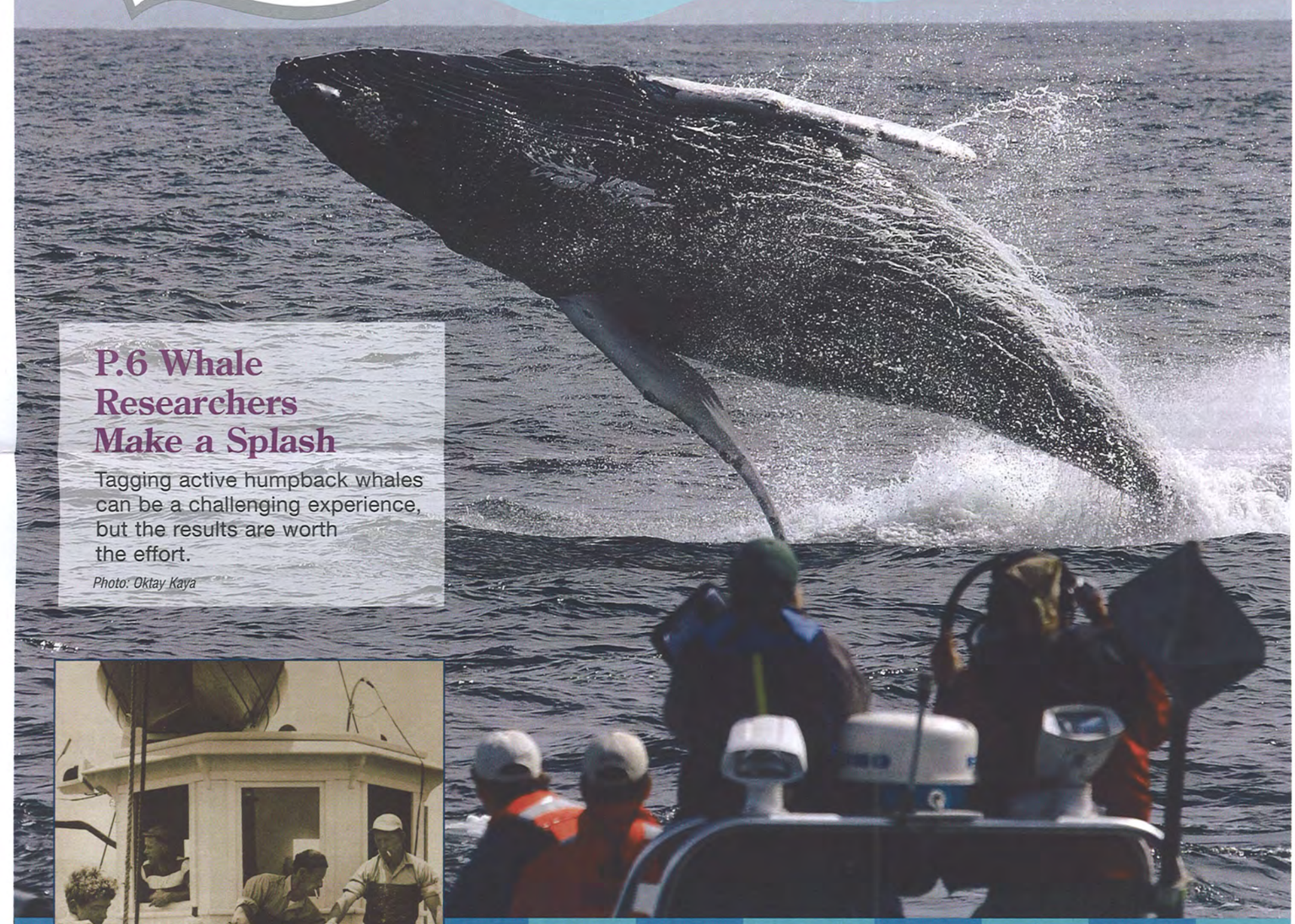
News from *Gerry E. Studds* Stellwagen Bank National Marine Sanctuary

Vol. 14
No. 1
2009

Stellwagen Soundings



P.6 Whale Researchers Make a Splash

Tagging active humpback whales can be a challenging experience, but the results are worth the effort.

Photo: Oktay Kaya

Photo: Skip DeBrusk

P.5 Tales from the Bank: Coming of Age on the Bank

Stellwagen Bank is the setting for this coming-of-age tale on the open ocean.

Photo: SBNMS

P.4 Taking the Plunge... Diving in the Sanctuary

Underwater, the sanctuary comes alive with a diversity of habitats and species.

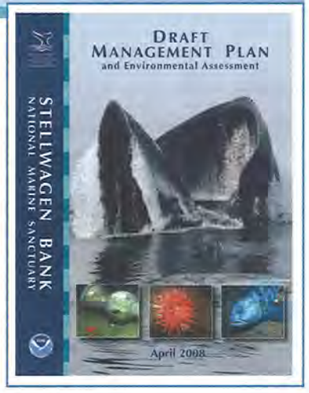
Photo: SBNMS

P.8 Humpbacks Voyage Between Sister Sanctuaries

Stellwagen Bank and the Dominican Republic work together for whale conservation.

Currents

Management Plan Revisions Underway



Stellwagen Bank National Marine Sanctuary's revisions to its management plan are well underway, with final release tentatively scheduled for the end of the year. The draft plan, which was available for public comment throughout the 2008 summer season, garnered much interest. More than 25,000 comments were received at the sanctuary during the open comment period, which stretched from May 6 to October 3, 2008. Comments came from all 50 states, two territories (Puerto Rico and Virgin Islands) and 48 foreign nations. To view the submitted comments, visit the sanctuary's management plan Web page at http://stellwagen.noaa.gov/management/mpr/draftplan.html.

The Tall Ships Are Coming!

That's right. As of this newsletter's publication date, the 2009 Sail Boston event was scheduled for July 8-12, with some 50 tall ships planning on visiting Boston. Almost all of these vessels will be transiting through the sanctuary on their way to and from Boston Harbor. Sail Boston is an official port of the Tall Ships Atlantic Challenge 2009. This trans-Atlantic regatta starts in Vigo, Spain, races to Charleston, S.C., then up to Boston. From Boston, the participating tall ships will head north to Halifax, Nova Scotia, Canada and then race back across the North Atlantic to Belfast, Northern Ireland. The sanctuary will provide information to tall ship captains about safety issues in the sanctuary, including sailing in whale feeding grounds. In addition, the national marine sanctuaries will host an exhibit in the education tent.

Marine Art Contest

Goosefish Art by Mark S. , Grade 2, South Shore Charter Public School, Norwell Mass,

The 2009 Marine Art Contest for grades K-12, sponsored by the Massachusetts Marine Educators, attracted the largest number of entries ever with more than 400 entries. The 2009 theme was: "Amazing Ocean Creatures of Stellwagen Bank National Marine Sanctuary and the Gulf of Maine." Co-sponsors of the competition were Stellwagen Bank National Marine Sanctuary, New England Aquarium, Whale and Dolphin Conservation Society, Stellwagen Alive, and Blue Bunny Bookstore. Prizes included cash awards, gift certificates, passes to the aquarium and Harvard Museum of Natural History and printed certificates. Contest winners are posted on the sanctuary's Web site at http://stellwagen.noaa.gov/-pgallery/2009contest.html.

