



Provincetown Center for Coastal Studies
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COASTWATCH

Provincetown Center for Coastal Studies • Massachusetts • 2007 • Volume 31 Issue 3

CENTERED PEOPLE

Many thanks to all of our Centered people, including you, our readers and supporters!

The Center's community is made up of many kinds of individuals: its members and donors, staff, board of directors, townspeople, volunteers and collaborators. In that spirit of community, this new column aims to recognize the accomplishments, discoveries, gifts and contributions of these Centered people. We deeply appreciate all of them.

Recent leadership gifts have been made by:

- Bayard and John Cobb, Mary and Steven Gulrich, David Hoffenberg, Laurence Rockefeller, Bill and Mia Rossiter, and Seamen's Long Point Charitable Foundation (operating support).
- Beneficia Foundation and Cetacean Society International (humpback program).
- Wendy Alexander and Linda Rosenblatt, Kingman Yacht Center, Elizabeth and Milt Levy, Marshall Frankel Foundation, Seamen's Long Point Charitable Foundation, Jim and Mary Sexton, Wendy Shadwell, Nicholas Skinner, and Gregory Triandis and Sheila Murphy (Cape Cod Bay program)
- Bill and Lesley Doyle (Whale Rescue Fund).

The Center's MassSail at-sea education program and its director both won major educational awards this year. Joanne Jarzobski, director of marine education, appeared at the State House in Boston where the Executive Office of Environmental Affairs and the Massachusetts Environmental Trust awarded MassSail with the Secretary's Award for Excellence in Environmental Education. Jarzobski also personally received an award from the Massachusetts Marine Educators (MME) for "outstanding effort and distinguished performance in the teaching of marine science," which "recognizes a person's ability to foster interest, appreciation, and love of the marine environment in the classroom setting."

Volunteers who conducted water quality sampling this past summer around Cape Cod Bay are: Regina Asmutis-Silvia, Theresa Barbo, Carol "Krill" Carson, Bill Edwards, Joann Figueras, Scott and Heather Grenon, Keith Harrison, Nina Kaars, Valerie Magor, Diana Stinson, and Betty and Phil Suraci.

Finally, we wish to correct a misprint in the Honor Roll of contributors to the Hiebert Marine Lab (Vol. 31, Iss. 2) by recognizing Jaye R. and Walter Phillips as Donors. ■

Sanctuary faces public awareness challenge, *continued from page 4*

cod, haddock and other groundfish that placed New England at the apex of commercial fishing were still bountiful.

But there are positive signs that awareness happens. In July the International Maritime Organization approved the movement of the Boston shipping lanes out of an area where there is a high concentration of whales, to help reduce the risk of serious injury or mortality. And in August, as part of a new public initiative, veteran Cape environmentalist Dick Wheeler and Ben Cowie-

Haskell, the Sanctuary's assistant superintendent, paddled their kayaks for three days in a partial circumnavigation of the Sanctuary from Provincetown to Gloucester dubbed the "Aukathon." PCCS provided support for the event by escorting the paddlers part-way through their journey in *R/V Alert*.

To learn more, visit the sanctuary's website at: <http://stellwagen.noaa.gov/> and support PCCS's ongoing efforts to preserve and protect this priceless public trust. ■





LETTER FROM THE DIRECTOR

Greetings from the new Executive Director of the Provincetown Center for Coastal Studies. Although my tenure may be nascent, my affiliation with this outstanding organization has a long history, beginning with my enrollment in the Center's first field ecology courses—taught by its founders Drs. Mayo, Mayo and Giese, followed by various stints on the Board of Directors over the last couple of decades. It is a true privilege to now serve as the Executive Director.

Since its inception, the solid underpinnings of the Center—the rigorous standards that guide our scientific research, the dedication of a talented staff and the loyal support of many of you, our long term and recent members—have not changed. However, other external conditions have changed on a dramatic scale, ranging from global climate changes to a doubling of Cape Cod's population. We are all well aware of the real and potential impacts that these changes are having on our marine and coastal resources.

These challenges call for, and in fact, demand equally dramatic and powerful responses from all of us who care about the health and future of our oceans and our communities. I hope that you agree and see the benefits of channeling your efforts, energy and support through the Center to continue the battle for the survival of the oceans.

