

# COASTWATCH

Provincetown Center for Coastal Studies ■ Massachusetts ■ 2011 ■ Volume 35 Issue 2



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# LETTER FROM THE PRESIDENT AND CEO

## GLOBAL OCEANS – TOO BIG TO LET FAIL!

**A**s I write this letter, 50,000 people are marching by my hotel in downtown Brussels in protest of the austerity measures now being imposed on European Union nations in response to the economic crisis. I am not here to solve that problem, nor to “save the euro”, but rather, at the invitation of the European Union’s Social and Economic Development Committee, to participate in a small think-tank intended to focus attention on another crisis – the state of the world’s oceans. Our task is to fashion a set of recommendations for the European Union to consider in promoting more sustainable uses of ocean resources as part of “Europe and the Blue

Economy.” These recommendations will be presented to the world leaders who are expected to attend the next Earth Summit, “Rio plus 20”, which will be held in Rio de Janeiro in June 2012.

I really wish that we could incite 50,000 people to march in the streets on behalf of the world’s coasts and oceans. That’s what may ultimately be needed to stimulate strong international and national action on a long list of threats including climate change-induced impacts on oceans, continuing water pollution and marine debris, illegal fishing on the high seas, uncontrolled ocean bio-prospecting (extracting natural resources) in international waters, and many other issues that the United Nations and the 183 coastal nations will consider in Rio in June. It is sometimes hard not to be discouraged at the snail’s pace of international action, but I continue to be heartened by and draw strength and enthusiasm from the many local and regional initiatives and people who are still doing their part to “act locally.” And the wonderfully dedicated and talented staff of the Center for Coastal Studies is foremost among them.

This year alone, Center staff and programs have identified and studied in Cape Cod Bay over 325 individual right whales out of a total critically endangered population of about 470; begun a satellite tracking program on humpback whales—the mainstay of the successful whale-watching industry in Massachusetts; conducted the environmental assessments and proper permitting for a new 50 acre aquaculture grant that will provide economic opportunities for many local shellfishers in Provincetown and Truro; successfully completed pilot testing of a very innovative seafloor mapping technology that will be invaluable for coastal and ocean planners and decision-makers who will be overseeing future economic activities in the ocean; hosted an international whale disentanglement training workshop on behalf of NOAA and the International Whaling Commission (IWC); provided hands-on, field education opportunities for over 350 young students who hopefully will be among the next generation of ocean leaders and protectors; and much more!

All of this was achieved despite having to self-impose austerity measures on our own budgets, and only because of the unwavering support and encouragement of our many members, friends, colleagues, sponsors and donors, without whom none of this could have been accomplished!

So I remain optimistic about prospects for 2012. Who knows, we might see 50,000 people marching for the oceans in Rio. We may see global leaders acknowledge that healthy ocean ecosystems are good for the environment and good for sustainable “blue” economic development, and act accordingly.

Please remember how important it is to support the work of PCCS both globally and locally in the coming year. Thank you!

Best Holiday Wishes for a healthy and productive 2012.

*Richard Delaney*

Richard Delaney, President and CEO

## COASTWATCH

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## *MAER: Local endeavor, global influence*

In November 2011 the British Divers Marine Life Rescue unit (BDMLR) responded to a report of an entangled humpback whale in the Firth of Forth, on the east coast of Scotland. The 40 foot animal was trapped in lobster gear, and the weight of the tangled rope and more than 30 pots had effectively anchored it to the seabed. After several hours of careful work the lines were cut and the humpback freed.

This was the first disentanglement carried out by the BDMLR team since they completed an intensive marine animal entanglement response (MAER) training workshop here at the Provincetown Center for Coastal Studies. It's wonderful to see the influence that a small group of dedicated people in a tiny town in America can have on the life of an endangered animal more than 3,000 miles away.



