Reducing the risk of lethal ship strikes in National Marine Sanctuaries (NMS)

Michael Carver
Deputy Superintendent
Cordell Bank NMS

April 24, 2015

Sanctuary Advisory Council suggests a working group

Co-Chairs

Lance Morgan; CBNMS SAC
Jackie Dragon; GFNMS SAC alternate

Working Group Members

Michael Jasny, NRDC
Carol Keiper, Oikonos
John Calambokidis, Cascadia Research
Frances Gulland, Marine Mammal Center
John Berge, Pacific Marine Shipping Association
Kathy Metcalf, Chamber of Shipping of America
Captain Bill Mahoney, APL Maritime, Ltd.

Working Group Staff

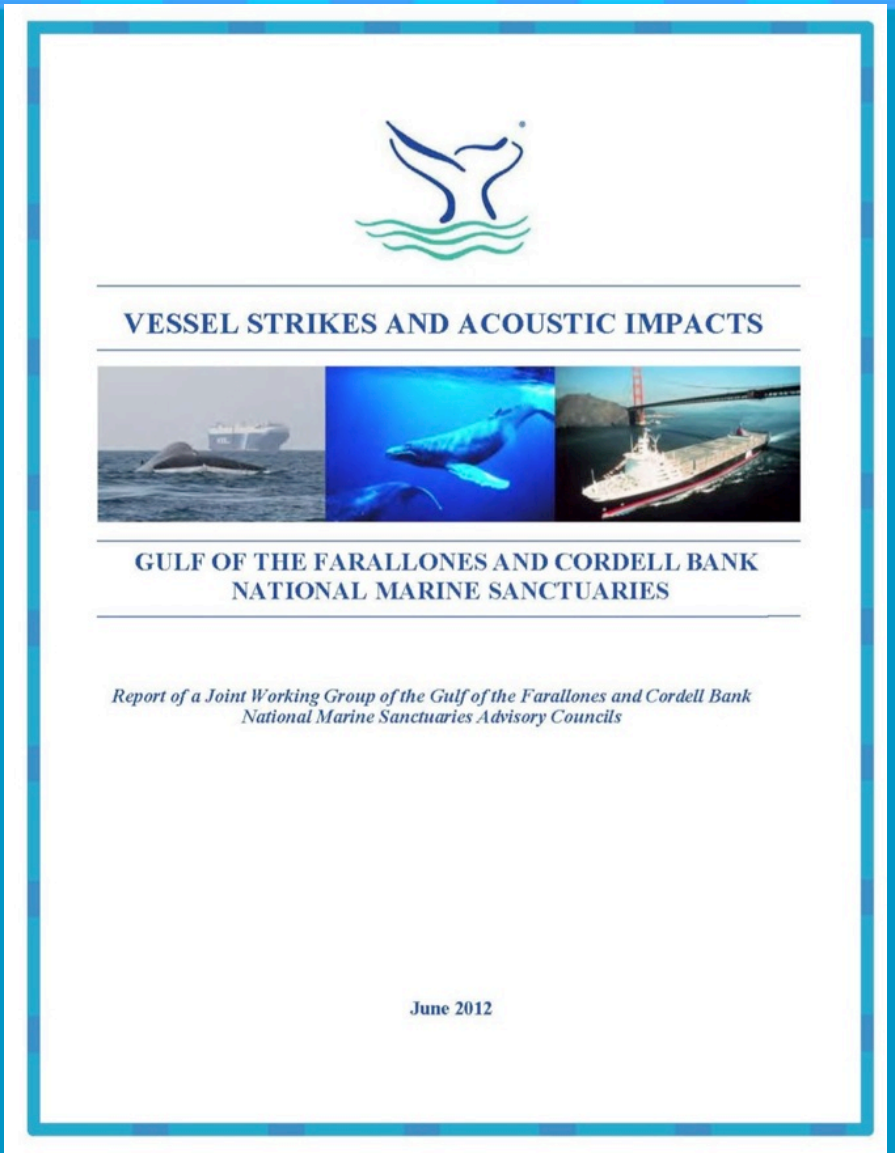
Leslie Abramson, GFNMS
Michael Carver, CBNMS

Technical Experts

CDR Kiley Ross, Mike Vanhouten, Lucas Mancini, & Sean Kelley, USCG
Monica DeAngelis/Elizabeth Petras, NOAA/NMFS
Leila Hatch, Stellwagen Bank NMS
Chris Miller, Naval Postgraduate School Brandon Southall, SEA Inc.
Megan McKenna, Marine Mammal Commission
Ingrid Overgard, Ocean Noise Coalition
John Hildebrand, UCSD, Scripps
Jaime Jahncke, PRBO Conservation Science

Working Group Report and Recommendations

Available for download as a .pdf on CBNMS or GFNMS website.