In that regard, and to position ourselves to be most effective in the years ahead, I want to share three principles that we have adopted to guide our work. First, we need to broaden the context for our research and education programs to consider not just marine mammals, but the larger ecosystem within which they exist. We have an immediate opportunity to provide that ecosystem framework by supporting the development of a Comprehensive Ocean Management Plan for Massachusetts, and beyond.

We also need to renew old alliances and seek new collaborations with traditional and non-traditional partners in all our ventures for there are far too few of us and the challenges are huge. The Cape Cod Bay Council and the Cape Cod Bay Monitoring Program, each created by the Center, provide wonderful opportunities for residents and communities that surround Cape Cod Bay to work together for its preservation and sustainable use.

Finally, we need to become active members of our immediate communities—here in Provincetown, around Cape Cod, or wherever we may live. We take the “think globally, act locally” approach seriously. I envision the Center and its new Marine Lab as a “marine community center” where people can gather, learn about, and take steps to achieve the shared mission of “protecting and conserving our rich heritage of marine resources.” Please call, write, come by to visit, or better still, volunteer your services as an active member of this great institution. And if you live far away, your feedback is just as important—please let me know your concerns and ideas—and by all means, stop by when you are next in town!

Thank you for listening and for your abiding interest in our work. I hope I can depend on you to respond to my year-end letter in the mail next month, which asks for your continuing support to ensure sustainable ocean management becomes a reality before it's too late.

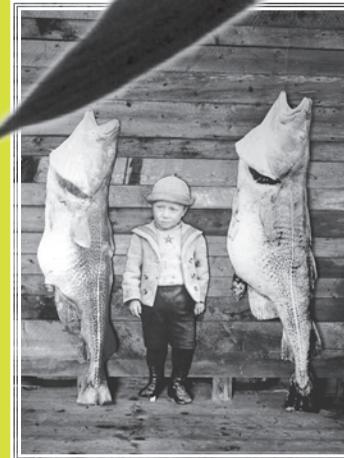
COASTWATCH

is a publication of the Provincetown Center for Coastal Studies, 115 Bradford Street Provincetown, MA 02657 Tel. (508) 487-3622 Fax: (508) 487-4495 E-mail: ccs@coastalstudies.org www.coastalstudies.org Member Campus Provincetown

COVER PHOTO: Image courtesy UNH. Activities conducted with agreement with NOAA Fisheries under the authority of the US Endangered Species Act.

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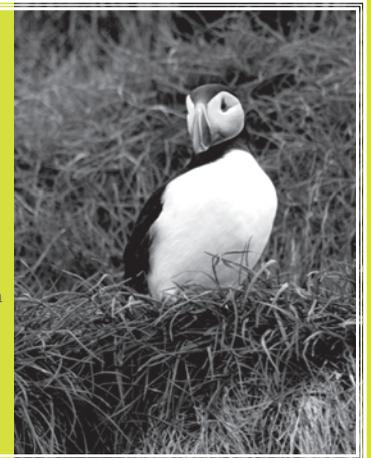
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SHARE THE WONDER!

PCCS is excited to announce its first adventure cruise aboard Lindblad Expedition's newest ship, the *National Geographic Explorer*, as part of its inaugural voyage early next fall through the Canadian Maritimes and around the Gulf of Maine. For more information e-mail expeditions@coastalstudies.org.