Sanctuary Video Wins Telly Awards

"Stellwagen Bank: A Sanctuary Worth Protecting," a five-minute video introducing the sanctuary, its resources and resource protection issues, won three bronze Telly Awards in the 2008 competition. The Telly Awards honor excellence in local, regional and cable TV commercials, non-broadcast video and TV shows. The Telly is the largest and most prestigious award of its kind, receiving entries from all 50 states and 30 countries around the world. The non-broadcast categories in which the Stellwagen Bank sanctuary won bronze awards were: Education (for academic use); Nature/Wildlife; and Social Issues. The sanctuary worked with Creative Resources Group of Plymouth, Mass. to produce the segment. To view the video, visit the sanctuary Web site at http://stellwagen.noaa.gov and click on the TV screen on the left side of the home page. As this publication goes to press, the sanctuary was notified that the video had been selected as a finalist in the Blue Ocean Film Festival in Savannah, Georgia.

Foundation and Friends Updates

Stellwagen Sweep - a project of Stellwagen Alive

Stellwagen Alive, Friends of our National Marine Sanctuary, has received funding from the National Fish and Wildlife Foundation to help reduce the amount of marine debris in the sanctuary. This cooperative two-year effort includes the commercial fishing community, the Gloucester Harbormaster and Department of Public Works, and the Mass. Division of Marine Fisheries. In a series of multi-day events, fishing captains in specially prepared vessels will locate and hoist harmful debris from the ocean floor. Stellwagen Alive is also partnering with various waste disposal firms to convert the harmful gear into useful energy that will supplement power generation across New England. In addition, fishermen are encouraged to drop off old, unusable gear at the collection sites during the Stellwagen Sweep events and at specially designated dumpsters. Visit the Stellwagen Alive Web site to find out more at http://www.stellwagenalive.org

National Marine Sanctuary Foundation and the Gift of the Ocean

The National Marine Sanctuary Foundation is offering a unique eco-friendly gift giving opportunity in partnership with OceansForMe.com, the world's first and only ocean registry that allows users to actually purchase their own virtual ocean parcel, identifiable by GPS coordinates. Participants can explore their ocean parcels on an interactive map. For every parcel registered within a national marine sanctuary, OceansForMe.com will donate a portion of the gross receipts to the sanctuary foundation to support ongoing marine conservation efforts focused on education and research programs. Stellwagen Bank National Marine Sanctuary boundary coordinates can be found in Appendix B of the draft management plan accessible from the sanctuary's Web site at http://stellwagen.noaa.gov. For more information about the National Marine Sanctuary Foundation, visit their Web site at http://www.nmsfocean.org.

Cool Web Sites

Stellwagen Bank National Marine Sanctuary
http://stellwagen.noaa.gov

This Web site contains information about the sanctuary, a gallery of videos showcasing sanctuary fish and other living and cultural resources, sanctuary images, including wallpapers for your computer, and abstracts from on-going research projects.

Stellwagen Bank Sanctuary YouTube Webpage
http://www.youtube.com/user/SBNMS

Discover the underwater world of the sanctuary without getting wet. The site contains underwater videos ranging from shipwrecks to unusual and colorful marine animals that inhabit the sanctuary, along with above-water videos of whales and dolphins.

NOAA's National Marine Sanctuaries
http://sanctuaries.noaa.gov

Discover the marine life and extraordinary habitats that make up your nation's marine sanctuaries and marine national monument, along with continuing efforts to conserve these ocean and coastal treasures. Participate in virtual expeditions to these marine protected areas.

Right Whale Listening Network
http://listenforwhales.org

New smart buoys listen for North Atlantic right whale calls all day, every day. When whales are detected in the shipping lanes to Boston and Cape Cod Bay, alerts can be sent to ships to slow down to reduce collisions. This site, developed by the Cornell University Bioacoustics Research Program, provides an updated map indicating recent right whale call detections, videos about right whales, and the sound of the right whale "upcall."

Encyclopedia of the Sanctuaries
http://marinelife.noaa.gov

The Encyclopedia of the Sanctuaries, a review of resources within our national marine sanctuaries, now has a Stellwagen Bank National Marine Sanctuary component. Explore information, photographs and videos for 100+ species in the sanctuary. Visit the nation's other marine sanctuaries in the Atlantic and Pacific Oceans, the Gulf of Mexico and the Great Lakes.

National Marine Sanctuaries Media Library
http://marinelife.noaa.gov

This online vault contains a comprehensive collection of video clips and high-resolution still images from America's underwater treasures – our national marine sanctuaries and marine national monument. Undertake quick searches by sanctuary, keywords, or categories, such as maritime heritage, scenic beauty, marine mammals, birds, and fish.

2009: Year of Science - NOAA Education Web Site
http://oceanservice.noaa.gov/education/yos/

NOAA joins hundreds of organizations and agencies in a national, year-long celebration of science to make science more accessible, personally meaningful and locally relevant. This Web site provides links to multimedia selections, informal activities, lesson plans and curricula for grades 3-12.

NOAA's Office of Ocean Exploration
http://oceanexplorer.noaa.gov

This site contains over 240 lesson plans for educators and links to information about expeditions to marine sites around the world, including narwhals in Greenland, the submarine ring of fire, Celebes Sea near the Philippine Islands, and the 2003 expedition to the steamship *Portland* shipwreck in the Stellwagen Bank sanctuary.

National Ocean Service Education
http://oceanservice.noaa.gov/education/welcome.html

This site contains national standards-based activities for students in grades 3-5 and 6-12 on nautical charts, seafloor mapping, corals, currents, estuaries, geodesy, pollution, tides, oil spills and lionfish invasions.

NOAA's Fishwatch
http://www.nmfs.noaa.gov/fishwatch/

The Fishwatch Program from NOAA's National Marine Fisheries Service can help you make informed decisions about the seafood you eat by providing you with the most accurate and timely information available on the sustainability of U.S. seafood fisheries.

USGS Stellwagen Bank Project
http://woodshole.er.usgs.gov/project-pages/stellwagen/stellwagenbank.html

This Web site contains information about U.S. Geological Survey research and mapping in the Stellwagen Bank sanctuary region. Links to seafloor maps, fact sheets, photographs, posters and videos are provided. Images of representative geologic features on the sanctuary seafloor are posted and explained.

NOAA Dives into Ocean in Google Earth

Visitors to a new element of a popular online Earth exploration tool will discover an abundance of NOAA information and images during their journey. Google Earth recently unveiled Ocean in Google Earth, a new way for online explorers to dive into the ocean's depths. Virtually the entire ocean can be explored from a home computer, and users will benefit from extensive information supplied by NOAA.

NOAA contributed and will continue to provide a variety of data and imagery to the project. Some of the expeditions from the NOAA Office of Ocean Exploration and Research, such as a trip to the submerged wreck of the *Titanic*, and information and ocean current maps demonstrating marine debris movement from the NOAA Marine Debris Program are included. NOAA also provides data from NOAA's National Data Buoy Center and seabed maps of U.S. coastal waters.

Other NOAA contributions include information on marine protected areas including the 13 U.S. national marine sanctuaries, including Stellwagen Bank, and one marine national monument that are highlighted in detail via underwater video footage, high-resolution seabed maps, and photography.

The information on this Web site provides a good look at NOAA's ocean mission, marine science careers, and the myriad issues affecting our ocean. The Web site is located at http://earth.google.com/ocean.

Contact the sanctuary for information about receiving copies of our publications.

STELLWAGEN SOUNDINGS
Volume 14, Number 1, 2009

Sanctuary whale research photos have been taken under NOAA Fisheries Permits.

Editor: Anne I. Smrcina
Graphic Designer: Dennis Huston
Creative Resources Group
Contributors: Deborah Marx and Matthew Lawrence

Gerry E. Studds Stellwagen Bank National Marine Sanctuary
175 Edward Foster Road, Scituate, Massachusetts 02066
Telephone: 1-781-545-8026 Fax: 1-781-545-8036
General E-Mail: stellwagen@noaa.gov
Web Page: http://stellwagen.noaa.gov

Visitor Information

A Definitive Guide to Stellwagen Bank National Marine Sanctuary and the Surrounding Region

Species Spotter

White-sided dolphin Photo: Regina Asmutis-Silvia

Marine Mammals

The following species have been known to make appearances in sanctuary waters. Some are more regularly seen than others. All of these baleen whales, except the minke, are listed as endangered.