VESSEL STRIKES AND ACOUSTIC IMPACTS

GULF OF THE FARALLONES AND CORDELL BANK NATIONAL MARINE SANCTUARIES

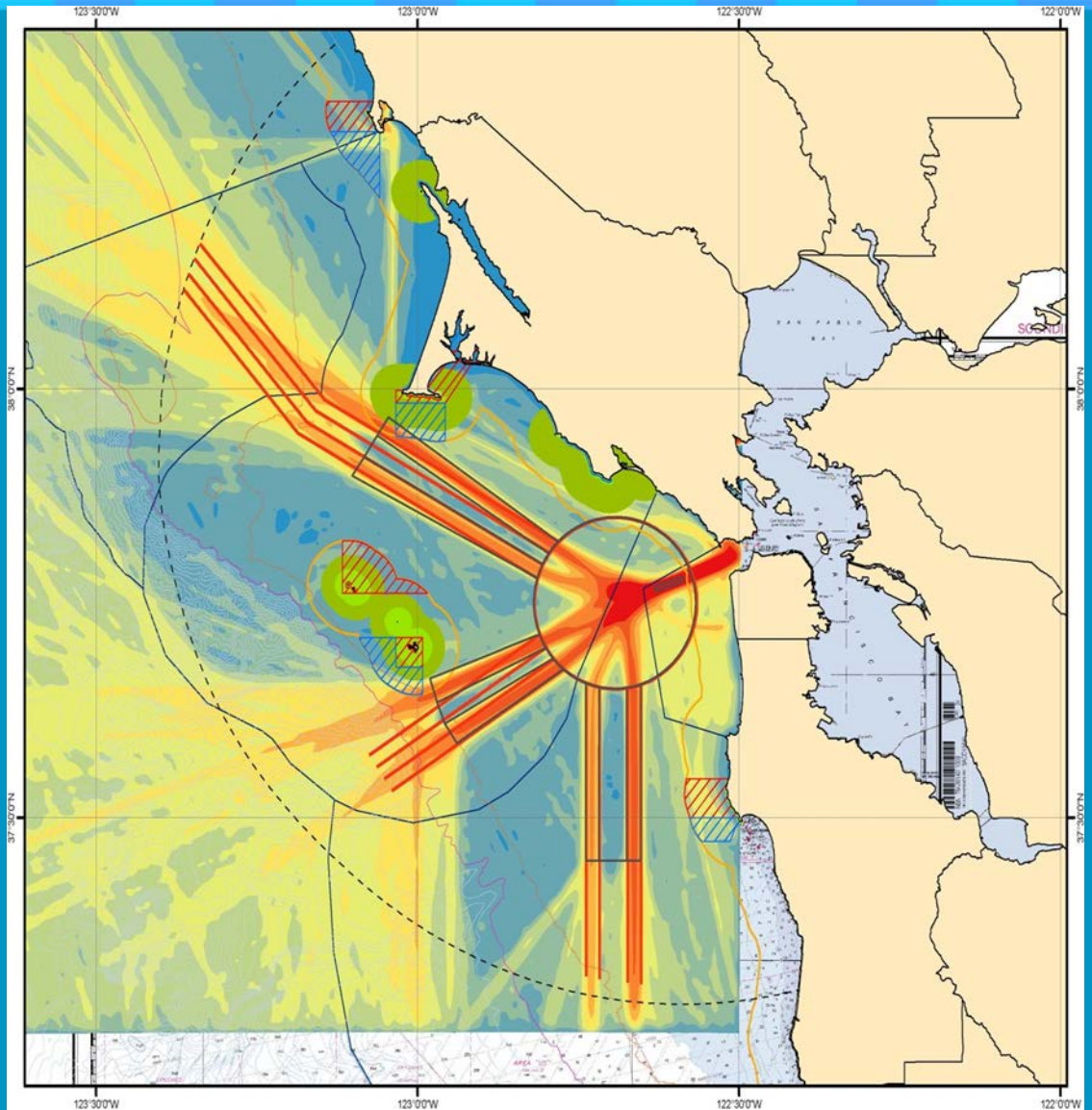
Report of a Joint Working Group of the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries Advisory Councils

