

## STELLWAGEN BANK E-NOTES: *sanctuary news & events* March 2012



A haddock swims through a field of anemones in Stellwagen Bank National Marine Sanctuary.

Credit: Matthew Lawrence, SBNMS and NURTEC-UConn

Happy  
20<sup>th</sup>!

# Stellwagen Bank Sanctuary Celebrates 20 Years during 2012

## Sanctuary Plans Series of Special Events for 2012

In 1992 Congress designated New England's first and only national marine sanctuary. This year, Stellwagen Bank National Marine Sanctuary celebrates 20 years of successful research, education and resource conservation efforts, many of which were accomplished with the participation of sister agencies and partner organizations. A calendar, with events ranging from lectures and exhibits to specialized workshops, is posted on the sanctuary website. These events are being held in locations throughout the sanctuary region. For a peek at some of the exciting programs scheduled for the first third of the year, go to page 4 of this publication. We will update the calendar in subsequent issues of *Stellwagen Bank E-Notes*.



A northern gannet takes off during the 2011 Christmas Bird Count.  
Credit: Anne Smrcina, SBNMS

## Ocean Frontiers Documentary Features Sanctuary Work

*Ocean Frontiers: The Dawn of a New Era in Ocean Stewardship* is a new documentary from Green Fire Productions that features work at Stellwagen Bank National Marine Sanctuary. The 80-minute-long production shows unlikely allies coming together and crafting solutions for the good of ecosystems and industry, while not sugar-coating the conflicts or the sometimes difficult road to the end result. *Ocean Frontiers* shows the groups as true partners in the process and why the national ocean policy and coastal and marine spatial planning are vital for the nation's economy and security. The sanctuary's efforts to help move the Boston shipping lanes to protect whales from ship strike is one of those stories.

The sanctuary is working with local organizations to bring the show to audiences in New England in conjunction with the 20<sup>th</sup> anniversary celebration. The Boston premiere will be at the New England Aquarium on April 3 at 6:30 p.m. and followed by a panel discussing future directions in marine conservation. Additional showings of the film will be held throughout the sanctuary region. Check our 20<sup>th</sup> anniversary calendar for locations and times.

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## Sanctuary's Leila Hatch Co-Chairs NOAA Working Group Developing Tools to Map Underwater Noise

Dr. Leila Hatch, the sanctuary's marine ecologist, was tapped by NOAA to co-chair a working group tasked with developing geospatial tools to map human sources of underwater noise within U.S. waters. At the same time, another working group is characterizing cetacean distribution and density. Combined, these efforts will provide guidance to better understand cumulative noise impacts for these and other marine species and to formulate the best possible management strategies to mitigate problems.

The mapping products studied by the group look at chronic, long-term sources of noise as well as localized "transient" events that are either episodic or seasonal. Among the examples was the installation of a wind facility off the Massachusetts coast. Other examples include military active sonar off Hawai'i and seismic exploration in the Beaufort Sea. The Working Groups are scheduled to role out their products at a management symposium in Washington, D.C. in May. For more information about this project, visit <http://www.st.nmfs.noaa.gov/cetsound>



## Sanctuary Photo Takes Honors in Marine Technology Contest

*Marine Technology Reporter* selected a synthetic aperture sonar image of the collided schooners *Frank A. Palmer* and *Louise B. Cary* as a finalist for the magazine's first annual photo contest. The image was featured on the magazine's contents page in the November/December 2011 issue, which had a print run of approximately 20,000 copies. For more information on the project visit: <http://stellwagen.noaa.gov/maritime/sass2010.html>

## Popular Sanctuary Program Wins Local People's Choice Award

Stellwagen Bank sanctuary's maritime heritage interpretation has made a significant impact in local communities. In September, sanctuary archaeologists Matthew Lawrence and Deborah Marx hosted "Deepsea Science: Wreck of the *Portland*," as part of the Essex National Heritage Area's annual Trails and Sails event. When comment cards were tallied the program at Maritime Gloucester earned a "People's Choice Award" and was ranked the 3rd most popular program out of 190 Trails and Sails offerings. Trails and Sails is the premier partnership event of the Essex National Heritage Commission celebrating the historic, cultural and natural treasures of the Essex National Heritage Area. Trails and Sails raises regional awareness of the Area's unique history and promotes the preservation of its heritage sites.



Sanctuary Trivia: The sanctuary was designated on Nov. 4, 1992 upon the reauthorization of the National Marine Sanctuaries Act.