Baleen Whales

- ❑ Fin Whale
- ❑ Sei Whale
- ❑ Minke Whale
- ❑ Humpback Whale
- ❑ Northern Right Whale

Toothed Whales

- ❑ Harbor Porpoise
- ❑ Long-finned Pilot Whale
- ❑ Atlantic White-sided Dolphin
- ❑ Common Dolphin

Pinnipeds

- ❑ Harbor Seal
- ❑ Gray Seal

Fishes

Over 75 species of fish can be found in the sanctuary, but many are only found close to the seafloor. However, several species occasionally swim at or near the surface.

- ❑ Atlantic Bluefin Tuna
- ❑ Basking Shark
- ❑ Ocean Sunfish
- ❑ American Sand Lance

Sea Turtles

These reptiles are usually seen during the summer and early fall in the sanctuary, moving to warmer waters during the winter. If waters cool too soon or the turtles migrate too slowly they may become hypothermic. Cold-shocked turtles often wash up on Cape Cod beaches.

- ❑ Leatherback
- ❑ Loggerhead
- ❑ Kemp's Ridley

Leatherback Turtle Photo: NE Aquarium

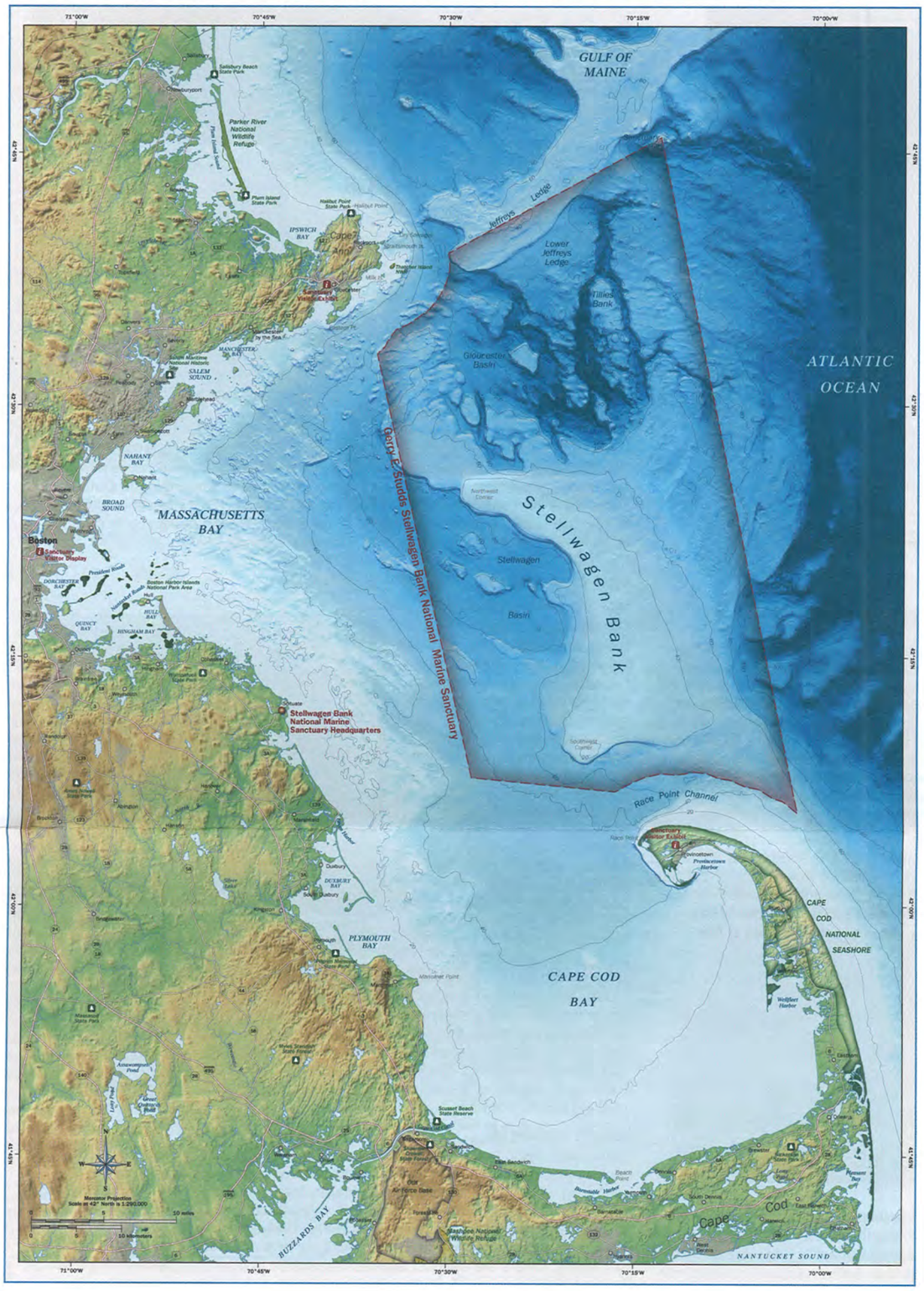
Seabirds

Numerous seabirds come to the sanctuary to feast on the rich supply of zooplankton and fish. Some visit Stellwagen Bank in the summer and head south in the winter months; others spend winters here and return to northern climes in the summer; and some use the area as a stopover point on their migrations. This list contains birds that might be encountered during the summer.

- ❑ Greater Shearwater
- ❑ Manx Shearwater
- ❑ Sooty Shearwater
- ❑ Leach's Storm Petrel
- ❑ Wilson's Storm Petrel
- ❑ Northern Gannet
- ❑ Red Phalarope
- ❑ Red-necked Phalarope
- ❑ Double-crested Cormorant
- ❑ Northern Fulmar
- ❑ Parasitic Jaeger
- ❑ Pomarine Jaeger
- ❑ Great Black-backed Gull
- ❑ Herring Gull
- ❑ Laughing Gull
- ❑ Ring-billed Gull
- ❑ Sabine's Gull
- ❑ Common Tern
- ❑ Least Tern
- ❑ Roseate Tern

Northern Gannet Photo: Regina Asmutis-Silvia, WDCS

Greater Shearwaters Photo: Dann Blackwood, USGS



Sanctuary Exhibits

Gloucester Maritime Heritage Center (Harbor Loop, Gloucester, MA)

An information-packed exhibit focuses on cultural and natural resources. Components include touchscreen kiosks, video theaters and a three-dimensional topographical model of the sanctuary seafloor. Open daily late spring to late fall.
Call 978-281-0470.

New England Aquarium (Central Wharf, Boston)

The Gulf of Maine gallery includes two special cold water tanks that highlight important sanctuary habitats – a deep boulder reef and a sandy bank. Associated exhibits explain resource protection issues that affect the sanctuary. There is a fee for admission. Open year-round. Call 617-973-5200 for more info.

Scituate Maritime and Irish Mossing Museum (The Driftway, Scituate, MA)

The museum features an excellent exhibit on the Portland Gale of 1898, as well as a special section on shipwrecks in the sanctuary. There is an admission charge for this museum, which is open only on Sundays, 1:00 to 4:00 p.m. Call 781-545-5565.

Woods Hole Aquarium (Water St., Woods Hole, MA)

The aquarium, run by NOAA Fisheries, showcases Stellwagen Bank sanctuary species in several tanks. Cod, haddock, sea raven, ocean pout, wolffish and lobster are some of the animals on display. The aquarium is free and open Tuesday through Saturday, 11:00 a.m. to 4:00 p.m. in the summer. Call 508-495-2001.

