mandatory Ship Reporting compliance.

High Speed Vessels and Right Whales

The Cat is a 300-foot long, high-speed ferry that operates between Bar Harbor, Maine, and Yarmouth, Nova Scotia, cruising at a speed of 40 knots. Since its inaugural season in 1998, Bay Ferries, Ltd., operators of The Cat, have retained the services of a biologist to monitor the presence of whales along her route. For the first three years of operation, very few right whales were seen. In 2001, however, an estimated 40 to 60 right whales took up residence along a portion of the ferry's route. Most of them were observed in the eastern end of the run in Canadian waters. Once right whales had been sighted, the captain attempted to avoid the areas where whales had been seen by re-routing either to the north or south. Other measures were taken, including posting additional watches, placing the crew on high alert and switching from auto-pilot to manual steering.

Amy Knowlton of the New England Aquarium reports that even with the re-routing, right whales remained concentrated along the new route. She noted that The Cat was not observed to slow down in the presence of right whales.

It appears that neither Canada nor the United States has figured out how to regulate high-speed vessel operations to reduce the threat to right whales. The draft Updated Recovery Plan barely touches on the topic and then only under whale watching.

Federal Funding for Right Whales Awaits Final Action

Speculating on the next fiscal year's budget for right whales is always risky, since final numbers are generally not known until the House and Senate agree on the appropriation for the Department of Commerce. The tragic events of September 11 and their aftermath make speculation on the FY 2002 budget even more difficult than normal. Before September 11, the appropriations committees of both houses appeared to be reaching agreement on a \$7 million package for right whales. Most of the funds would go to the National Marine Fisheries Service. Some might go to the U.S. Coast Guard and some might go to the Northeast Consortium (see *Right Whale News* 8(1):2 for background). In the meantime, the NMFS will operate under a continuing resolution until final appropriations are determined.

Right Whale Recovery Act Legislation Proposed

Senator John Kerry (D&endash;MA) has introduced the "North Atlantic Right Whale Recovery Act of 2001" to coordinate and expand U.S. and international programs for the conservation and protection of North Atlantic right whales. A similar measure has been introduced in the House by Representative William Delahunt (D&endash;MA). The sections of the Senate version are: (1) short title; (2) findings; (3) North Atlantic right whale recovery program; (4) federal-state cooperation; (5) North Atlantic right whale priority action program; (6) reducing ship strikes; (7) North Atlantic right whale research grant program; (8) interagency coordination and cost-sharing; (9) international action and coordination; (10) report to Congress; and (11) authorization of appropriations.

Basically, the bill institutionalizes the current right whale recovery program. It serves to elevate issues between the Departments of Commerce, State, Defense and Transportation to the secretarial level. It also provides higher visibility to the program, which should be helpful in the appropriations process. As for funding, the bill authorizes an increase of appropriations to total \$8 million for fiscal year 2002. The authorizations for FY 2003 and 2004 would increase to \$10 million. Even if passed in its present form, the funds will still need to be appropriated as part of the budget process.

A hearing on the bill was scheduled for September but was postponed indefinitely after September 11.

People and Programs: Several Changes Announced

There are three teams implementing recovery plans for the North Atlantic right whale in the western North Atlantic. Two of them recently have changed their names and recruited new leadership. In the southeast, the name is now the Southeast U.S. Right Whale Recovery Plan Implementation Team. It is chaired by Barb Zoodsma of the Georgia Department of Natural Resources (tel. 912-264-7218; e-mail: Barb_Zoodsma@mail.dnr.state.ga.us). While the vice chair position is currently vacant, the heir apparent is Jameson Smith, who replaced Cyndi Thomas at the Florida Marine Research Institute. (Cyndi now works for The Ocean Conservancy.) The Canadian team is now the Canadian North Atlantic Right Whale Implementation Team. Its co-chairs are Jerry Conway of the Department of Fisheries and Oceans (902-426-6947; conwayj@mar.dfo-mpo.gc.ca) and Dr. Moe Brown of the Canadian Whale Institute and the Center for Coastal Studies (508-487-3623; Mbrown@coastalstudies.org). The northeast team remains the Northeast Implementation Team; its chair is Dr. Tom French of the Massachusetts Division of Fish and Wildlife (508-792-7270; tom.french@state.ma.us). The vice chair is Tom Fetherston of the U.S. Navy (401-832-5857; fetherstontn@AM.Npt.NUWC.Navy.mil).