June 2012

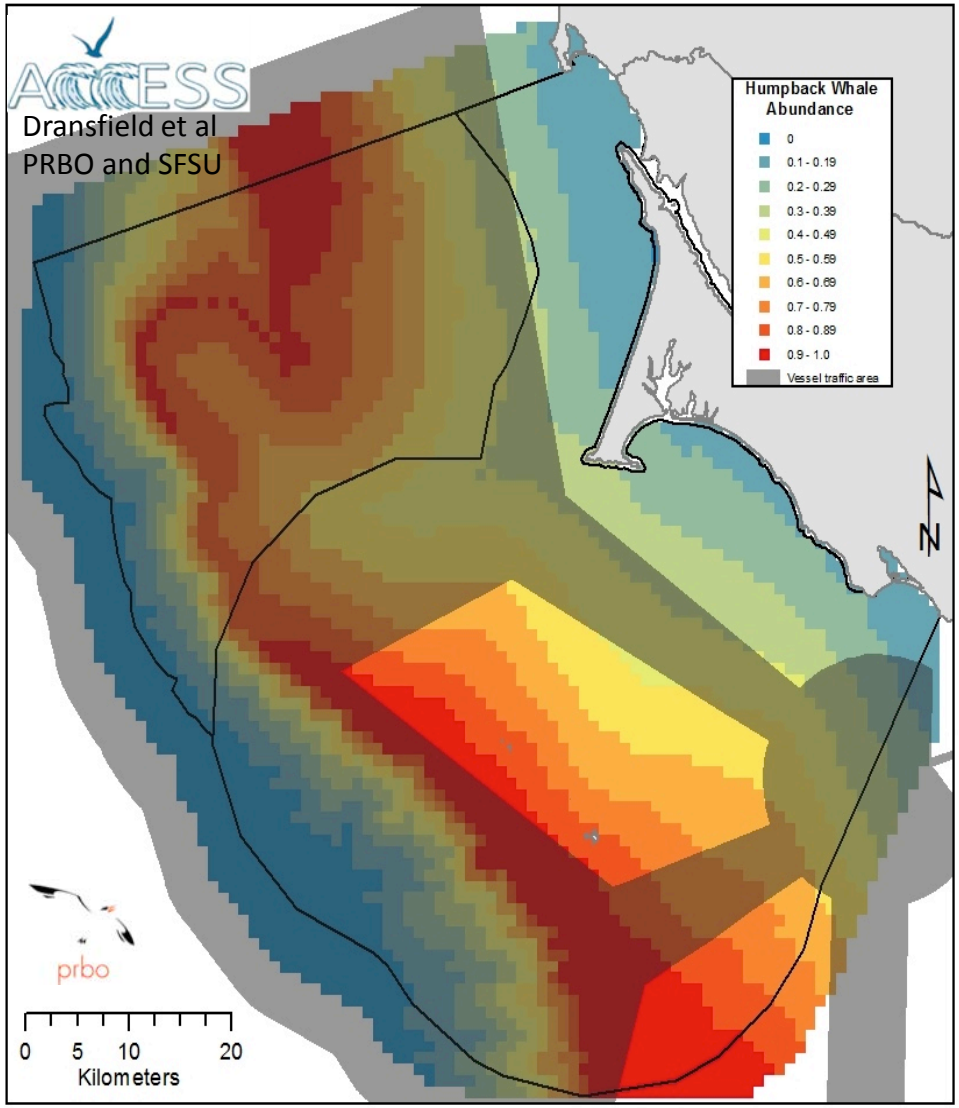
Management Recommendation #1

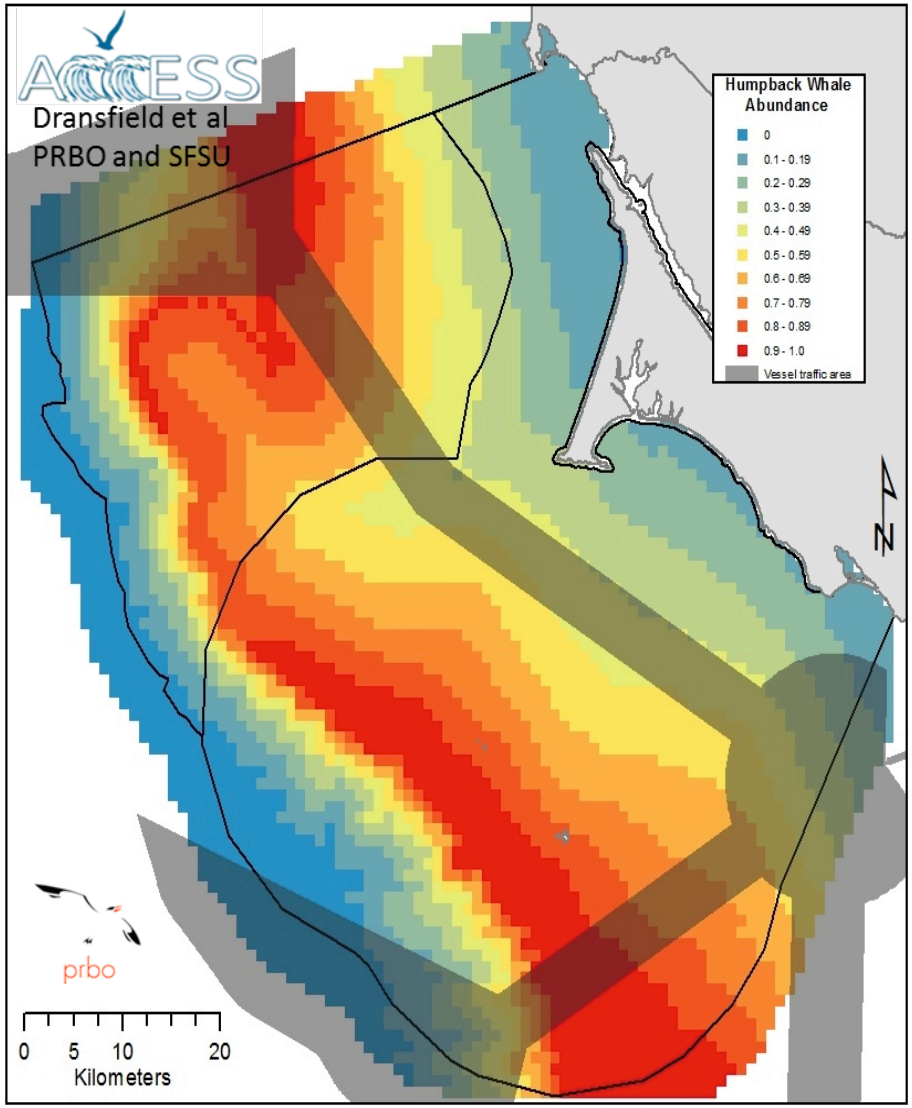
Modification to the shipping lanes:

"NOAA and USCG should pursue the modification of shipping lanes to avoid areas of whale concentration, such as extension of the proposed western approach lane beyond the continental shelf edge."



Management Recommendation #1
Modification to the shipping lanes





Management Recommendation #1
Modification to the shipping lanes

1. Have promoted numerous studies to be performed by students and non-sanctuary researchers to provide research and analyses to determine the level of compliance by commercial vessels to modified lanes and look at the overlap of ship traffic with preferred whale habitat.

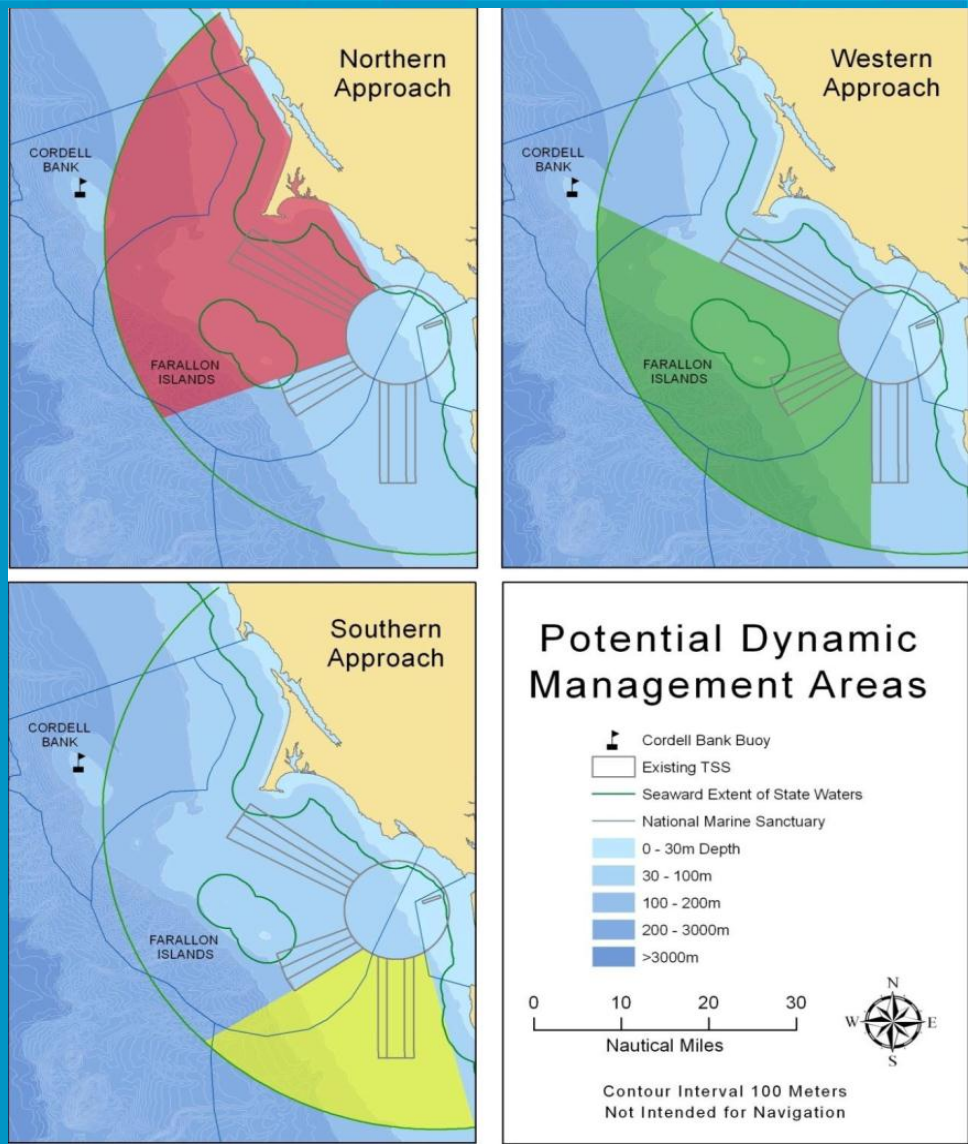
2. Continue to monitor whales through ACCESS and vessels to analyze probability of co-occurrence within the sanctuaries.