*PCCS image taken under DFO Canada license.*

*Humpback whale Campobello, disentangled in the Bay of Fundy by Center staff.*

# PCCS Hosts INTERNATIONAL DISENTANGLEMENT CONFERENCE

*In October 2011, PCCS had the privilege of hosting an international three-day workshop on welfare issues associated with the entanglement of large whales. Organized by the International Whaling Commission (IWC) and the National Oceanic and Atmospheric Administration (NOAA), the workshop met to advance the recommendations about large whale entanglements that had initially been identified at an earlier workshop that was held in Maui, Hawaii in 2010.*

*Many hundreds of incidents of whales being entangled in fishing gear are reported each year, but researchers estimate that many thousands more go unreported throughout the world's oceans. Workshop participants recommended enhancing efforts by all countries to improve the monitoring of entanglements which, together with ship strikes, are the two major threats to the healthy recovery of many species of endangered marine mammals. They also made recommendations to develop training programs and strategies to increase the effectiveness and safety of whale rescue programs.*

*The ten nations attending (Argentina, Australia, Brazil, Canada, Korea, New Zealand, Norway, South Africa, United Kingdom and United States), working with the*

*endorsement of the International Whaling Commission, are also hoping to develop new tools, techniques and protocols for responding to entanglements.*

*The Provincetown Center for Coastal Studies was an appropriate location for the workshop, since it was the first organization in the world to develop techniques to disentangle free-swimming whales, beginning with the dramatic rescue of the female humpback Ibis in Provincetown Harbor on Thanksgiving Day 1984. Since then, the Center has gone on to rescue more than 180 whales and endangered turtles and, with support from partners at the National Marine Fisheries Service in NOAA, has helped establish a network of entanglement response teams along the Atlantic coast.*

*A participant in the rescue of Ibis and many more since then, NOAA's David Mattila, who is working directly with IWC and stationed in Provincetown, said that "with an increasing number of rescue programs in many countries, there is great value in sharing lessons learned, new techniques and other information about best practices, thereby advancing all efforts". Final recommendations and reports from the workshop will be submitted to the IWC and distributed upon review and approval.*

# A YEAR IN REVIEW

At the time of writing the Center's scientists, researchers and staff are about to embark upon an annual retreat, during which plans for 2012 are shared, collaborations forged and challenges dissected. The outcome of this meeting is a road-plan for the next twelve months, an outline rich for coloring with yet more groundbreaking research, rescue, public policy and education.

The highlight of the retreat is always the review of the accomplishments of our scientists and researchers. This year, we thought you might like to join us as we look back over some of the achievements of 2011.

## Marine Animal Entanglement Response

2011 marks the 15th anniversary of the introduction of the Center's 24-hour entanglement reporting hotline. Since 1996, the Marine Animal Entanglement Response (MAER) team has safely disentangled more than 180 whales and sea turtles. In the last year alone the MAER team, under the leadership of program director Scott Landry, conducted over 30 on-water operations and freed five sea turtles, four humpbacks and one North Atlantic right whale, one of the world's most critically endangered whales.

This year also saw some changes on the MAER team roster: In July, the Center bid farewell to long-time MAER operations manager Brian Sharp. He is a great friend to all at PCCS, and we are fortunate to continue our relationship with him through his new position as Stranding Coordinator at the International Fund for Animal Welfare (IFAW). Taking Brian's place on the MAER team is Doug Sandilands, former coordinator of the British Columbia Cetacean Sightings Network and a founding member of the BC Marine Mammal Response Network. Doug completed his Level 3 Responder training at PCCS in 2010 and since his arrival at the Center in August has become an invaluable member of the PCCS family.



*This leatherback was one of five turtles disentangled by the MAER team in 2011. PCCS image taken under NOAA 50 CFR 222.310*

## Cape Cod Bay Monitoring Project

In 2011 the Cape Cod Bay Monitoring Project (CCBMP) extended water quality monitoring activities to encompass Nantucket Sound, bringing the number of stations measured by Center staff and volunteer Citizen Scientists to nearly 70. Program director Amy Costa also expanded the pre-existing water quality parameters measured in previous years (water temperature, salinity, dissolved oxygen, pH, water clarity, chlorophyll, nitrate/nitrite, ammonia, total nitrogen, ortho-phosphate, total phosphorus) to include silicate and colored dissolved organic matter (CDOM), plus refined and crude oil. The addition of the last two parameters will help establish a baseline that will allow local effects of polluting incidents such as the Gulf of Mexico oil spill to be identified and quantified. The program is currently seeking funding to test for pharmaceuticals as this troubling issue becomes a focus of scientific and community interest alike.