A number of changes in personnel also have occurred recently in the National Marine Fisheries Service (NMFS), including positions with direct responsibilities for right whales. Dr. William Hogarth has been named director of the NMFS. Dr. Hogarth has worked for the agency for 16 years and has served in a number of roles, including Acting Assistant Administrator for Fisheries and Southeast Regional Administrator. In the Northeast Regional Office, Mary Colligan is Chief of the Protected Resources Division. Dave Gouveia is the Marine Mammal Coordinator. Greg LaMontagne, formerly the Acting Large Whale Take Reduction Plan Coordinator, has new duties within NMFS. Diane Borggaard is the new Large Whale Take Reduction Plan Coordinator. In the Southeast Regional Office, Georgia Cranmore is the new Chief of the Protected Resources Division. Dr. Kathy Wang, the marine mammal team leader, has a new assistant: fisheries biologist Katie Moore. Don Lewis is the new right whale/shipping industry liaison for the Southeast Regional Office.

The State of Maine has a new Large Whale Take Reduction Plan coordinator: Laura Ludwig. She will serve as a liaison with Maine fishermen, coastal communities, the state's seven Lobster Zone Management Councils and the Department of Marine Resources. She also will be responsible for developing and implementing a state sighting and surveillance program, an education and outreach program for fishermen and coastal communities, and an entanglement response plan. She can be reached at 207-633-9556.

The North Atlantic Right Whale Consortium has new officers and board members. Amy Knowlton of the New England Aquarium will chair the Consortium for the next three years. Dr. Michael Moore of the Woods Hole Oceanographic Institution is vice chair. Marilyn Marx of the New England Aquarium continues as secretary, and Deb Tobin of East Coast Ecosystems continues as public information officer. Joining the board are Dr. Bruce Mate (Oregon State University) and Phil Hamilton (New England Aquarium). Dr. Robert Kenney (University of Rhode Island) was re-elected to the board. Continuing board members are Dr. Brad White, Dr. Moe Brown, Laurie Murison and Dr. Roz Rolland. Outgoing chair Scott Kraus and board member Dr. Stormy Mayo are retiring from the board.

Right Whale Consortium Launches New Educational Web Site

The North Atlantic Right Whale Consortium is establishing a new web site for the dissemination of information on research, conservation, whale rescue and other topics. Designed to reach the general public, the site will also be used to promote communication and to archive information on right whales. Focus areas will include whale facts, events (e.g., sightings, entanglements and calving), maps, projects (e.g., research and rescue efforts), data on individual whales, and games. The site includes a media gallery, with photographs, video and audio of right whales. There also are detailed maps showing right whale habitats in both the United States and Canada and locations of right whales throughout the year. The site should be accessible in December at: www.rightwhaleweb.org

The web site was created and developed under the leadership of the Consortium's public information officer, Deb Tobin of East Coast Ecosystems, and Nick Rutter of Accesstec, Inc. Caris Spatial Fusion provided the mapping products. (For details on the web site setup, contact Nick Rutter at 506-452-9780 or nickr@accesstec.ca) The Federal Government of Canada provided financial support through Environment Canada's Habitat Stewardship Program.

Right Whale Catalog Goes Electronic

With more than 23,000 records and 10,000 new ones to add each year, the New England Aquarium has decided to shift from a paper catalog to a new electronic catalog for its records of North Atlantic right whales. The e-catalog has just been released on compact disk. For each of the catalog's 411 right whales, there are six of the best photographic images and a drawn composite. One of the catalog's most useful features will be its searchability. A researcher can, for example, find an individual whale based on photographs of only one side of the head of the animal. The search feature also allows users to track such things as scarification rates. The catalog is available for \$20.00 from the Aquarium. Contact Stephanie Martin for details (617-973-0211; or: smartin@neaq.org). The Aquarium plans to update the electronic catalog every two to three years.