3. Determine if the northern lane is providing optimal protection to whales by reducing co-occurrence of ships and whales in the TSS using ACCESS data and analyses lead by non-sanctuary researchers and students.

Management Recommendation #2

Dynamic Management Areas:

"The sanctuaries and NOAA's National Marine Fisheries Service (NMFS), working with external partners, should establish dynamic management areas (DMAs) at the entrance to San Francisco Bay. DMAs should be implemented in areas with high whale concentrations for at least one week or longer as the whale spatial and temporal distribution warrants. The implementation response should be that vessels slow down within the DMA, or preferably, choose alternate lanes where there would be no active DMA."

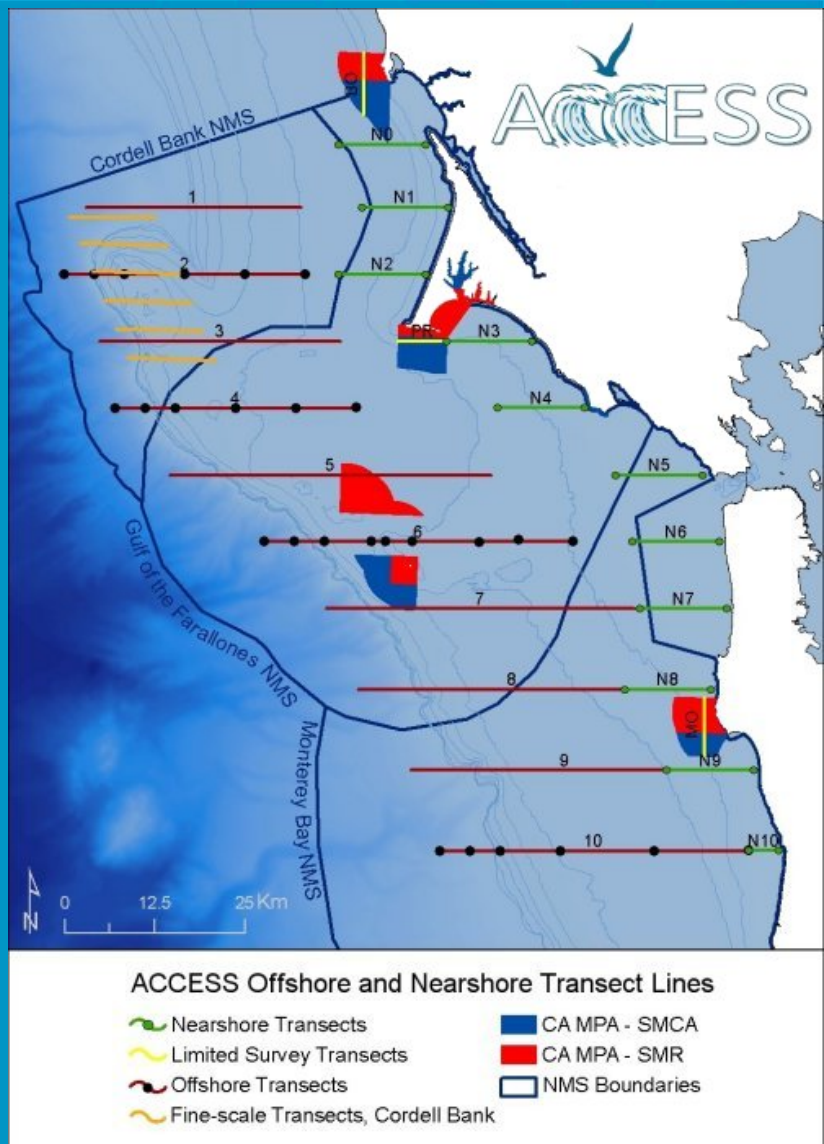


Management Recommendation #3

Real-time whale sighting and monitoring network:

The sanctuaries and NMFS, working with external partners, should implement a real-time whale sighting and monitoring network with participation from commercial ships, to provide data on whale occurrence and inform the designation of the onset, duration and location of DMAs.

Applied California Current Ecosystem Studies (ACCESS)



Co-developed Spotter Pro and WhaleAlert Apps to help collect data efficiently

NATIONAL MARINE SANCTUARIES

NOAA

Spotter Pro – Field Data Capture & Sync

By Conserve.IO

View More By This Developer

Open iTunes to buy and download apps.

View In iTunes

This app is designed for both iPhone and iPad

Free

Category: Business
Released: Jun 28, 2013
Version: 1.0
Size: 8.5 MB
Languages: English, Bokmål, Norwegian, Catalan, Chinese, Czech, Danish, Dutch, Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Polish, Portuguese, Russian, Simplified Chinese, Slovak, Spanish, Swedish, Traditional Chinese, Turkish
Seller: Conserve.IO Inc.
© 2013
Rated 4+

Requirements: Compatible with iPhone, iPod touch, and iPad. Requires iOS 5.1 or later. This app is optimized for iPhone 5.

Description

Spotter Pro is a full-featured app for effort-based field data collection of animals, plants, and other environmental data.