## Distant Sounds Can Affect Humpback Whale Song

Male humpback whales are well-known singers of complex songs on their breeding grounds. Scientists have also recorded these vocalizations during migration and on feeding grounds, including Stellwagen Bank National Marine Sanctuary. In a recently published paper in PLoS ONE, an open access document at [www.plosone.org](http://www.plosone.org), researchers reported that human-produced noise during an experiment approximately 120 miles (200 km) away from the sanctuary led to reduced amounts of singing. The researchers suggest that these anthropogenic sounds, such as those used in acoustic fisheries technology, may affect vocalizing whales. The researchers used data from a network of pop-up acoustic buoys in the sanctuary. Authors of the paper, entitled "Changes in Humpback Whale Song Occurrence in Response to an Acoustic Source 200 km Away," are Denise Risch, Peter J. Corkeron, William T. Ellison and Sofie M. Van Parijs of NOAA Fisheries and Marine Acoustics, Inc.



Humpback whale photographed in the sanctuary.  
Credit: Anne Smrcina, SBNS

## Extensive Humpback Singing Found in Feeding Grounds

In a recently released paper, scientists report that humpback whale singing is more widespread than previously understood, especially in feeding areas. Acoustic recordings in the sanctuary played a major role in this research.

Male humpbacks produce complex, patterned songs that are traditionally heard on their breeding grounds. Short-term studies recognized these songs along migration routes and on higher-latitude feeding grounds. In 2006 and 2008, a set of acoustic recorders in the sanctuary captured songs in all months except February 2006 and June 2008, with the highest incidence of song in November of both years. The longest song sessions occurred in April of both years, in November and December 2006 and May 2008. The researchers posit that these patterns may be linked to seasonal hormonal activity and its potential role in song production.

The article "Humpback whale song occurs extensively on feeding grounds in the western North Atlantic Ocean" by Elizabeth T. Vu, Denise Risch, Christopher W. Clark, Shonda Gaylord, Leila T. Hatch, Michael A. Thompson, David N. Wiley and Sofie M. Van Parijs is in *Aquatic Biology* 14: 175-183 (2012). It is an open access document available at <http://www.int-res.com/abstracts/ab/v14/n2/p175-183/>.

## Update on Ship Compliance and the Sanctuary's AIS Education Program

The sanctuary's ship traffic education and evaluation program continues with another round of letters to vessel owners. Using data from the Automatic Identification System (AIS), the sanctuary has been able to track ship paths and speeds through the sanctuary and overlapping North Atlantic right whale Seasonal Management Areas (SMAs) for 2011.

Each vessel analysis details level of compliance with required and voluntary speed restrictions and suggests the additional time needed to keep non-complying ships within the posted 10-knot speed limit.

This year, 220 letters, each with a personalized fact sheet, were sent to the owners of a variety of vessels, ranging from LNG tankers to bulk cargo carriers. "Compliance with the SMA speed limit was somewhat better in 2011 than it was in 2010. We have been told that this industry education program has made vessel operators more conversant with local regulations," said sanctuary superintendent Craig MacDonald.

The project is made possible by support from the International Fund for Animal Welfare and NOAA's Office of National Marine Sanctuaries working together with NOAA Fisheries/Office of Protected Resources, NOAA Office of Law Enforcement and the U.S. Coast Guard.

## Seabird Stewards Take to the Seas for the Annual Christmas Count

The sanctuary's Seabird Stewards program has incorporated the Audubon Society's annual Christmas Bird Count into its seasonal surveys of seabird diversity and abundance. The volunteer corps of experienced birders, who serve as citizen scientists, is providing the sanctuary with some of its most detailed information about avian species.

All of the counts use the redefined Stellwagen Bank Christmas Bird Count survey area, proposed and approved in 2009. Instead of the traditional count circle at the southern end of the bank, which overlapped the northernmost tip of Cape Cod, the study area now consists of east-west track lines 2.5 nautical miles apart, with endpoints at the 40-meter bathymetry line and ranging along the entire top of the bank. The study area is now completely within sanctuary boundaries and comprises a subset of sanctuary research coordinator David Wiley's sanctuary use study area in the mid-1990s and 2001-2002.