Papers Presented at Annual Consortium Meeting

The North Atlantic Right Whale Consortium held its annual meeting at the New England Aquarium October 25&endash;26. More than 142 people attended, making it the largest Consortium meeting ever. The agenda included a business meeting, presentations of scientific papers, reports on shipping and fishing conflicts, discussions of the development of a strategy for public relations, and permitting for right whales. The five finalists for the *Eubalaena* awards demonstrated their disentanglement devices, and the *Eubalaena* awards were presented.

A list of presented papers follows, with only senior authors identified. An asterisk (*) following the title indicates that an abstract is available. The collection of abstracts may be purchased for \$5 from the Consortium secretary, Marilyn Marx (mmarx@neaq.org).

Current Population Status Reports

The North Atlantic Right Whale Catalog: An update,* P. Hamilton

A proposed monitoring protocol for the North Atlantic right whale population,* H. Caswell et al.

Demography of the North Atlantic right whale,* M. Fujiwara et al.

Scarification analysis of North Atlantic right whales: Monitoring rates of entanglement interaction,* A. Knowlton et al.

East Coast Survey Summaries,* T. Cole and C. Slay

Biology

Genetic analysis of whale bones from a 16th Century Basque whaling station,* T. Frasier et al.

Studying North Atlantic right whale reproduction using fecal steroid hormones: An update,* R. Rolland et al.

A new technique for visually assessing right whale body condition,* H. Pettis et al.

Molecular analysis of stress activated proteins and genes in cetaceans: A new methodology for monitoring environmental stress impact in right whales,* S. Southern et al. (presented by P. Clapham)

Blubber thickness and reproductive success in right whales,* C. Miller et al.

Shipping Issues

Research, studies and projects in support of recommended measures to reduce ship strikes of North Atlantic right whales,* B. Russell

GIS modeling of right whale and ship traffic distributions: Decision support for right whale conservation,* L. Ward et al.

The occurrence of North Atlantic right whales along the route of The Cat during the summer of 2001,* S. Dufault (presented by A. Knowlton)

Progress report on measures to reduce potential for ship collisions in

Canadian waters: M. Brown

Acoustics

Passive acoustic detection and tracking of right whales in Cape Cod Bay and the Great South Channel: Results and implications for future survey efforts,* C. Clark et al.

Assessing ship strike risk factors, an update on the DTAG project,* D. Nowacek et al.

Playbacks of surface active group calls to North Atlantic right whales (*Eubalaena glacialis*),* S. Parks

Right whale call characterization to assist passive acoustic detection,*J. Matthews

Right whale acoustics: Practical applications in conservation,* D. Gillespie et al.

Fishing Conflicts with Right Whales

Right whale entanglements and disentanglements, 2001,* D. Morin

Churchill: procedures and lessons, C. Good

Take Reduction Team update, G. LaMontagne

Canadian update, J. Conway

Humane Society of the U.S. versus NMFS: Update, S. Young

Field trials of the whale-free buoy, C. Goudey

Habitat Studies

Right whale nighttime feeding behavior in the lower Bay of Fundy: Inferences from a study of *Calanus finmarchicus* diel vertical migration,* M. Baumgartner et al.

Climate, copepods, and calves: Linking right whale reproduction to physical and biological conditions in the NW Atlantic,* A. Pershing et al.

A survey of historic right whale habitat in the North Atlantic Ocean Basin,* M. Moore

Statistical associations between North Atlantic right whale movements and oceanographic and physical

parameters,* S. Kraus et al.

GIS presentation of survey tracks, right whale sightings and right whale movements: 1978-2000,* A. Knowlton et al.