Conserve.IO Web Site ▸ Spotter Pro – Field Data Capture & Sync Support ▸ ...More

Screenshots

iPhone | iPad

Customer Ratings

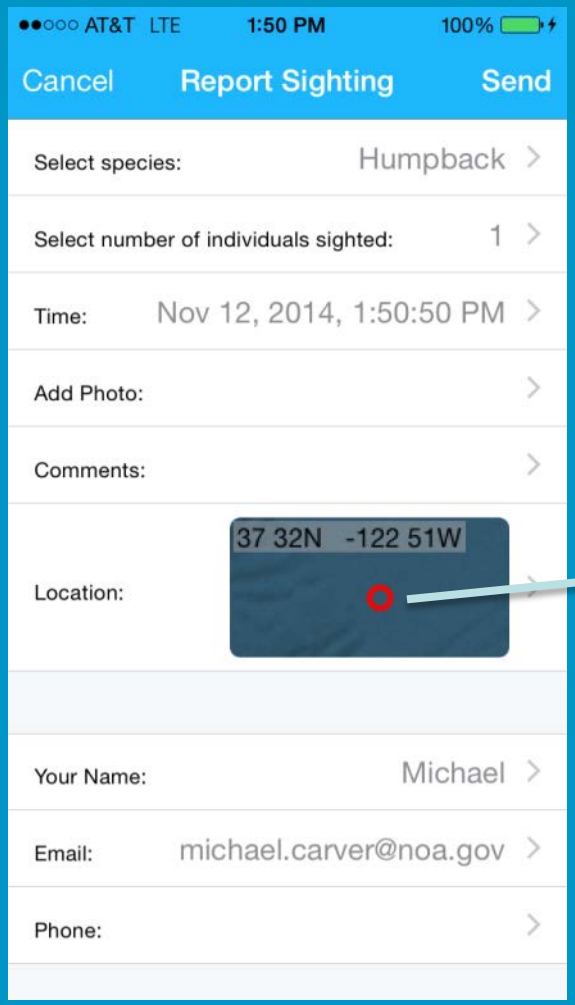
We have not received enough ratings to display an average for the current version of this application.