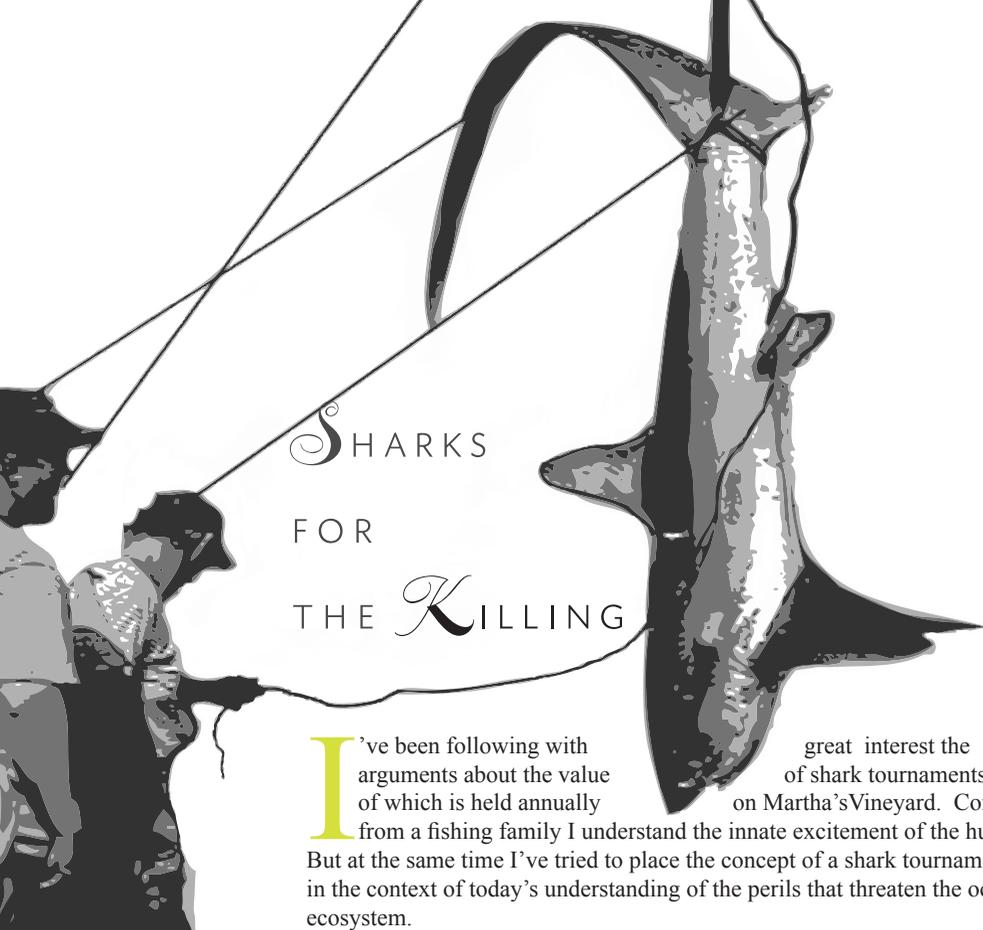
Photos: Lisa Sette



Right: To illustrate the perspective of just how much line was removed from Sigma (see page 3), Scott Landry created a composite graphic of the whale's outline superimposed on the dock where the retrieved line was laid out.



It is with great sadness that we report the death of Phillip Kibler in a plane crash on October 7 in the Cascade Mountains. Phil spent five seasons as an observer and pilot with the Center's Right Whale Aerial Survey Program and was a microbiologist with a Ph.D. from Buffalo State University. Phil was universally admired for his skill as an aviator, his dedication to his work, his teasing wit, his beautiful grin, and his great heart. He will be terribly missed by everyone at the Center and throughout the world of right whale studies.



SHARKS FOR THE KILLING

I've been following with arguments about the value of which is held annually from a fishing family I understand the innate excitement of the hunt. But at the same time I've tried to place the concept of a shark tournament in the context of today's understanding of the perils that threaten the ocean ecosystem.

We know that sharks are remarkable. Though the larger species, the subjects of tournament hunts, are poorly understood, we also know that sharks have developed a complex sensory life adapted during many millions of years of evolution to fit perfectly into the many roles that they play in the ocean's vitality. Scientists have also come to understand that they are intelligent, problem-solving animals with an apparently complex social behavior. Although much of the life of the great sharks may be shrouded in mystery, the rich details of their lives remaining hidden, we do know with certainty that their numbers have been declining precipitously, that the population of most of the large predatory species have over the last 15 years been reduced by more than 50 percent. It appears that the future of sharks hangs in a delicate balance and, like the cascade of other environmental issues, it's becoming ever more obvious that human activities such as wasteful fishing practices, will determine their future.

Both because shark fins are considered a delicacy in some parts of the world and because a remarkable and largely inaccurate lore fuels a worldwide enthusiasm for their killing, shark populations have been under severe pressure for the first time in their more than 300 million years of existence. Between the increased killing of sharks, estimated to surpass 70,000 per year worldwide, and the fact that most sharks produce very small numbers of pups (the name given to young sharks) after many years of maturation, the balance for success of their species has tilted against them and the future of some is in doubt. Sharks are at once magnificent, mysterious, and feared, yet they also suffer from a bum rap and the constraints of their biology. It's a recipe for disaster.