New Approaches and Information on Ongoing Studies

Right Whale E-Catalog, S. Martin

Consortium Website, N. Rutter

Can tagging right whales aid in their conservation and recovery? * B. Mate

Stable isotopes, S. Wetmore (presented by P. Clapham)

Photogrammetry study, D. Potter

AWARE sonar project, D. Potter

National Whale Conservation Fund status, M. Pico

Scientific Research Permits: The Conversation Continues

On Thursday evening, October 25, Ms. Ruth Johnson and Dr. Tammy Adams made a brief presentation to the participants at the Right Whale Consortium meeting in Boston on current status and procedures related to scientific research permits. A lively discussion followed. One audience member noted that the conversation on this topic extended back some 15 years.

Specific to the interests of right whale investigators, there appear to be three levels or components: (1) the language in the statute - the Endangered Species Act, (2) the language in the regulations - the 500-yard approach rule, and (3) the language put forward as a result of what is described as legal interpretation. The rub seems to stem principally from the legal interpretation area. Fairly stated, there are many dimensions to this topic, and, the National Marine Fisheries Service is in a situation of responding to external events and pressures. For those wishing to participate in and/or educate themselves on this topic, the Permits Division website is recommended: www.nmfs.noaa.gov/prot_res/overview/permits.html. There will also be a workshop entitled "Obtaining a Marine Mammal Scientific Research and Enhancement Permit," on December 1, at the 14th Biennial Conference on the Biology of Marine Mammals in Vancouver, Canada. Lastly, the permit office is said to be planning a meeting on this topic for early in 2002, dates and information to be forthcoming.

Commentary:

There's gotta be a better way!

At the Right Whale Consortium meeting in Boston on October 26, we were provided with an update and description of the right-whale related legal actions involving the National Marine Fisheries Service (NMFS). The prolonged schedule of arguments, court dates, and description of judges' opinions causes us to wonder. NMFS, rightly and/or wrongly, comes under criticism. Responding to continuing episodes of legal actions, the agency burrows deeper, hires additional staff, and generates additional paperwork, meetings, and regulations - often on a short-fuse timeframe.

Recurring questions include: What is the net cost/benefit ratio of these activities? Are expenditures of limited time and resources being best applied to protection and conservation of right whales? Is this the best we can do? There's gotta be a better way!

Jim Hain

Scientific Literature and Reports

Anderson, P. K. 2001. Marine mammals in the next one hundred years: Twilight for a Pleistocene megafauna? *Journal of Mammalogy* 82 (3): 623&endash;629.

Clapham, P. J. and R. L. Brownell, Jr. 1999. Vulnerability of migratory baleen whales to ecosystem degradation. Pp. 97-106 in UNEP/CMS (ed.), *Proceedings of the Symposium on Animal Migration*. Gland, Switzerland. 13 April 1997. CMS Technical Series Publication No. 2, Bonn/The Hague.

DeMaster, D. P., C. W. Fowler, S. L. Perry and M. F. Richlen. 2001. Predation and competition: The impact of fisheries on marine-mammal populations over the next one hundred years. *Journal of Mammalogy* 82 (3): 641&endash;651.

Harwood, J. 2001. Marine mammals and their environment in the twenty-first century. *Journal of Mammalogy* 82 (3): 630&endash;640.

Gillespie, D. and R. Leaper. 2001. Report of the workshop on right whale acoustics: Practical applications in conservation. Woods Hole Oceanographic Institution, March 8&endash;9, 2001. Convened by the International Fund for Animal Welfare. Pp. iii and 23.

Nowacek, D. P., M. P. Johnson, P. L. Tyack, K. A. Shorter, W. A. McLellan and D. A. Pabst. 2001. Buoyant balaenids: The ups and downs of buoyancy in right whales. *Proceedings of the Royal Society of London Series B &endash; Biological Sciences* 268(1478): 1811-1816.

Weisbrod, W, D. Shea, G. Leblanc, M. Moore and J. J. Stegeman. 2000. Organochlorine bioaccumulation and risk for whales in a northwest Atlantic food web. *Marine Environmental Research* 50(1-5): 440-441.