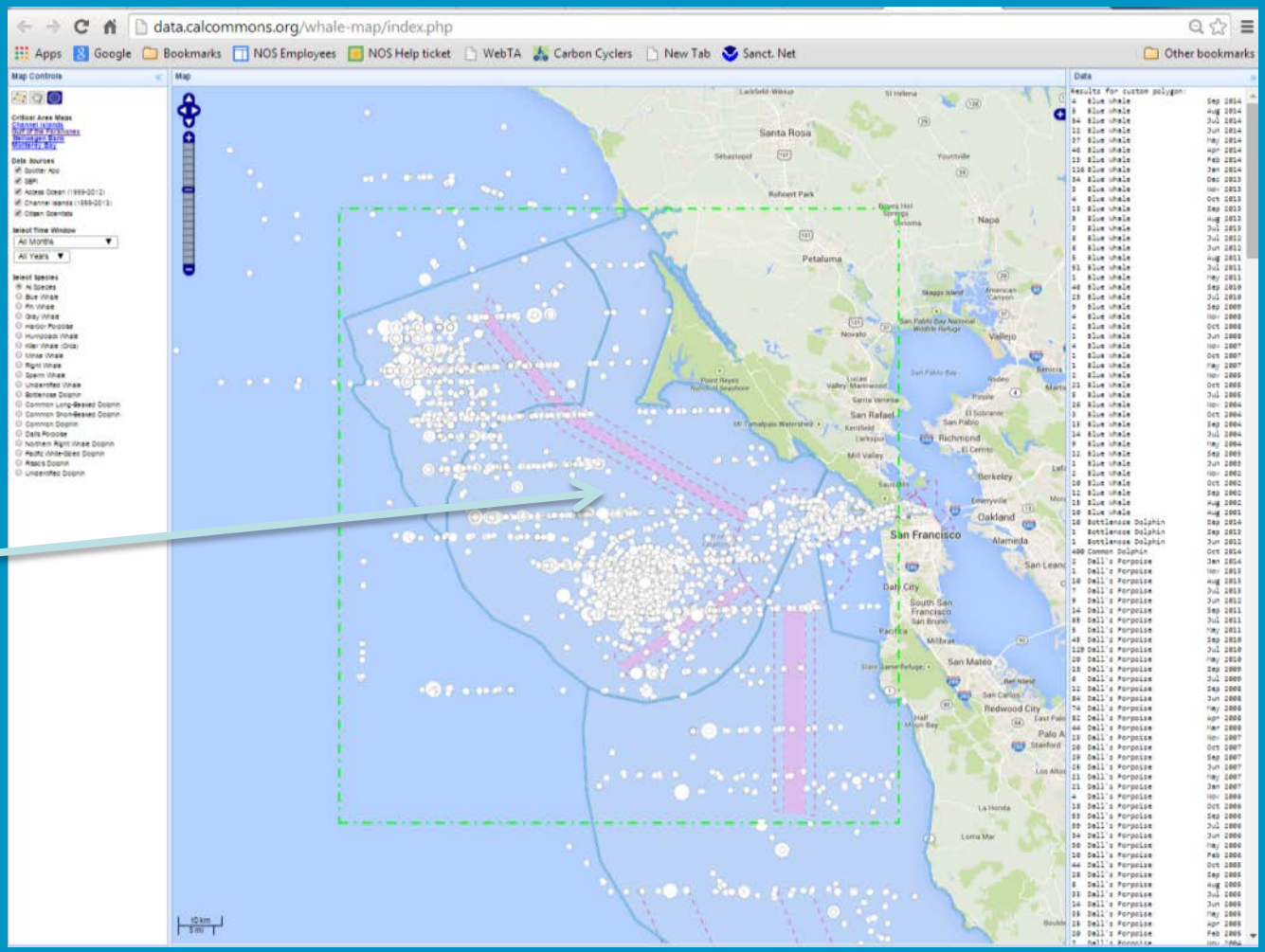
Customer Reviews

For Professional Data Collection–There is nothing better! ★★★★★
by Nyangumi

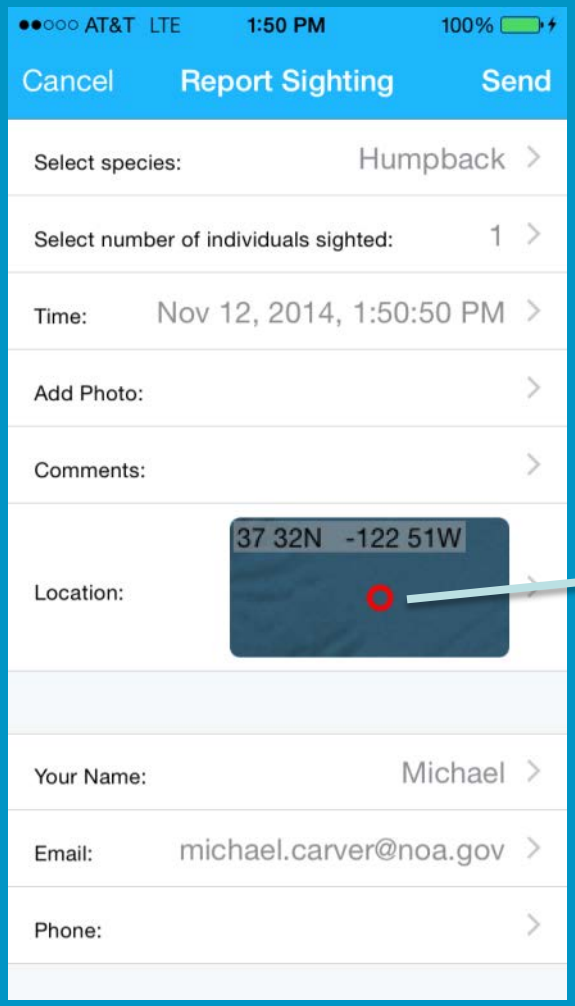
For anyone that needs to collect data in the field, no matter whale, wombat or wildebeest, SpotterPro is the app to use. With easy server data storage, you no longer have to worry about who has what drive or which laptop. Everything is in the 'cloud' You have to sign up for a user account which isn't always obvious, but the plus side is they can ...More

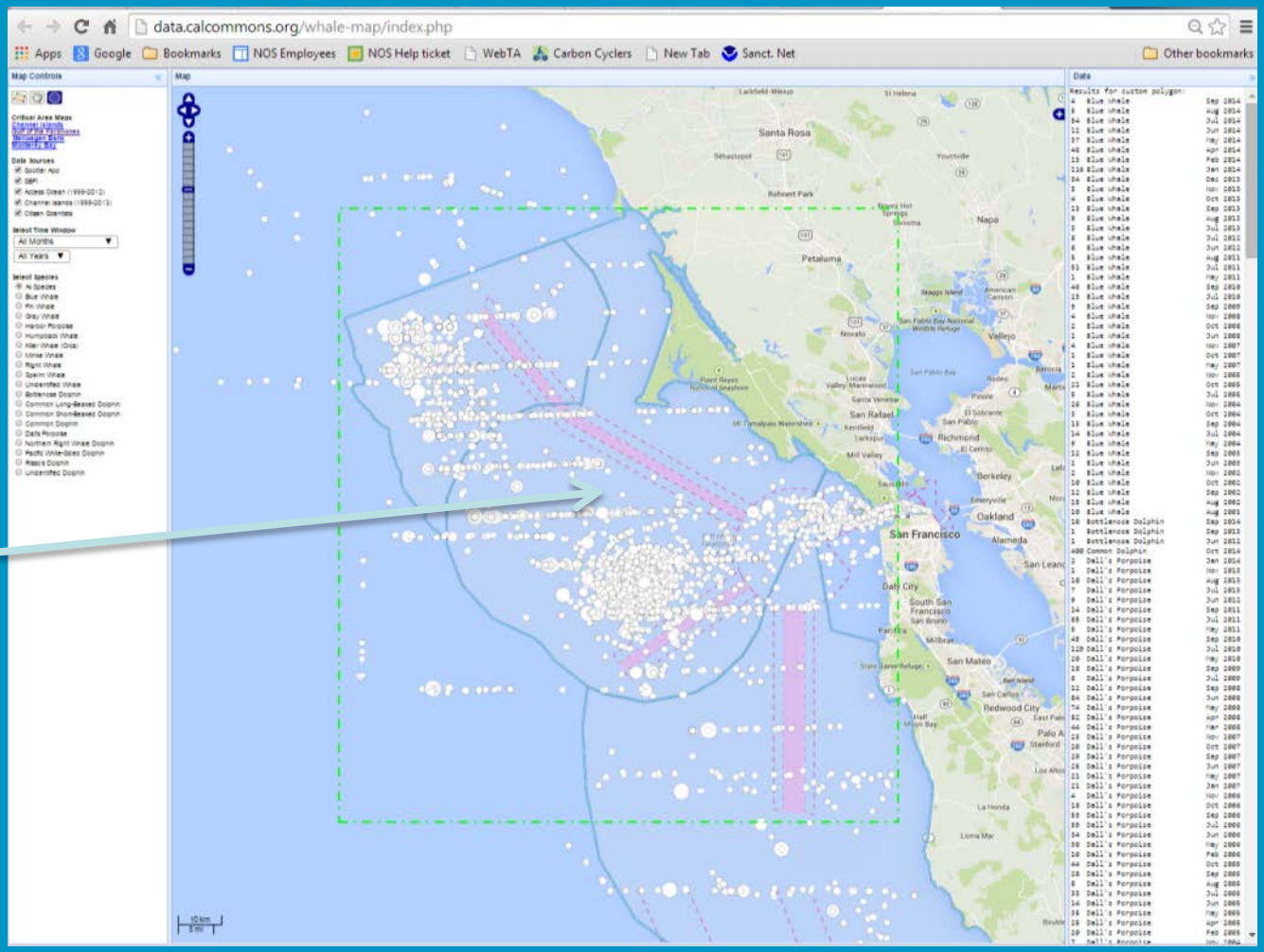
Real-time whale sighting and monitoring network: 2013-2015