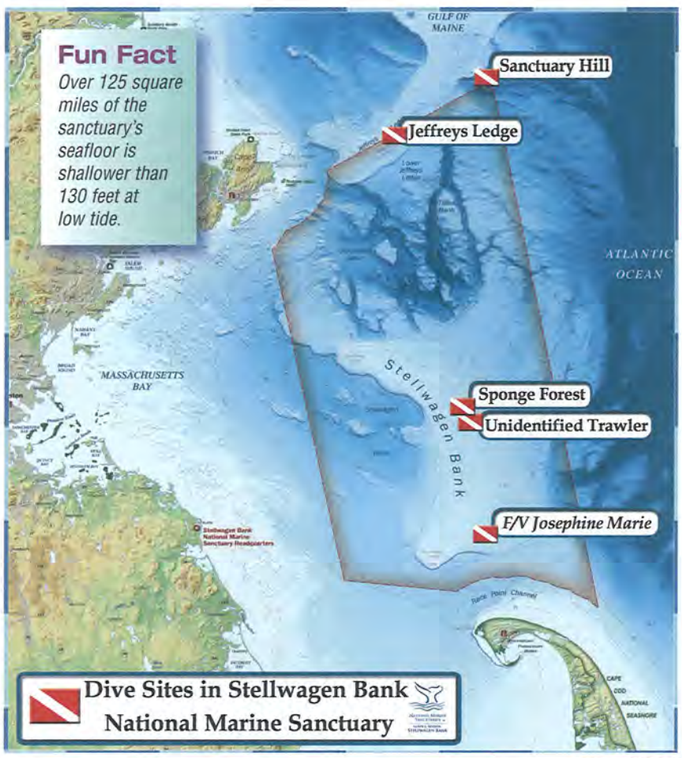
Cape Cod National Seashore (Province Lands Visitor Center, Provincetown, MA)

Exhibit panels in the auditorium portray the sanctuary's food web and biodiversity. The visitor center is open seven days a week during the summer. View sanctuary waters from the upper level deck. Call 508-487-1256 for center hours and the schedule of public talks.

Center for Coastal Studies, Provincetown, MA)

The center offers a free exhibit including touch-screens that focus on sanctuary resources and whale research. Seasonal exhibit, call 508-487-3622.

Diving in the Sanctuary



Map: SBNMS

Recreational Diving Opportunities in the Sanctuary

The sanctuary offers scuba divers a chance to explore an offshore environment at the mouth of Massachusetts Bay. Exposed waters create challenging dive conditions, but offer rewarding experiences. Surprisingly, 15 percent of the sanctuary, or 126 square miles, is shallower than 130 feet at low tide. Much of this area lies atop Stellwagen Bank, but also includes southern Jeffreys Ledge and the top of Sanctuary Hill. Diving offshore is unlike diving at a similar depth inshore. In addition to the deep water, you will likely experience strong currents at the surface and the bottom, especially if the wind and tide are moving in the same direction. Plan your dive around slack tide for the best underwater and surface conditions.

Diving Tips

When you're planning a dive on Stellwagen Bank, use the tide station at Boston Light or Race Point to provide an estimation of slack tide. Experience has shown that slack tide on Stellwagen Bank usually occurs 30 minutes before high or low tide is indicated at the tide station. Slack tide for Jeffreys Ledge and Sanctuary Hill is best indicated by the tide station at Rockport. Make sure to fly both the Divers Down flag and the Alpha flag to indicate to other vessels that divers are in the water as sanctuary waters are quite busy.

Stellwagen Bank

Photo: SBNMS

Stellwagen Bank is a glacially deposited sand and gravel feature created by the retreating Laurentide Ice Sheet that covered much of New England during the last period of glaciation. Approximately 10,000 years ago, Stellwagen Bank rose above sea level. Archaeological research may one day find prehistoric human, animal, or plant remains. Stellwagen Bank's shallowest depths are at its southern end, which rises to within 65 feet of the surface. In this area, the sandy bottom is pockmarked with lobster holes. Moving north along the bank's top, the seafloor slopes to a relatively constant depth of 100-110 feet. While diving the bank's sandy areas offers the opportunity to view schooling fish, areas with hard-bottom habitat will likely prove more rewarding to visit. One such dive site, named Sponge Forest, encompasses areas with cobble and scattered boulders that provide hard substrate for encrusting marine invertebrates. The area is named after the large finger sponges found growing on the seafloor. Sponge Forest lies within the Traffic Separation Zone of the Port of Boston's Traffic Separation Scheme (TSS). Dive vessels must be on the lookout for large cargo vessels transiting the area and must not impede the passage of these vessels. Vessel operators should follow all regulations pertaining to the safe operation of vessels in a TSS.

Sponge Forest Coordinates (two formats provided):
Decimal Degrees = N 42.324516 W 70.2933002
Degrees Minutes = N 42 19.47096 W 70 17.598012

Jeffreys Ledge

Jeffreys Ledge is a large glacial remnant, stretching 33 miles from offshore of Rockport, Mass. to Cape Elizabeth, Maine. On the northern edge of the sanctuary, rocky ridges on the southern edge of Jeffreys Ledge rise to within 115 feet of the surface. The shallowest portion of the ledge is comprised of piled cobble and boulders. Anemones, stalked tunicates, and coralline algae reside on the rocks, making for a colorful landscape when illuminated with a dive light. The ledge's piled boulders create a complex structure with many crevices for marine fishes like cusk and wolffish.

Sanctuary Hill

In the sanctuary's northeast corner, Sanctuary Hill rises from 325 feet to 115 feet deep and is topped with solid granite and piled boulders. Like Jeffreys Ledge, the hill's hard substrate is home to a variety of invertebrates and fishes that live on and in the piled boulders. Since Sanctuary Hill is 18 nautical miles offshore, the bedrock outcropping experiences very strong currents. Reportedly, blue and porbeagle sharks visit areas with steeply sloping topography like Sanctuary Hill.

Shipwrecks

A sanctuary researcher collects mussels from the Josephine Marie *to test for red tide. Credit: Matthew Lawrence, SBNMS*

The fishing vessel *Josephine Marie* lies on the southern end of Stellwagen Bank in 105 feet of water. The 80-foot-long, steel-hulled stern trawler sank in 1992. Built in 1969 by the Bender Welding and Machine Company, Inc. of Mobile, Ala., the *Josephine Marie* was based in Gloucester. The *Josephine Marie* actively fished in Massachusetts Bay until Feb. 1, 1992, when disaster struck. While returning from a routine fishing trip, the *Josephine Marie*'s crew radioed the Coast Guard that they were taking on water and needed immediate help. The trawler's crew abandoned ship and were rescued by the F/V *Italian Gold.* The red-and-black-hulled *Josephine Marie* lies upside down with its bow facing roughly southeast. Divers should be aware of hazards such as strong currents and entangled fishing gear.

Josephine Marie Coordinates (two formats provided):
Decimal Degrees = N 42.18208 W 70.22443
Degrees Minutes = N 42 10.925 W 70 13.466

An unidentified trawler shipwreck rests on Stellwagen Bank in 105-110 feet of water. The trawler is broken into four pieces: its pilothouse, hull, stern, and net reel. Smaller hull fragments surround the site. As the shipwreck sits on a mostly featureless sand bottom, it attracts schools of cod and pollock that hide within its structure. The identity of this trawler has not been determined and the sanctuary is seeking help from anyone who might know its name. The trawler lies within the Outbound Lane of the Port of Boston's Traffic Separation Scheme (TSS). Vessel operators should follow all regulations pertaining to the safe operation of vessels in a TSS.