According to Simon Perkins, the Stellwagen Bank Christmas Bird Count founder and primary compiler, this was one of the best counts ever. The totals for northern fulmars, dovekies and common murrelets represent all-time highs for the 24-year history. Two puffins were spotted and a pomarine jaeger, a species that is very rare in these waters in late Dec. "Perhaps the most unusual and surprising finding was the ratio of dark and light morph fulmars (a polymorphic species)," said Perkins. "In the Atlantic population, birds in the high Arctic at the northernmost reaches of the species' range are mostly dark, while those that occupy the southern portions of the range (and the birds we typically see at Stellwagen) are mostly light. Why this pattern was reversed among the birds we saw (during the Dec. 23 count) is a mystery. Let's hope it's not indicative of more trouble in the Arctic due to climate change," he said.

To learn more about the Seabird Steward program, call 781-545-8026 or e-mail [anne-marie.runfola@noaa.gov](mailto:anne-marie.runfola@noaa.gov).



Dark morph northern fulmars with single light phase during Christmas Bird Count 2011. Credit: Anne Smrcina, SBNMS

# 20<sup>th</sup> Anniversary Calendar

- March Marine Art Exhibit with Massachusetts Marine Educators on display all month at Cape Cod National Seashore (Eastham)
- Mar. 3 *"Birds, Baleen and 20 Years of Marine Conservation!"*  
20<sup>th</sup> Annual Birders Meeting sponsored by Mass Audubon and co-hosted by Stellwagen Bank Sanctuary at Bentley College
- Mar/Apr **Stellwagen at 20: Lecture Series at Maritime Gloucester**  
Mar. 22 – *"A Whale's Tale of Life on Stellwagen Bank"* – Jamison Smith  
Mar. 29 – *"Between the Arms of Cape Cod and Cape Ann: A History of Fishing on Stellwagen Bank"* – William Leavenworth & Karen Anderson  
Apr. 5 -- *"Seabirds of Stellwagen Bank National Marine Sanctuary"* – Wayne Peterson & Anne-Marie Runfola  
Apr. 12 – *"Stellwagen Bank National Marine Sanctuary – Its Future"* – Les Kaufman  
Apr. 19 – *"Whale Whisperer: Using Sound to Understand and Protect Whales in Stellwagen Bank National Marine Sanctuary"* -- Leila Hatch  
Apr. 26 – *"Shipwrecks of Stellwagen Bank National Marine Sanctuary"* – Matthew Lawrence & Deborah Marx
- April Marine Art Exhibit with Massachusetts Marine Educators on display all month at Salem National Historic Site Visitor Center
- April 3 Massachusetts Premiere of *Ocean Frontiers* documentary at N.E. Aquarium with panel featuring Dr. David Wiley
- Apr. 16 Right Whale Day at New Bedford Whaling Museum
- Apr. 22 Cape Cod Premiere of *Ocean Frontiers* documentary at Cape Cod Museum of Natural History Museum
- May 16 *Technologies for Stellwagen Bank National Marine Sanctuary Research and Beyond.* Panel and Discussion  
Sponsored by Mass. Ocean Technology Network and Marine Technology Society-NE. For information, contact: maggielmerrill@gmail.com

View the full year's calendar on our website – <http://stellwagen.noaa.gov>

## Marine Art Contest Now Underway



*Moon Jellies* by Casey Senechal, Plymouth So. HS, 3<sup>rd</sup> Place, Scientific Illustration, 2011 Art Contest

Students in grades K-12 are invited to participate in the 2012 Marine Art Contest sponsored by the Massachusetts Marine Educators and co-sponsored by the sanctuary, New England Aquarium, Provincetown Center for Coastal Studies, Whale and Dolphin Conservation Society and Stellwagen Alive.

There are five divisions: Elementary (K-4), Middle School (5-8), High School (9-12), Scientific Illustration (all grades) and Computer Graphics (all grades). Prizes include whale watch tickets, cash awards, NE Aquarium passes and certificates. The contest is open to all students; there is no charge. For more information go to [stellwagegn.noaa.gov](http://stellwagegn.noaa.gov) or [www.massmarineeducators.org](http://www.massmarineeducators.org)

**Deadline: April 26, 2012**

Winning artwork is posted on the sanctuary website and becomes part of a traveling exhibit. The show is now at the JFK Building in Boston; it moves to the Cape Cod National Seashore on March 1.

## NATIONAL MARINE SANCTUARY SYSTEM



Scale varies in this perspective. Adapted from National Geographic Maps.

National Marine Sanctuaries  
1972-2012: Celebrating 40 Years

Gerry E. Studts  
Stellwagen Bank  
National Marine Sanctuary  
1992-2012: Celebrating 20 Years



<http://stellwagen.noaa.gov/>