Calendar of Events

January 11, 2002: Deadline for submitting National Whale Conservation Fund pre-proposals to the National Fish and Wildlife Foundation. (Full proposals will be by invitation.) For guidelines and additional information, contact Michelle Pico at 202-857-0166 or pico@nfwf.org

February 1: Copy deadline for the next issue of *Right Whale News*. See page 14 for details.

February 6: Next meeting of the Northeast Implementation Team. Location to be determined. For further information, contact Dr. Sal Testaverde at 978-281-9368 or Salvatore.Testaverde@noaa.gov

February 8: Deadline for applications for funding from the Massachusetts Environmental Trust's Biodiversity Program for fiscal year 2003. For guidelines, contact MET at 617-727-0249 or visit their web site at: www.MassEnvironmentalTrust.org

March 19-21: Tentative dates for the next meeting of the Canadian North Atlantic Right Whale Implementation Team, St. Andrews, New Brunswick. Agenda topics include the coordination of right whale research in the Bay of Fundy, permitting and future recovery efforts. For further information, contact team co-chair Jerry Conway at 902-426-6947 or conwayj@mar.dfo-mpo.gc.ca

April 4-7: Florida Marine Mammal Health Conference, University of Florida Hotel and Conference Center, Gainesville, Florida. The conference seeks to promote the health and well-being of the four principal species of marine mammals found in Florida waters: manatees, bottlenose dolphins, pygmy sperm whales and North Atlantic right whales. For further information, contact Dr. Iske L. Vandeveld Larkin at 352-392-4700, ext. 3866 or e-mail: Larkin@mail.vetmed.ufl.edu

May 9&endash;10: Next meeting of the Southeast U.S. Right Whale Recovery Plan Implementation Team. Location to be determined. For further information, contact team chair Barb Zoodsma at 912-264-7218 or Barb.Zoodsma@mail.dnr.state.ga.us

October 17&endash;18: Fall meeting of the Southeast U.S. Right Whale Recovery Plan Implementation Team. Location to be determined. For further information, contact team chair Barb Zoodsma at 912-264-7218 or Barb.Zoodsma@mail.dnr.state.ga.us

October 29&endash;30: Annual meeting of the North Atlantic Right Whale Consortium. Location to be determined. For further information, contact Marilyn Marx at: mmarx@neaq.org

Right Whale News

Right Whale News is the newsletter of the Southeastern U.S. Right Whale Recovery Plan Implementation Team and the Northeast Implementation Team. The editor is Hans Neuhauser. The editorial board consists of Bill Brooks, Moe Brown, Phil Clapham, Jerry Conway, Jim Hain, Scott Kraus, Mike Payne, Sigrid Sanders and Jerry Wallmeyer.

The Gray's Reef National Marine Sanctuary, the Massachusetts Environmental Trust, the Southeast Regional Office of NOAA Fisheries, the Northeast Implementation Team and the Savannah Presbytery's

M. K. Pentecost Ecology Trust Fund (www.savannahpresbytery.org) have underwritten the costs of *Right Whale News*. Thanks to their support, *Right Whale News* is published quarterly and is distributed free of charge.

The current issue of *Right Whale News* is now available on line at a web site maintained by the Georgia Environmental Policy Institute: www.GEPInstitute.com

An index of the first *five years of Right Whale News* (1994-1998) is available along with current and back issues on the Internet, thanks to Alex Score and Marcy Lee of the Gray's Reef National Marine Sanctuary. The web site address is: <http://www.graysreef.nos.noaa.gov/rightwhalenews.html>

To subscribe to *Right Whale News* or to submit news, articles or commentary for publication, contact the editor, Hans Neuhauser, at the Georgia Environmental Policy Institute, 380 Meigs Street, Athens, GA 30601, USA. Telephone 706-546-7507. Fax 706-613-7775. E-mail: gepi@ix.netcom.com

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