Unidentified Trawler Coordinates (two formats provided):
Decimal Degrees = N 42.312176 W 70.297375
Degrees Minutes = N 42 18.73056 W 70 17.8425

What will I see?

A diver explores the unidentified trawler shipwreck. Credit: Matthew Lawrence, SBNMS

The sanctuary is home to a broad variety of marine organisms, what you will see depends upon the environment you visit. In the sand and gravel areas on top of Stellwagen Bank you're likely to see a smattering of encrusting organisms such as sponges, tunicates, and anemones. Mussels, clams, scallops, moon snails, and whelks are common. Fish life includes sculpins, skates, flounders, goosefish, ocean pout and cod. Schools of dogfish, herring, pollock, and sand lance make dives on top of the bank particularly exciting. When diving on the rocky ridges and boulder fields, you will encounter a greater variety and density of encrusting invertebrates, often with spectacular color. Look under boulders and in crevices for wolffish or cusk. Many of the fishes seen in the sand and gravel areas also frequent boulder and rocky areas. While ascending and descending, keep a lookout for blue sharks, tuna, and ocean sunfish, as well as several varieties of jellyfish. Once back on the boat warming up after your dive, look for humpback, minke, or finback whales. It is also possible to spot ocean sunfish and basking sharks from the surface.

Regulations

Individuals diving in the sanctuary must be aware of sanctuary regulations that protect historic resources and marine mammals. Divers are prohibited from moving, removing, injuring or possessing a sanctuary historical resource. Historical resources mean any resource possessing historical, cultural, archaeological or paleontological significance and include artifacts and fossils. Divers may not grapple a shipwreck, drop a down line directly onto a shipwreck, or tie a down line onto any part of a shipwreck. Divers are also not allowed to leave an unattended mooring in the sanctuary. Lastly, diving when in the vicinity of whales is considered harassment and prohibited under the Marine Mammal Protection Act. Divers encountering marine mammal bones should leave them in place, as possession of certain marine mammal remains is prohibited.

For information on diving in the sanctuary, visit:
http://www.stellwagen.noaa.gov/visit/diving/diving.html

Dive Charters in Massachusetts

As of publication time, the following companies reported the availability of dive trips to Stellwagen Bank National Marine Sanctuary and its adjacent waters. For updated listings of dive operations to the sanctuary, visit our Web site at http://stellwagen.noaa.gov. For more information on individual trips, contact the dive companies directly.

Boston Harbor Diving
http://www.bostondiving.com
Winthrop, MA
617-846-5151

Down Under Diving Ventures, Inc.
http://home.comcast.net/~franlinnehan/DownUnderDivingVentures.HTML
Gloucester, MA
978-256-1208

Easy Diver
http://www.easy-diver.com
Gloucester, MA
978-525-3432

Northern Atlantic Dive Expeditions, Inc.
http://northernatlanticdive.com/
Salem, MA
617-480-5261

Tales from the Bank...

Photo: Courtesy of Skip De Brusk

Coming of Age... The Young Man and the Sea

For hundreds of years, Stellwagen Bank has been a special place to mariners, fishermen, and nature lovers from around the globe. Local author Skip DeBrusk recently published a book about his experiences as a 15-year-old newcomer to commercial fishing during the summer of 1951. While working on the eastern rig dragger fishing vessel *J.L. Stanley*, home-ported in Plymouth, Mass., he ventured out to Stellwagen Bank in search of fish but found himself immersed in the area's beauty, diversity, and abundance of marine life.

Excerpt from the book, page 159:

"Back at the magical, physically magnetic Stellwagen Bank, the Middle Bank, we set the net; late August in the Garden of Eden. I climbed up to the top of the mast and saw a large Loggerhead turtle gliding just below the surface. Unconcerned by our presence, it was about two feet long, maybe a bit smaller but magnified by the water, and probably weighed two hundred pounds. The sun reflected different facets of its plated back through the clear water, an array of colors from reddish brown to yellow-green. Its huge head and innate scowl gave it the look of an old man slowly crossing the street in front of a Boston taxi.

On our other side, tuna were chasing bluefish. A quarter-mile oval of white water, beaten to a lather by the activity of the chasers and the chased. The tuna, three hundred pounds of muscle, were hurtling out of the water in hot pursuit of the blues. The power, the dominance of the tuna appeared magnificent. Sun, spray, and scales, everything glistening in the early morning.

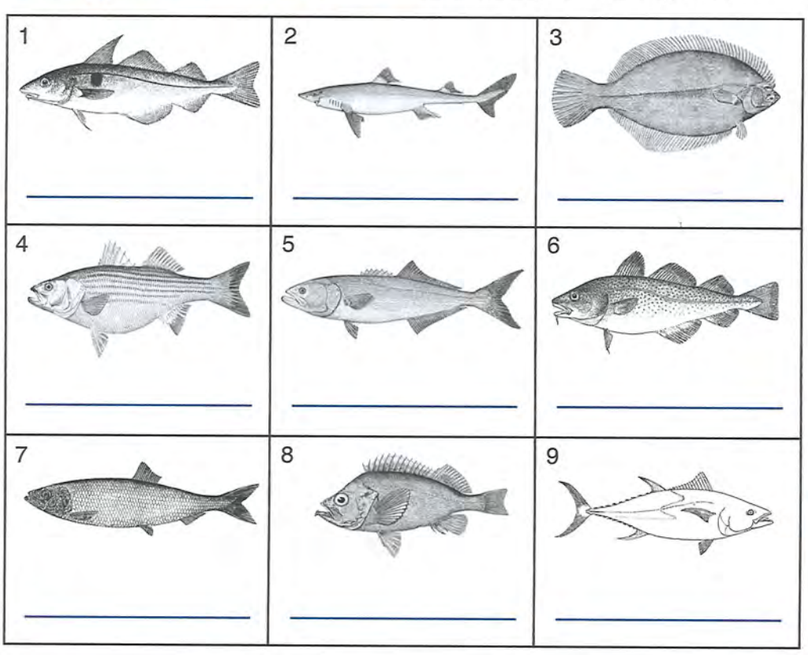
A raft of Wilson's petrels flittered over the water following our wake. Also known as "storm petrels" by sailors who believed that their presence forecasted rain, Provincetowners called them "Jesus Birds" because of the way their feet touched the water as they tip toe over the surface. "Mother Cary's Chickens" was another name. About the size of swallows, these birds were dedicated, follow-the-sun tourists, spending their northern summers up here in vacation land and their southern summers on the islands off the southern tip of South America. One of the pleasures of seeing petrels was the fact that they are rarely observed from land in New England."

Skip DeBrusk, Codfish, Dogfish, Mermaids and Frank: Coming of Age on the Open Ocean, Reginald van Fenwick Press, Stoughton, MA, 2007.

The views expressed here are those of the author and do not necessarily reflect those of NOAA or any of its sub-agencies.

Skip's Fish Quiz

Can you name the fish that Skip saw during his fishing trips?



Answers: 1. Haddock; 2. Spiny Dogfish; 3. Winter Flounder; 4. Striped Bass; 5. Bluefish; 6. Atlantic Cod; 7. Atlantic Herring; 8. Acadian Redfish; 9. Bluefin Tuna.

Sport Fishing

Saltwater Sport Fishing at Stellwagen Bank

Numerous party and charter fishing boats travel into the Stellwagen Bank National Marine Sanctuary in search of cod, haddock, pollock, blue shark, bluefin tuna and a variety of other species. In fact, the Massachusetts saltwater game fish records for cod, cusk, bluefin tuna, haddock, halibut, mako shark and wolffish were set in or near the sanctuary.