## Education

Jesse Mechling, in his second year as director of the Center's education program, has made tremendous advances in outreach to local school children, year-round residents and seasonal visitors. Of particular note is the expansion of the popular and unique water quality program for local area 5th and 6th graders, which this year reached more than 350 students on Cape Cod. Participation in summer outdoor exploration programs also increased dramatically this year:

more than 800 adults and kids bravely stepped inside "Delilah," the Center's full size inflatable North Atlantic right whale, to learn more about the ecology of this frequent visitor to our waters; and more than 2,000 people took advantage of a diverse array of photography classes, kayak, bike and walking tours, movies and lectures.



*The imaginative and hardy winners of the Build Your Own Boat Paddle Race, which took place during the First Annual Whale Week in July 2011.*



The highlight of the Center's education program was undoubtedly the first ever *Whale Week: A Celebration of the Sea*. This town-wide, week-long series of fun, free, family-friendly events included a home-made boat race, ocean-themed arts and crafts activities, the "Party on the Pier", and the premier of a children's puppet and live action theater production of the popular children's book *The Tale of Ibis*. Nearly a thousand people participated in the festivities, and many more are expected to join in the fun at Whale Week 2012, from July 23 - July 28.

## Fisheries

Marine Fisheries Research program staff and collaborators worked with local shellfish growers and resource managers in the towns of Provincetown and Truro to identify and map a 50-acre subtidal (the area beyond low tide always covered by water) community aquaculture development area in Cape Cod Bay. Plans are underway to secure aquaculture permits for these 50 one-acre beds; these will be made available to shellfishers in both towns. Reviews of this project and ongoing squid research were presented by program director Owen Nichols at several conferences and published in the scientific journal *Sustainable Oceans*, with several local fishermen and shellfish growers as co-authors.

## Humpback Whale Research

The program, directed by Jooke Robbins, recently began a multi-year, collaborative study of the effects of satellite tagging on humpback whales. Satellite-monitored radio tags have yielded important information for the conservation and management of large whales, and provide detailed data on large whale movements and habitat use. In July 2011, humpbacks were tagged in and adjacent to the Stellwagen Bank National Marine Sanctuary by project partners and tagging experts from the National Marine Mammal Laboratory (Seattle, WA). PCCS monitored these tagged whales on a weekly basis through the feeding season to evaluate the animal's physical and physiological responses to the tag, and also to provide data to optimize tag performance and minimize tag loss and impact.

This year humpback whale studies program staff also completed several studies on the causes and impacts of entanglement on humpback whales and published papers on a variety of topics including humpback whale behavior (migration and song), molecular genetics and human impacts. Look out for more information about current humpback research in the Spring 2012 edition of *Coastwatch*.

## Right Whale Programs

During the 2011 winter season the Center's right whale researchers, directed by Stormy Mayo, continued to add information to the long-term intensive study of demography and habitat characteristics of the species in Cape Cod waters. This year an exceptionally large number of right whales entered Cape Cod Bay, lured by a remarkable concentration of their microscopic, planktonic food that persisted through much of the late winter and early spring. So far this year more than 300 individual whales have been identified from documentary photos taken by the Center's team in Cape Cod waters- almost 3/4 of the entire population of North Atlantic right whales, and one of the greatest concentrations of right whales seen in any one habitat in recent times anywhere along the Atlantic coast. The extraordinary number of whales and their association with the plankton productivity of the bay were the subject of two technical papers given by PCCS staff at the November 2011 meeting of the North Atlantic Right Whale Consortium in New Bedford, Massachusetts.