At this moment, when the ocean's ecosystem is under such threat, when human activities have compromised the measureless productivity of the sea, the future of the oceans depends more than ever upon our sensitive and informed stewardship. Though I grew up in a fishing family, I believe that the concept of a shark tournament aimed at killing the large and threatened species for sport is a luxury that all of us who truly wish to protect the ocean can ill afford. In a different age we hunted gorillas and tigers and whales and too late heeded the warnings. Clearly an environmental alarm has again sounded, this time for the sharks – will we hear it and respond?

great interest the of shark tournaments, one on Martha's Vineyard. Coming

Sea Turtles in Trouble

The Provincetown Center for Coastal Studies, world-renowned for its whale disentanglement program, has in recent years applied its expertise in this field to the problem of sea turtle entanglement. Turtle disentanglement in Massachusetts has been ongoing for years, and was initially carried out by Wellfleet Bay Massachusetts Audubon, under the direction of Bob Prescott, with tools provided by the Center's Large Whale Disentanglement Program. In 2005, the National Oceanic and Atmospheric Administration (NOAA) asked the Center to formally manage the Turtle Disentanglement Network, in an effort to create turtle disentanglement protocols, based on techniques developed for large whale disentanglement; and provide standardized training for local, state, and federal responders and to increase public awareness regarding turtle entanglements and population recovery issues which continue to threaten the various species.

Massachusetts waters are home to five of the world's seven species of sea turtles; the endangered green and loggerhead and the critically endangered Kemp's ridley, hawksbill, and leatherback; the latter weighing in as the largest living reptile in the world, ranging from four to six-and-one-half feet in length. The Center receives more reports of entangled leatherbacks than any other sea turtle. While these entanglements might occur anywhere along the east coast, Massachusetts receives the greatest number of entanglement reports in the entire Northeast.

Leatherbacks are considered an open ocean species, with primary nesting beaches along the Central American coast, the islands of the Caribbean, northern South America, and smaller nesting colonies found in southeast Florida. When water temperatures warm in the summer, leatherbacks can be found as far north as the Canadian Maritimes. As part of the Center's collaborations through the turtle disentanglement program, researchers are trying to determine if and when some leatherbacks feed near-shore. Also, data collected during the disentanglement of male leatherbacks is extremely important, as males never again return to shore throughout their lives after leaving the beach as hatchlings. The majority of a leatherback turtle's diet consists of jellyfish and other soft bodied prey, such as salps (small planktonic filter feeders). When jellyfish appear off of the coast of Cape Cod, Brian Sharp, Massachusetts Sea Turtle Disentanglement Coordinator, knows to expect reports of leatherbacks shortly thereafter.

Sharp recently spoke about turtle disentanglement, ongoing research, and the urgency of this work:

Q: Do you collaborate with any public or private agencies or organizations?

The Center has trained over 90 turtle disentanglement responders throughout Massachusetts (mostly concentrated in Southeastern Massachusetts because most of the entanglement reports come from this area) representing local, state, and federal agencies. We also work in collaboration with the University of



New Hampshire (UNH) in a tagging project monitoring leatherback turtles post-release. Another collaboration involves the New England Aquarium (NEAq), with whom we are working on a biological sampling project to better determine the health of entangled leatherbacks.

Q: Are we learning valuable information regarding migratory patterns, feeding and or recurring entanglement locations?

Our collaborations between NEAq and UNH have provided valuable data. Within the past two years, we have learned that turtles are incredibly mobile, even when dragging entangling gear. Ongoing collaborations with our research partners will provide information regarding health parameters and movements throughout Massachusetts waters and perhaps beyond. Every year we learn more from entangled leatherbacks and we continue to come up with more questions that need answers in an effort to assist the species with recovery.

Q: Are entanglements occurring in particular areas?

In Massachusetts almost all reports occur in the southeastern part of the state. No one knows why this is, but it is part of our ongoing research.

Q: How many entanglements have you responded to?

In 2007 alone, the Massachusetts Sea Turtle Disentanglement Network has responded to twelve entanglement reports. In nine of these cases the turtle was located and able to be disentangled. A member of the Center's turtle disentanglement program was present for all of these cases.

Q: What is your disentanglement success rate?

If the person reporting the entangled turtle stands-by the turtle until a team arrives, our success rate is 100 percent. If the reporting individual does not stand-by, our likelihood of relocating and disentangling the turtle decreases dramatically to about 33 percent.

Q: What message do you want to send the world about the turtle disentanglement program?