To find out more about party and charter boat operations, ocean access sites for private boats, and bait and tackle shops in Massachusetts, contact the Massachusetts Division of Marine Fisheries (DMF) to obtain a copy of their publication "Massachusetts Saltwater Recreational Fishing Guide." The free, 76-page booklet provides a listing of outfitters throughout the state, an illustrated review of popular species, an index to pumpout facilities, and other useful information. The booklets are available at regional tourism information centers, at DMF offices in Boston, Hingham, Pocasset, Gloucester and Vineyard Haven, or by calling **617-626-1520.**

When fishing in the sanctuary or in Massachusetts state waters, please be aware of and comply with all pertinent regulations. This information is available on the Web at:
State waters: http://www.mass.gov/marinefisheries
Federal waters: http://www.nero.noaa.gov/nero/regs/index.html

Be aware that state and federal regulations may vary (for example, Massachusetts has designated sizes for striped bass "keepers," while federal law prohibits the catching or possession of this species in federal waters including the sanctuary). Recreational fishing is allowed throughout the sanctuary, although size restrictions and catch limits may apply.

Basking and white sharks cannot be possessed or retained. If one of these sharks is caught, it must be released immediately with minimal injury and in a manner that maximizes the survival of the animal. Any recreational fishing for bluefin tuna or sharks requires a permit from the National Marine Fisheries Service. For permit information go to:
http://www.nmfspermits.com/PermitList.asp

Green Boating

2009 Boaters' Guide to Tides and Pumpout Facilities

The "2009 Boaters' Guide to Tides and Pumpout Facilities" is now available. Each year, the Massachusetts Coastal Zone Management Office and the Division of Marine Fisheries produce this wallet-sized pamphlet, printed on waterproof paper, which contains information on the locations of pumpout facilities along the Massachusetts coastline and a June-September tide chart. For a free copy, e-mail your request and mailing address to czm@state.ma.us. Additional information about pumpouts, including an online list of pumpout facilities, is available on CZM's Web site at www.mass.gov/czm/nda/pumpouts/index.htm.

Leadership Award

Nominees Sought for Sanctuary Leadership Award

in recognition of citizen service to the sanctuary, the Sanctuary Advisory Council has created the Sanctuary Advisory Council Leadership Award. This annual award recognizes an individual who has made outstanding contributions to Stellwagen Bank National Marine Sanctuary during the calendar year.

The Advisory Council has specified nomination criteria for this award. The individual should have 1) given a considerable amount of his/her time to the sanctuary; 2) contributed to the benefit of sanctuary goals; 3) offered extraordinary assistance to the sanctuary; and 4) contributed to expanding and enhancing the visibility of the sanctuary.

Deadline for submission of nominations for the 2009 award is September 30, 2009.

Additional rules include:

- Nominee must NOT be an employee of Stellwagen Bank National Marine Sanctuary or the Office of National Marine Sanctuaries;
- Nomination reflects the individual's work during the past calendar year;
- Nominations must be submitted by individuals, members of the Sanctuary Advisory Council or sanctuary staff;
- Only one complete nomination will be accepted from each individual, advisory council member or staff member;
- More than one award may be made in any individual year depending on the assessment of the Leadership Awards Committee, especially to recognize contributions from youth (under 18 years of age).

For more information about the leadership award, visit the Sanctuary Advisory Council web page at http://stellwagen.noaa.gov/management/sac/sachome.html. Use the form found on that Web site; then mail or e-mail the material to the specified address.

Ocean Literacy

Did you know...

The ocean affects every human life. It supplies freshwater (most rain comes from the ocean) and nearly all earth's oxygen. It moderates the earths climate, influences our weather and affects human health.
To learn more about ocean literacy visit
http://oceanservice.noaa.gov/education/literacy.html

A Guide to Whale Behavior

Blow
This word refers to both the act of breathing and the cloud of air and condensed water that the whale releases voluntarily at the surface. Different species of whales produce different types of blows: right whales have distinct v-shaped blows, humpback blows are bushy, medium height (3 to 5 meters or 10 to 16 feet), and fin whale blows may reach more than five meters (49 feet). The occasional sperm whale has a blow that angles forward and to the left.

Logging
When a whale lies at the surface it is said to be logging. It is believed that whales do not actually sleep but rest half their brain at a time during this inactive state.

Rounding out
As a humpback whale dives, it will curve or hang its body and show its dorsal fins before submerging.

Fluke-up - Fluke-down Dive
After arching its body, the humpback and several other species may bring their flukes above the surface. If the tail is brought straight up so that spectators can see the ventral (bottom) side, it is called fluke-up. At other times the flukes may clear the water but remain turned down.

Flipper Slap
Some whales, particularly humpbacks and occasionally rights, will roll on their sides and slap the water with their pectoral fins. At other times they may lie on their backs and wave their flippers in the air before slapping.

Spyhop
When whales rise vertically out of the water and get their heads (and eyes) out of the water, it is called spyhopping. The animal may turn 90-180 degrees around before slipping back into the water.

Artwork: Dennis Huston

Breaching
When a humpback whale breaches, it heaves its body out of the water, and falls back with a thunderous crash. Researchers are not sure why they propel themselves out of the water, an activity that requires a huge amount of energy. Scientists speculate that the whales may be trying to shed barnacles, stun fish, or show off to other whales. Young whales may be mimicking adults or merely playing.

Tail Slap
As the name implies, this behavior entails lifting the tail out of the water and then slapping the water, often quite forcefully. The whale may do this in either a ventral-down or dorsal-down position.

Open Mouth
Humpback whales are often seen feeding near the surface of the water with their mouths wide open. They have a pleated throat that expands as they engulf their prey. The whales then filter out the water through their baleen plates.

Lunging
This behavior includes a quick, horizontal burst through the water with the mouth open and is most often associated with feeding.

Bubble Nets and Clouds
Humpbacks are the only whales to release bubbles in precise circular "nets" or amorphous clouds. Scientists hypothesize that the bubbles induce schooling fish to clump together so that the whale can engulf them in a single gulp.

Whale Watching

Whale Watch Companies
Regularly scheduled whale watch trips by these companies may travel into or near Stellwagen Bank National Marine Sanctuary, depending on daily whale sightings. For more information on trip fees and schedules, contact the companies directly. This list is offered as a service to the public and does not constitute an endorsement by NOAA.

Provincetown
Dolphin Fleet of Provincetown
MacMillian Wharf
(800) 826-9300
(508) 240-3636
www.whalewatch.com

Barnstable
Hyannis Whale Watcher Cruises
Barnstable Harbor
(888) WHALEWATCH (942-5392)
www.whales.net

Plymouth
Capt. John Boats
Town Wharf
(800) 242-2469
(508) 747-2400
www.captjohn.com

Boston
Boston Harbor Cruises
Long Wharf
(877) SEE-WHALE (733-9425)
(617) 227-4321
www.bostonharborcruises.com

Mass Bay Lines Whale Watch
Rowes Wharf
(617) 542-8000
www.massbaylines.com

New England Aquarium Whale Watch
Central Wharf
(617) 973-5281
www.neaq.org

Gloucester
Cape Ann Whale Watch
Rose's Wharf, 415 Main street
(800) 877-5110
(978) 283-5110
www.seethewhales.com

Captain Bill & Sons Whale Watch
Harbor Loop
(800) 33-WHALE (339-4253)
(978) 283-6995
www.captbillandsons.com

7 Seas Whale Watch
Seven Seas Wharf
(888) 283-1776
(978) 283-1776
www.7seaswhalewatch.com

Yankee Whale Watching
Downtown Gloucester
(800) WHALING (942-5464)
(978) 283-0313
www.yankeefleet.com

Newburyport
Newburyport Whale Watch
On the Boardwalk, 55 Merrimac Street
(800) 848-1111
(978) 499-0832 (outside New England)
www.newburyportwhalewatch.com

Whale Watch Charters
These operators offer special half-day and full-day whale watch tours by arrangement.This list is offered as a service to the public and does not constitute an endorsement by NOAA.