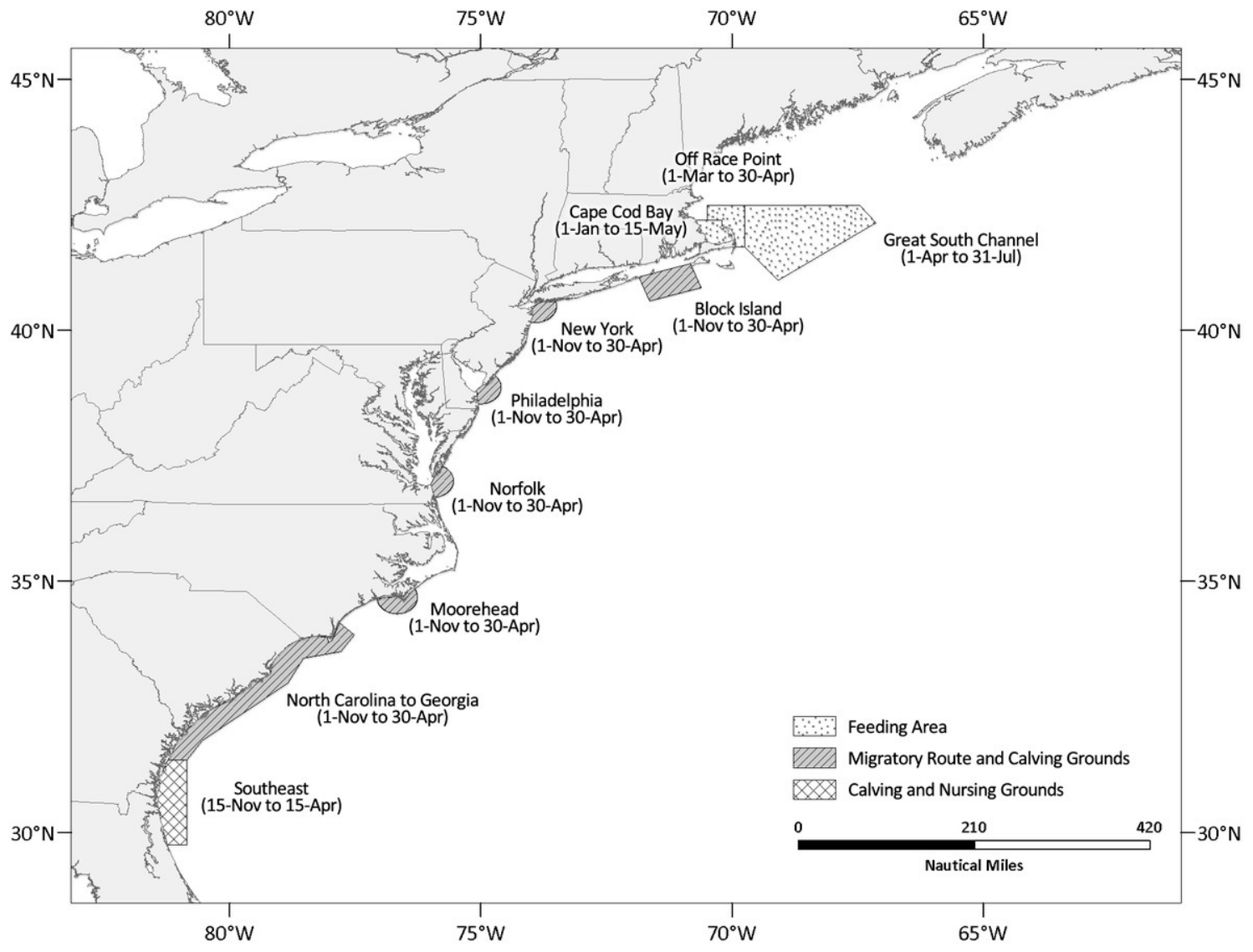


Deciphering the data in 2014 for a DMA





NMFS: Seasonal Management Areas



In 2000 Congress clarified NMS Act

(A) improve the conservation, understanding, management, and wise and sustainable use of marine resources;

(B) enhance public awareness, understanding, and appreciation of the marine environment; and

(C) maintain for future generations the habitat, and ecological services, of the natural assemblage of living resources that inhabit these areas.

(D) maintain the natural biological communities in the national marine sanctuaries, and to protect, and, where appropriate, restore and enhance natural habitats, populations, and ecological processes

ONMS: voluntary Vessel Speed Reduction

NATIONAL MARINE SANCTUARIES

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Marine Sanctuaries

April 15, 2015

Dear Mariner,

NOAA's Office of National Marine Sanctuaries (ONMS) will be issuing a voluntary Vessel Speed Reduction (VSR) effective May 1 - November 15, 2015 for the San Francisco Traffic Separation Scheme (TSS) within the Cordell Bank, Gulf of the Farallones, and Monterey Bay National Marine Sanctuaries to protect whales listed under the federal Endangered Species Act, the Marine Mammal Protection Act, and the National Marine Sanctuaries Act. ONMS recommends all vessels 300 gross registered tons or larger reduce speeds to 10 knots during this time period. We request your company's commitment to the voluntary VSR to protect endangered whales that annually migrate to this area in summer and fall to feed within the sanctuaries. The combination of commercial shipping traffic, migratory whale routes and concentrations of whales in feeding areas, increases the risk of ship strikes to whales that can result in serious injury or death to whales. Between 1988 and 2012, there were 100 documented large whale ship strikes along the California coast.

NOAA's National Marine Sanctuaries is moving to this type of fixed-date voluntary VSR in order to:

- Reduce vessel strikes and the lethality of strikes to threatened and endangered whales in the marine sanctuaries;
- Establish predictable start and end dates for industry that bracket peak periods of whale abundance in the sanctuaries; and
- Address the lack of fine scale, real-time data documenting shifting distribution and abundance of whales in the area.

NOAA is committed to the long-term protection of the nationally significant marine resources of the sanctuaries by enhancing marine safety and environmental awareness in the maritime community. During the VSR, NOAA will be monitoring AIS to assess the industry's commitment to this effort. We encourage vessel crews to report whale sightings to whales@noaa.gov, or through the Whale Alert App. Your support of the voluntary 10 knot vessel speed request during whale season will help reduce strikes and protect whales within the national marine sanctuaries.

Thank you in advance for your commitment to protecting endangered and threatened whales.