Five of seven known species of sea turtles occupy Massachusetts waters and very little is known about these endangered animals. Entanglement is only one aspect that affects population recovery. We work closely with the fishing community and government agencies to learn more about entanglements and the issues that affect fishing communities in an effort to determine plausible solutions. If we learn where and how entanglements occur and possibly answer the question as to why, we may be able to reduce the likelihood that a turtle will encounter and become entangled in, fishing gear. ■

SEASON OF THE HUMPBACK WHALE

Lisa Sette, a former PCCS naturalist who left to work as a naturalist in Alaska, the Arctic, the Antarctic and warmer climes, returned to Provincetown and PCCS this summer. Sette worked for Dr. Jooke Robbins, Senior Scientist on the annual humpback cruise through the Gulf of Maine.

Coming back to Cape Cod was, for Sette, a great opportunity to revisit the animals, communities, and ecosystems that inspired her to become a naturalist and biologist. Sette says, “In 1981 I went on my first whale watch and was lucky enough to have Stormy Mayo as my naturalist. My reaction was, ‘I want to do that for a living!’ Twenty-six years later I was given the fantastic opportunity to be afloat with Dr. Robbins and David [Mattila, former Center scientist and now the Science and Rescue Coordinator of the Hawaiian Islands Humpback Whale National Marine Sanctuary]. It was a profound experience, since it was their research that helped to build my foundation of knowledge on whales.”

Robbins, Mattila and Sette were joined on this year’s cruise by Omar Reynoso, currently an undergrad at the School of Biology of the Autonomous University of Santo Domingo in the Dominican Republic. Omar’s internship was also one of the first in support of a new Sister Sanctuary agreement between the Stellwagen Bank National Marine Sanctuary and the Marine Mammal Sanctuary of the Dominican Republic. Also aboard was Joel Barkin, a former New Englander who spends his winters studying humpback whales in Hawaii.

The object of the annual cruise is to record vital population data on as many individual humpback whales as possible. Robbins’ and Mattila’s years of experience in the Gulf of Maine means that they don’t go out blind; there are locations, “areas where we know there is food, and where whales are likely to appear,” according to Sette, that the research team targets. The cruise covers all such possible habitats from Nantucket to Nova Scotia and east to Georges Bank.

A typical cruise day means “you get up with the sun,” according to Sette, and set off for the next favorite feeding area of humpback whales. When a blow is spotted, the *R/V Shearwater* steams in that direction and the fun begins.

First, the team attempts to identify the individual whale based on its distinctive fluke pattern and dorsal fin shape. Matches are generally made by eye, but always confirmed against the PCCS Gulf of Maine humpback catalog, which is kept aboard the vessel in both digital and hard copy format. On this cruise, several individuals were encountered that had not yet been recorded.



Humpback studies and rescue crew aboard R/V Ibis, from left to right on deck: Joel Barkin, Omar Reynoso, Lisa Sette; and on the bridge, Brian Sharp and Scott Landry. Not pictured: Jooke Robbins and David Mattila.

Depending upon data already recorded, if it exists, Robbins assesses the situation and proceeds with other data acquisition techniques—including, but not limited to, tissue sampling for genetics and other types of laboratory analyses. Tail stock photographs are obtained from all individuals to record any evidence of scarring from entanglements. Observations are also made of the whale’s physical condition, whether or not a calf is present, behavior and associations with other whales in the area. “It sounds so simple, but it’s really quite elegant. It is a cumulative process and can build up a great deal of information over time,” says Sette.

On August 23rd, the research cruise became a rescue event when *Shearwater* encountered a humpback whale known as Sigma west of Brier Island, Nova Scotia. Sigma had over 150 feet of double lines trailing from each side of his mouth. The Canadian Department of Fisheries and Oceans (DFO) granted permission for a disentanglement, so the team made a strategic placement of buoys and made a single cut on one of the lines. Sigma then made a number of dives and the gear came free -- a happy outcome! Lastly, all 600 feet of the entangling rope and buoys were removed for research purposes.

“To be back here at PCCS and to be able to participate in the great work that’s going on here—it’s a dream,” says Sette. “Cape Cod and the Gulf of Maine are phenomenal places. Jooke and David are doing such important science that will help our long-term understanding about these whales and their environment. To be able to assist with their work and to also participate in a rescue--something that has an immediate positive effect on a whale--well, we were fortunate.” ■

Salt & her kin turn to snowbirds in the fall

The major impetus behind the formation of a “sister sanctuary” agreement between the Stellwagen Bank National Marine Sanctuary (SBNMS) and the Marine Mammal Sanctuary of the Dominican Republic (see Coastwatch 31:1) was to improve and better coordinate research and conservation efforts for the nearly 1,000 endangered humpback whales that migrate each year between the Caribbean and the North Atlantic.