- Andy Lynn Boats, Plymouth Town Wharf (508-746-7776) www.andylynnboats.com
- Easterly Tours, Plymouth Town Wharf (508-451-3841)
- Capt'n Tim Brady & Sons, Plymouth Town Wharf (508-746-4809) www.fishchart.com
- White Cap Charters, Scituate Harbor (781-834-0112) www.charterwhitecap.com

Whale SENSE
Whale SENSE is a voluntary recognition program for the whale watch industry in the Northeast Region now in development by the National Marine Fisheries Service, the Whale and Dolphin Conservation Society and the sanctuary. The program will give consumers a new way to evaluate the choices they make when choosing a whale watching company. It will also provide exceptional operators with specialized training and outreach opportunities The program will be piloted this year.

Whale Research

What's Up Down There?

Scientists Tag Whales to Study Underwater Behaviors
April 2009 saw the first of the sanctuary's whale tagging research cruises, with a multi-institution team tagging North Atlantic right whales in Cape Cod Bay and the southern section of the sanctuary. Using the Research Vessel (R/V) *Auk* as the mother vessel, scientists took to inflatables to make the close approaches to the critically endangered right whales. Researchers apply the suction-cup-equipped equipment packages on the backs of the whales via a long pole. The data collected by the tags gives a picture of the animal's movements underwater, making the ocean virtually "transparent" for the researchers. This spring, the scientists were studying the feeding patterns of these massive whales, which can grow to 50 feet long and 50 tons, eating tiny planktonic crustaceans called copepods. This work is done under federal permit.

Summer months will see additional tagging cruises targeting humpback whales. The success of last year's mission has inspired the researchers to attempt a triple tagging, in which three whales in a single feeding group will be tagged to study cooperative behaviors. These data-collecting tags, if undisturbed by whale actions, can stay on the whale for over 24 hours. However, if a short tag session is desired, the scientists can set a timer to break the seal at a specified time. This year, the sanctuary is planning on posting the names of whales that have been tagged on our Web site shortly after each successful effort. Keep checking http://stellwagen.noaa.gov for breaking news.

Humpback Whales Tagged in 2008
Cajun
Cardhu
Colt *
Etch-A-Sketch
Falcon +
Hancock +
Isthmus *
Lavalier
Milkweed
Moray
Nile
Pepper
Perseid
Tectonic
Venom

*Paired whale tagging events indicated by * and +*

Sanctuary Word Search: Stellwagen Bank Fish Survey

These sanctuary words are hidden in the box at right. Words run up or down columns, right or left in rows or diagonally. Answers can be found on the sanctuary Web site.

Words

BASKING
SHARK
(striped) BASS
BLUEFISH
COD
CUNNER
CUSK
DOG (fish)
FLOUNDER
HADDOCK
HAKE
HERRING
MACKEREL
MAKO (shark)
MOLA MOLA
OCEAN POUT
PLAICE
REDFISH
SAND LANCE
SCULPIN
SKATE
TORPEDO
TUNA
WOLFFISH

E	S	A	N	D	L	A	N	C	E	K	C
R	K	K	L	E	R	E	K	C	A	M	O
E	S	A	A	W	H	A	D	D	O	C	K
D	U	S	H	T	O	R	P	E	D	O	A
N	C	C	W	R	E	N	N	U	C	M	M
U	T	U	O	P	N	A	E	C	O	O	W
O	U	L	L	H	S	I	F	E	U	L	B
L	N	P	F	P	L	A	I	C	E	A	G
F	A	I	F	Z	F	B	C	O	G	M	S
Y	G	N	I	R	R	E	H	O	O	O	S
J	V	H	S	I	F	D	E	R	D	L	A
K	R	A	H	S	G	N	I	K	S	A	B

Sanctuary Scramble

T H R I G

H A M L I N W E E K

K U B C H A M P

C I N K F A B

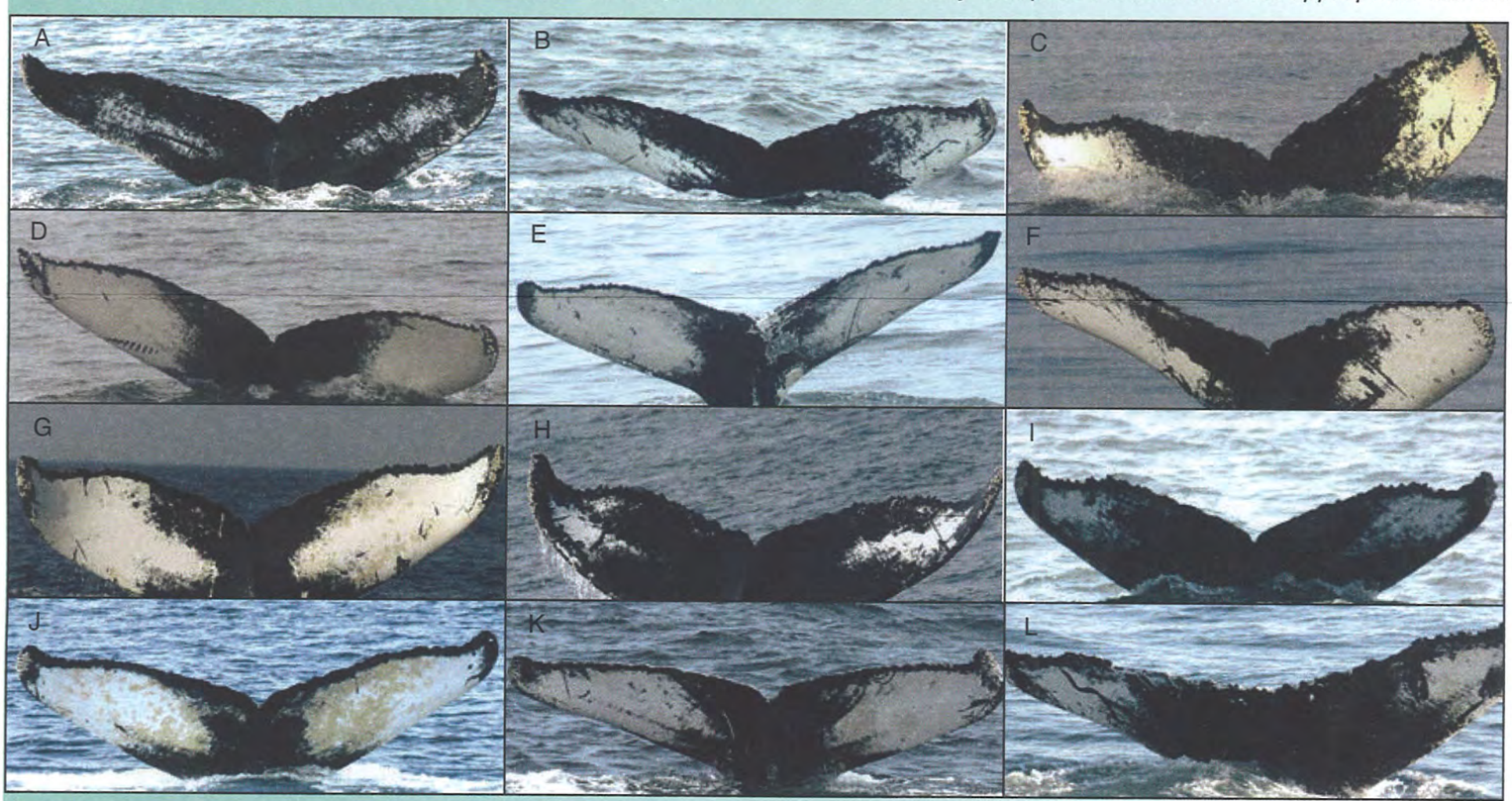
S R O O P P I E

H I L P O N D

CLUE: What do visitors to the sanctuary experience?.