*Right whales sub-surface feeding in Cape Cod Bay. Image taken under NOAA Fisheries permit 633-1763, under the authority of the U.S. Endangered Species and Marine Mammal Protection Acts.*

## Seal Studies

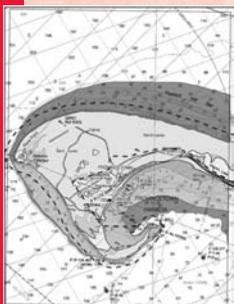
Lisa Sette, leader of the Center's seal program, and Owen Nichols, director of the PCCS Marine Fisheries Research program, brought together a diverse group of fishermen, community members, scientists, and resource managers to address the increasing frequency of interactions between seals and fisheries. Their efforts culminated in a one-day workshop, "Gulf of Maine Seals: Fisheries Interactions and Integrated Research" hosted by the Center and co-sponsored by the Woods Hole Oceanographic Institution's Marine Mammal Center.



*Gray Seals hauled out at Chatham Harbor. Image by PCCS under LOC No. 14903.*

## Marine Geology

The department of Marine Geology continues to break new ground in the field of shallow water seafloor mapping. This year, director Mark Borrelli secured a STATEMAP grant from the United States Geological Survey (USGS) to produce a seamless onshore-offshore map of the Provincetown coastline out to a depth of 20 meters (approximately 65 feet), and has been collaborating with Center staff to examine the distribution of eelgrass beds—those underwater meadows that are vital to the health of the coastal ecosystem. Graham Giese, director of the Land-Sea Interaction program, focused on a comparison of the geomorphology of the present day shoreline of the Outer Cape with that recorded by Henry Marindin in the late-1880s. The analysis will determine the direction and volume of sediment erosion, transportation and deposition on our beaches, bluffs and dunes; these data will be utilized in the assessment of present and future threats to existing coastal facilities as well as the suitability of specific coastal locations for future infrastructure.



*Map of the Provincetown Quadrangle. Areas of the coastline to be surveyed during by the seafloor mapping team are shown in gray.*

# PROVINCETOWN CENTER FOR COASTAL STUDIES, 1976–2011



*Barbara Mayo leads a coastal marine ecology walk circa 1978.*

*It's hard to believe that we're approaching the end of the Provincetown Center for Coastal Studies' 35th Anniversary year. What a time we've had: wine tastings and whale watches; boat races and beach walks; gala dinners and glowing speeches; each one a testament to your affection and appreciation for our founders – Graham Giese, Barbara Mayo and Charles "Stormy" Mayo – and their legacy. Here are a few of our favorite images of Graham, Stormy and Barbara from the PCCS archives. Enjoy!*



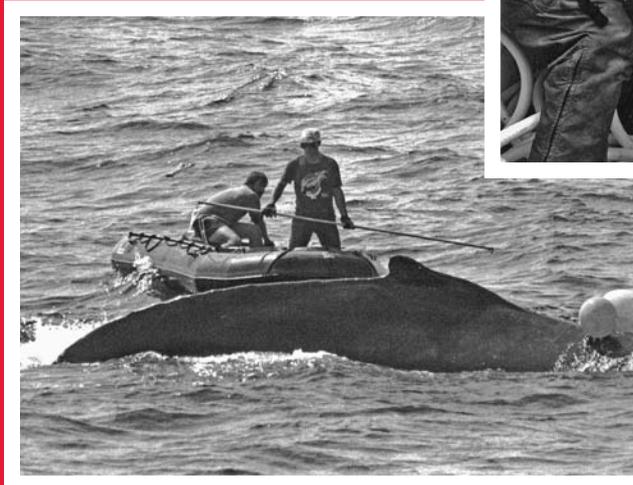
*Graham Giese*



*A summer beach walk with Graham Giese.*



*Charles "Stormy" Mayo samples the waters of Cape Cod Bay during a right whale habitat cruise.*



*Stormy Mayo and Mark Gilmore work to disentangle the humpback whale "Mallard" in 1990.*

# Thank you!

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*Wine and Whales at Truro Vineyards of Cape Cod. Music and laughter accompanied the launch of two new Truro Vineyard wines, sales of which benefit the Center.*

*State Representative Sarah Peake and State Senator Dan Wolf present citations to Stormy and Graham at the 35th Anniversary Gala. Center President Rich Delaney is at left.*



*Charlie Westcott, one of the unofficial Founders of the Center and its volunteer business manager for thirty years, accepts a round of applause at the Gala.*



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