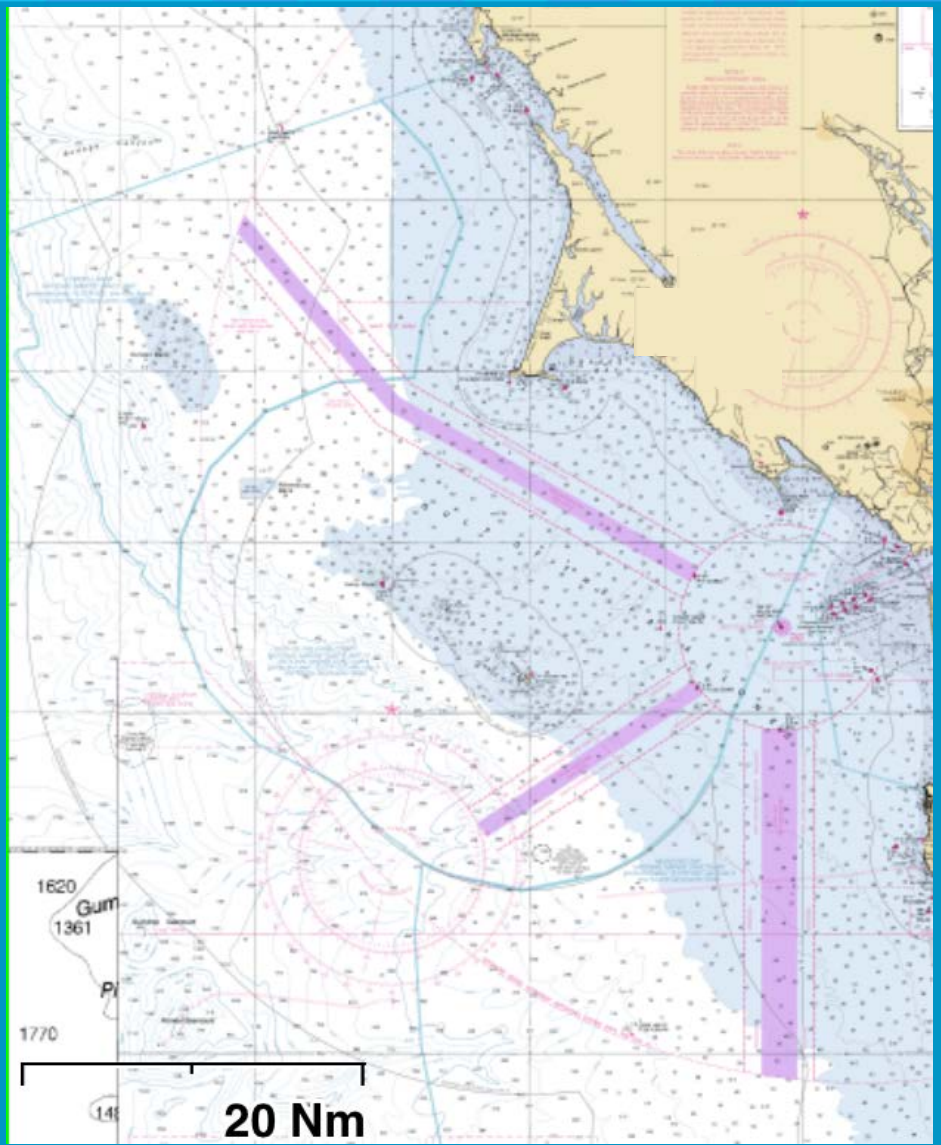
Sincerely,

Daniel F. Howard

Daniel F. Howard, Superintendent
Cordell Bank National Marine Sanctuary

Maria Brown

Maria Brown, Superintendent
Gulf of the Farallones National Marine Sanctuary



Management Recommendation #4

Consult with other federal agencies on activities that would affect vessel traffic or vessel noise

"The sanctuaries should consult with other federal agencies on activities that would affect vessel traffic or vessel noise within sanctuary boundaries. This authority derives from the National Marine Sanctuaries Act § 304(d), under which sanctuaries are entitled to consult over federal agency actions, including licensing or approving private activities, that are likely to injure a sanctuary resource."

Management Recommendation #5

Port Based Incentives

"The sanctuaries, together with NMFS and external partners, should work with the port authorities in San Francisco Bay, other west coast ports and industry to establish port-based incentives for the reduction of underwater shipping noise."

Channel Islands National Marine Sanctuary is experimenting with an incentive program to slow vessels down (which will also reduce underwater noise). Funding is minimal and through a one-time grant. NMS is activly tracking the results of this incentive program.

Management Recommendation #6

"Implement a passive acoustic monitoring program within GF and CB sanctuary waters to better understand the abundance and distribution of marine mammal species in the sanctuaries, as well as the potential noise impacts from shipping on sanctuary resources."

Cordell Bank National Marine Sanctuary has partnered with the **I**nternational **F**und for **A**nimal **W**elfare (IFAW) & PMEL to build in 2015 and deploy for 2 years a deep water sensor to establish a baseline soundscapes in the sanctuary through passive acoustic monitoring. This will also be part of the NOAA Ocean Noise Reference Station Network. Baseline measurements will establish a time series to gauge the changes induced by anthropogenic and climate stressors on the ambient marine sound environment.

Objectives:

1. Sounds produced and used by living marine resources
2. Natural sources of noise from physical oceanographic processes; and
3. Anthropogenic noise sources that contribute to the overall ocean noise environment.

Management Recommendation #7 & 8

"Education and Outreach Strategic Plan, with measurable outputs and an implementation schedule that inform all stakeholders on the issues as well as possible solutions… focused on engaging and informing the commercial maritime industry."

Sanctuaries have communicated with the maritime community through the following methods:

1. Broadcast and Published Local Notice to Mariners and over AIS txt messages
2. Education/outreach poster for ship's bridge developed in collaboration with NOAA Fisheries and the Pacific Merchant Shipping Association.
3. Letters to agents and shipping lines asking for cooperation with voluntary speed restrictions and use of Whale Alert 2.0 along with brochures, and direct mailing .
4. Maintenance of an email list-serve that provides updates on whale season, sightings, strikes, and voluntary speed reduction requests.
5. Broadcasts over NOAA Weather Radio
6. Direct communication between USCG VTS and ship captains
7. Countless presentations including the Bar Pilots, Harbor Safety Committee, Port Agents, Planning Coalition, North American Marine Env. Protection Association, yacht clubs, docents, whale watch operators, as well as general outreach through, radio, TV, print, web, film, and social media.

Recommended, continued research and monitoring efforts

- Compilation of and analysis of historic and new data on whale distribution, whale movements, distribution at night vs. daytime

- Continue monitoring whale population trends to determine conservation status

- Gather data on whale behavior in and around shipping lanes to determine vulnerability to ship strikes and variability by season, time of day, species, sex, age, foraging behavior vs other behaviors

- Examine how whales react to approaching ships to determine vulnerability and how changes in noise levels (speed reduction or mechanical changes) alter vulnerability

- Compilation of ship movements and speed, before and after CARB.