There are four “feeding stocks” of humpback whales in the North Atlantic, known by their feeding grounds: Gulf of Maine/Nova Scotia, Newfoundland/Labrador, Iceland/Norway, and Greenland. When in colder waters, each feeding stock stays separate. But it has been known for some time that during the winter months, humpbacks from all the populations head south to mate and calve in various shared breeding grounds throughout the Antilles. The Dominican Republic has the largest breeding population.

Salt is one of the most famous humpback whales in the world, and one of the most beloved of Stellwagen Bank Sanctuary whale watchers. She is in fact known as the “Grand Dame of Stellwagen Bank” because she has been seen on the bank in all but one summer since 1976. Salt is also the first Gulf of Maine humpback whale to have been seen by researchers on Silver Bank off the Dominican Republic, which lies within its Marine Mammal Sanctuary. She is one of only a few Gulf of Maine whales to have been seen by researchers in the Antilles in three separate years, although she probably goes there every winter. Her most recent Silver Bank sighting was in 2005 when she conceived her most recent calf, Soya. Her son, Crystal, and grand-calf, Etch-a-sketch, have also been seen by researchers in the West Indies.

Sanctuary faces public awareness challenge

Gerry E. Studds-Stellwagen Bank National Marine Sanctuary (SBNMS) exists in large part due to the actions of concerned scientists, politicians and ordinary folk who began to question the seemingly limitless exploitation of the nation’s ocean environment about 35 years ago.

Nominated by the Provincetown Center for Coastal Studies in 1982 for sanctuary status, the SBNMS became one of only thirteen such sanctuaries in the country in 1992.

But fifteen years after its official designation, the Sanctuary, which encompasses approximately 842 square miles along the eastern edge of Massachusetts Bay, is still struggling to fulfill its mission and faces the almost overwhelming challenge of creating public commitment to a national park located miles from shore, beneath the surface of the sea, with no boundaries visible to the naked eye.

Earlier this year, SBNMS issued a condition report on its overall health. The health of marine life, the damaging effects of fishing gear, and ship collisions with whales were topics



Salt is the first humpback whale to have been given a name. Hers was given by the late Aaron Avellar, whose family started the business of whale watching on the east coast of North America. These days, humpbacks are given names based on the unique pattern on the underside of their tails. However, Salt’s name was inspired by the thick white scarring on her dorsal fin that made it seem like it was encrusted by salt.

Salt has given birth to at least ten calves in her life. Her most recent one was born when Salt was at least 30 years old. Thalassa is Salt’s oldest daughter, born in 1985. She is presently the only daughter of Salt that is reproductively active, although Etch-a-sketch is now of reproductive age. Thalassa gave birth to Salt’s first grand-calf, Skeeter, in 1992. Since then, she has had four other calves. Her 2003 daughter, Yosemite, was named from an entry in a naming contest sponsored by the SBNMS. ■

If you travel to the Caribbean and photograph any humpback whales, we would like to see your pictures! Please contact jr Robbins@coastalstudies.org. Sighting reports can help researchers learn more about the different humpback whale stocks that visit these islands every winter. And perhaps a Coastwatch reader will provide a match! This article was adapted from one appearing in Caribbean Compass in 2006.

of greatest concern. It became clear there is still much to do before this precious ecosystem can be considered a true sanctuary.

But national marine sanctuaries, like their cousins the national parks, are part of the public trust, and receive attention and care when the public is ready to act on their behalf. In a Boston Globe article earlier this year, Craig McDonald, the superintendent of the Sanctuary since 2000, said, “If a broader public loved this place and wanted to protect it, we may well see the priorities would be placed differently.”

Part of the awareness problem can be attributed to age. When the original legislation was enacted in 1972, shipping, fishing and other marine industries were not considered overly-threatening to the abundance of sea life that made the Sanctuary’s underwater plateau its home. Unforeseen were the effects of commercial overfishing, or the incidence of container ships and tankers striking and killing whales. The study of whales on Stellwagen Bank was in its infancy. The