Name That Whale!

Match the tail photos of theses sanctuary humpback whales with the appropriate names.



Photos	Names	Clues
	1. Anchor	Anchor has marks that look like boat anchors on each of its flukes.
	2. Apex	Apex's right fluke has an inverted V that resembles the top, or apex, or a mountain.
	3. Compass	Compass has a set of lines on its right fluke that bear resemblance to the mechanical tool used in math class and technical drafting.
	4. Echo	Echo's black stripes – rake marks probably from an orca or shark attack – look like sound waves.
	5. Nile	Nile's dark lines on her left fluke resemble the pattern of a river delta, such as found on the Nile.
	6. Palette	Palette's left fluke has a pigmentation pattern that looks like a painter's palette with paint samples.
	7. Polevault	Polevault has scars on the right fluke that could be interpreted as an athlete flying over the bar during a vault.
	8. Putter	Putter's left fluke contains scars that resemble a golf club and a ball on its way to the cup.
	9. Rapier	Rapier has a black mark across the left fluke that looks like a weapon, such as a rapier or sword.
	10. Shark	Shark's right fluke's white pigmentation is shaped like a shark's body with black scars that produce a shark's face.
	11. Venom	Venom's left fluke contains two dots that look like punctures from a snake bite.
	12. Wyoming	Wyoming is the big "W" state and this whale has that letter on its right fluke.

The Rules of Whale Naming

Whale researchers and naturalists around New England know their whales – in fact, they even know the local humpback whales by name. Since the early 1970s, humpback whales on Stellwagen Bank and elsewhere in the Gulf of Maine have been catalogued, not only with formal identification numbers, but with names. Originally done informally at the beginning of each whale watching/research season, the whale naming process has now become standardized with special rules for name selection.

A whale will receive a name if it is an adult who has never been seen before, or if it had been sighted as a calf and has returned (this could be a year or more after that first sighting). The reason why calves are not named is that their pigmentation has not stabilized, and these whales can look quite different as they mature.

Humpback names are generally based on the natural pigmentation and scars on the dorsal sides of their flukes (the two parts of the tail). The pigmentation ranges from all white to all black, with a variety of patterns in between. Scars appear black on white backgrounds, and white on darkly pigmented skin. Each humpback name is unique – to date, there are more than 1,700 names in the catalog.

Rules for whale naming include:

1) Names cannot be gender specific (in most cases, the researchers do not know the sex of the animal, and it would be strange to have a boy whale named "Sue").

2) Whales cannot be named after real people; therefore, no "George Washington."

3) Whale names should be based on the patterns on the flukes, although occasionally the whale will be named for marks on the dorsal fin or for its genealogy (the 11 known calves of "Salt," the sanctuary's matriarch, have all been named after condiments or types of salt).

4) Names should be short and easy to understand and say – especially important for naturalists on board whale watch vessels

Whale Tail Answers: 1-F; 2-B; 3-H; 4-D; 5-L; 6-I; 7-E; 8-K; 9-A; 10-J; 11-G; 12-C.

Sanctuary Scramble Answers: RIGHT, MINKE WHALE, HUMPBACK, FINBACK, PORPOISE DOLPHIN. CLUE ANSWER: A WHALE OF A TIME

Stellwagen Soundings

NOAA
National Marine Sanctuaries
Gerry E. Studds Stellwagen Bank

Vol. 14, No. 1
2009

"Finned Migration"

Humpback whales that feed in the waters of Stellwagen Bank National Marine Sanctuary migrate in the winter to breed and calve in the Caribbean Sea. One southern destination is the Marine Mammal Sanctuary of the Dominican Republic, our sister sanctuary.

A humpback whale feeds in the Stellwagen Bank sanctuary. Photo: SBNMS

Humpback flippers frame a wreck on Silver Bank in the Dominican Republic sanctuary. Photo: MMSDR

Sister Sanctuaries Work Together to Protect Endangered Humpback Whales

Nations sign international agreements for political and economic reasons. But, other causes that transcend borders may bring nations together. Recently, the sanctuary served as the U.S. representative in an international initiative with environmental goals – the protection of an endangered species.

A Sister Sanctuary agreement, established on December 8, 2006, between Stellwagen Bank National Marine Sanctuary and Sanctuario de Mamiferos Marinos de la Republica Dominicana (Marine Mammal Sanctuary of the Dominican Republic), marks a new chapter for the joint management of the endangered humpback whale. The "Sanctuarios Hermanos" is the first international relationship in the world to protect an endangered migratory marine mammal species on both ends of its range – in its northern feeding and nursery grounds here in the Stellwagen Bank sanctuary and its southern mating and calving grounds in Dominican waters.

The agreement sets out objectives and responsibilities in the sister sanctuary relationship that focus on research, monitoring, education and program growth. All efforts strive to enhance the ecosystem-based approach to cooperative sanctuary management. Major goals include greater public awareness as well as support for marine mammal conservation and research.

Stellwagen Bank sanctuary represents one of the world's most famous whale study areas, with a humpback research history that spans more than 30 years. In some cases, four generations of whales have been documented in certain maternal lines. Photo-identification, biopsy and genetic studies, and telemetry are all techniques used in this research. In 1992, in recognition of the ecological importance of the area, Congress created Stellwagen Bank National Marine Sanctuary.

In Dominican Republic waters, Silver Bank, Navidad Bank, and Samana Bay are important whale destinations. The marine mammal sanctuary had its origins in 1986, when Silver Bank Humpback Whale Sanctuary was created; later, the more expansive sanctuary was created. The area attracts the largest breeding aggregation of humpback whales in the North Atlantic, with over 3,000 individuals sighted each season. Over the years, researchers have shown that the sister sanctuaries share over 900 individual whales.

The sister sanctuary concept is part of a larger international global vision. The United Nation's Environmental Program (UNEP) has cited the sister sanctuary agreement as an important mechanism to maintain connections between marine protected areas and to protect assets that cross international boundaries. This type of initiative demonstrates the true spirit of regional cooperation to ensure biodiversity protection and conservation of migratory, endangered marine species. At this time, the sanctuary is attempting to establish similar arrangements with other Caribbean nations where humpback whales spend their winters.

Salt: Sanctuary Matriarch and International Traveler

Salt, the first humpback whale to be named in the Gulf of Maine and a regular sanctuary visitor, has been seen once again. This year, on March 17, she was sighted on Stellwagen Bank. This matriarch of sanctuary humpback whales has had at least 11 calves, each of which has been brought to these rich waters where they are weaned and learn to feed on schools of nutritious, fat-filled sand lance. Last year, she brought her 11th calf, who was named Sanchal. Salt's calves' names are related to salt, seasonings or condiments (e.g., Crystal, Brine, Tabasco, Wasabi). Sanchal was inspired by the calf's predominantly dark tail and the black, sulfurous salt of that name found in India and Pakistan. Salt was also the first humpback whale from northern waters recognized in the Caribbean breeding and calving grounds. Her sighting near Silver Bank off the northern coast of the Dominican Republic confirmed the north-south migration route of humpback whales.

Salt swims with her 2003 calf, Wasabi. Photo: PCCS

Gerry E. Studds Stellwagen Bank
National Marine Sanctuary
175 Edward Foster Road,
Scituate, Massachusetts 02066
Web: http://stellwagen.noaa.gov