Update for GFNMS Advisory Council on Sanctuary Actions in Response to SAC Report: *Vessel Strikes and Acoustic Impacts to Whales*

Recommendation 1: NOAA and USCG should pursue the modification of shipping lanes to avoid areas of whale concentration, beyond the shelf break

GFNMS Update: The Traffic Separation Scheme (TSS) was modified at the approach to San Francisco Bay on June 1, 2013. Next steps include:

1. Promote 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.
2. Continue to monitor whales through ACCESS and vessels (see #1 above) and 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.

Recommendation 2: Dynamic Management Areas 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.

GFNMS Update: GFNMS and CBNMS are experimenting with targeted voluntary speed reductions (VSRs) this whale season (2014). NOAA is requesting vessels slow-down to ten knots or less only in one of the three lanes at the approach to San Francisco Bay. The hope is that commercial vessels will be more willing to cooperate with the VSRs, since they are based on near real-time data and very spatially limited. Next steps include evaluation of the viability and effectiveness of DMAs by:

1. Assessing the level of cooperation to voluntary speed reduction requests
2. Conducting cost-benefit analysis of level of cooperation vs. expense of real-time monitoring and staff resource needs

Recommendation 3: The sanctuaries and NOAA Fisheries, 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.

GFNMS Update: The West Coast Region Sanctuaries with several partners (NOAA Fisheries, Pacific Merchant Shipping Association, Point Blue, Conserve IO, International Fund for Animal Welfare, Cascadia Research) have been implementing a near-real time whale sighting network through these methods:

1. Whale Alert 2.0 – a smart phone/tablet application developed by Conserve.IO is a publicly available and user-friendly way for the general public to report whale sightings on the west coast. It is intended to be used by whale watching enthusiasts to document whale sightings in real time. Spotter Pro—smart phone/tablet application for researchers and naturalists to document whale sightings in near-real time, which includes a level of search effort vital to determine where areas that were searched and zero whales were observed. Data from whale experts will continue to provide NOAA with information that can assist with requesting the US Coast Guard's Vessel Traffic Service to ask ship operators to slow down or change course as they approach areas where whales have been sighted. The Whale Alert 2.0 program is primarily an outreach and stewardship program. This program can be used to identify large groups of whales, not previously observed by researchers and can assist management by identifying areas where targeted assessment can be focused.
2. Opportunistic Land-Based Observations by the public using Whale Alert 2.0 and targeted land based observations by Pt Blue on the SE Farallon Island and some observations from Pt Reyes Lighthouse, using Spotter Pro
3. Opportunistic Aerial Surveys – using USCG cooperative hours to determine locations of high levels of whales and to determine when request for voluntary speed reductions should be cancelled.
4. Commercial Vessel Observations – NOAA Fisheries, working with Cascadia Research, has conducted ride-alongs on commercial vessels to spot whales in the shipping lanes. Funding is limited, but preliminary data indicates that these vessels are very valuable observation platforms.
5. Whale Watch Vessels – Interpretative staff on whale watch vessels provide whale sighting information through Spotter Pro. This has limited viability due to the low levels of commercial whale watching companies in our region.

Recommendation 4: 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.

GFNMS Update: When GFNMS is aware of an activity that will affect the sanctuary's whale resources, a required 304d consultation will be requested.

Recommendation 5: 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.

GFNMS Update: 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. GFNMS will review the results of this incentive program.

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.

GFNMS Update: CBNMS is close to being a node for establishing baseline soundscapes in the sanctuary through passive acoustic monitoring.

Additionally, NOAA Fisheries is developing acoustic guidance for assessing the effects of anthropogenic sound on marine mammal species. The guidance provides acoustic threshold levels for onset of permanent threshold shift (PTS) and temporary threshold shifts (TTS) for all sound sources. GFNMS is tracking this process and intends to move forward with NOAA on this issue.
http://www.nmfs.noaa.gov/pr/acoustics/guidelines.htm

Recommendation 7: The West Coast Region sanctuaries should draft an Education and Outreach Strategic Plan, with measurable outputs and an implementation schedule that will seek to inform all stakeholders on the issues as well as possible solutions. Education and outreach materials should first be focused on engaging and informing the commercial maritime industry.

GFNMS Update: GFNMS and the West Coast Region have communicated with shippers through the following methods:

1. Broadcast and Published Local Notice to Mariners
2. Whale Alert 2.0
3. Education/outreach poster for ship's bridge developed in collaboration with NOAA Fisheries and the Pacific Merchant Shipping Association.
4. Letters to agents and shipping lines asking for cooperation with voluntary speed restrictions.
5. Maintenance of an email listerve that provides updates on whale season, sightings, strikes, and voluntary speed reduction requests.
6. Broadcasts over NOAA Weather Radio

Recommendation 8: The West Coast Region sanctuaries and NMFS should develop a regional education and outreach program to leverage scarce resources, avoid duplication of efforts in areas already addressed by other NMS (e.g. CINMS, Stellwagen Bank NMS), and recognize that commercial vessels often call or transit close to any one of the NMS on many voyages.

GFNMS Update: The West Coast Region sites collaborate regularly on outreach and education tools.

*The report also lists the **recommended, continued research and monitoring efforts.** These recommendations are listed below in bold and the GFNMS Update to address each is in normal type.*

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

Compilation of ship movements and speed, before and after CARB rulings (Jensen's thesis will analyze shipping movements before the California Air Resources Board ruling)
International Maritime Organization (IMO) emission controls. They should also include any changes in use of vessel lanes or speed before during and after voluntary LNM requests for speed reduction overall and specific lane; abundance, duration and distribution in "vulnerable areas", determine the degree of ship strike whales to population levels, consider relative risk to specific populations.
GFNMS is working with SFSU faculty and Pt Blue to identify geography graduate students to work response by shippers to voluntary vessel speed requests in 2012-2014

Continue monitoring whale population trends to determine conservation status
The recommendation to determine the relative risk/degree of ship strike whales to population levels is a NMFS task. The recommendation to continue monitoring whale population trends to determine conservation status is also a NMFS task.

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
The recommendation to 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, is partially being done through NMFS, Cascadia Research Collective, Moss Landing Marine Lab, and ACCESS. In order to best assess this, additional tagging work is needed and support from NMFS is required.

Examine how whales react to approaching ships to determine vulnerability and how changes in noise levels (speed reduction or mechanical changes) alter vulnerability
See above recommendation. The recommendation to examine how whales react to approaching ships to determine vulnerability and how changes in noise levels (speed reduction or mechanical changes) alter vulnerability is a reasonable research question. At this time, GFNMS is unable to develop a research project to answer this question. In order to best assess this, tagging work is needed and support from NMFS is required.