

CHANNEL ISLANDS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL
Marine Shipping Working Group Meeting

FINAL Key Outcomes
June 29, 2015
Channel Islands Boating Center
3880 Bluefin Circle, Oxnard, CA

Attendance

- Thirteen Marine Shipping Working Group (MSWG) members (or alternates) participated in the third MSWG meeting. The following seats were absent: California Coastal Commission, Cascadia Research, and National Marine Fisheries Service (SW Region). See attached attendance roster.

Updates on Analytics in SeaSketch

- Grace Goldberg from SeaSketch gave an overview of updates to SeaSketch analytics that were implemented following a meeting of the MSWG Data Subgroup. She reviewed a handout, *Analytical Reports in SeaSketch for the Marine Shipping Working Group*, which describes the available analytics in SeaSketch, organized by the questions working group members may ask, such as, “What is the length of this shipping lane?” The *Analytical Reports in SeaSketch for the Marine Shipping Working Group* is available here: http://channelislands.noaa.gov/sac/group_meetings_archives.html.
- MSWG members shared the following comments about the analytics available in SeaSketch:
 - There are potential problems with comparing shipping lane lengths that do not start and end at the same ship traffic convergence points.
 - Quantitative emissions calculations that are based on average vessel attributes and shipping lane length may be misleading because 1) shipping lanes may not start and end at the same convergence points and 2) average vessel attributes may not be representative of the existing fleet.
 - Be careful not to include emissions reductions within the 40 nm slow speed zone around the Ports of Los Angeles and Long Beach because the ships are already transiting at slower speeds.
- MSWG members also expressed interest in integrating economic factors into SeaSketch analytics.

Informational Presentations: Ship Routing and Scheduling Drivers

Presentation materials available here: http://channelislands.noaa.gov/sac/group_meetings_archives.html

Capt. Kip Louttit, Marine Exchange of Southern California

- Capt. Kip Louttit presented an overview of viewing conditions aboard a typical container ship, explaining that before asking ships to change their behavior, it is important to see things from their perspective. Kip stated that even the most vigilant lookout on a container ship will have trouble seeing a whale and determining swimming direction so that evasive action can be taken. Furthermore, he explained that large ships turn slowly and take many miles to stop at sea.
- Kip also highlighted that most vessels follow predictable paths along designated shipping lanes, but many others follow the “straight line is the shortest distance between two points” rule.

Jeromy McConnell, Maersk Line

- Jeromy McConnell presented on vessel services and routing from the perspective of Maersk Line. He explained that vessel routes take several weeks to complete, as they are scheduled from one stop to another, like a bus route. He also stated that all ports are unique—when you determine a route you need to consider service needs in accordance with each unique port, such as facilities,

labor and truck and train availability. Jeromy also discussed the impacts of specific delays, including: increased costs for labor, including cost of overtime; congestion of other vessels; losing berths; and increased speeds when leaving port to compensate for lost time. Cumulatively, this can impact the ship's schedule for the entire route.

- MSWG members raised questions about advance planning and how Maersk incorporates whale management zones on the east coast into its schedules. Jeromy explained that Maersk tries to work any regulations (seasonal or constant) into the vessel schedules. He also noted that months are usually dedicated to creating an optimal plan, but issues like bad weather arise that need to be addressed in the moment, and so things don't always go as planned. MSWG members also asked about the impacts of seasonal versus year-round management measures, and Jeromy explained that the most important thing is to know as soon as possible about a specific situation. He stated that sometimes about two weeks advance notice is enough, but sometimes it is not. MSWG members also brought up the point that there are many different types and classes of ships, each with its own challenges and limitations, which may be different from what Maersk faces.

Informational Presentations: Science of Ship Strikes

Presentation materials available here: http://channelislands.noaa.gov/sac/group_meetings_archives.html

Greg Silber, National Marine Fisheries Service

- Greg Silber presented on the science and politics of reducing vessel/whale collisions, drawing on his experiences working with North Atlantic Right Whales on the east coast. Greg gave an overview of the steps in ship strike reduction planning and the tools that can be used to manage ships, including speed and routing measures that are either mandatory or voluntary. He explained how NOAA developed a long-term strategy to reduce ship strikes of North Atlantic Right Whales throughout their entire range, involving a number of approaches, while also minimizing potential adverse impacts to ports and the shipping industry. Greg also discussed the relationship between ship speed and fatal whale strikes, noting that reduced speeds reduce the probability of a fatal strike. Finally, Greg discussed implementation, enforcement, and monitoring the effectiveness of management measures.
- MSWG members discussed the additional level of complexity that they face on the west coast, given that there are multiple endangered whale species, each with their own distributions, behaviors, and threats.

Discuss Preliminary Management Option Ideas

Eric Poncelet and Janet Thomson, Kearns & West facilitators, initiated a discussion of the preliminary management option ideas that MSWG members submitted through SeaSketch prior to the meeting. MSWG members opted to discuss preliminary management options together as one group rather than in two breakout groups. Eric and Janet explained that six ideas were anonymously submitted, and invited the MSWG to discuss these in depth with the four goals of the MSWG in mind.

Attached are the six preliminary management option ideas that were submitted with descriptions and/or rationales by individual MSWG members prior to June 29th. MSWG members discussed these options, see below.

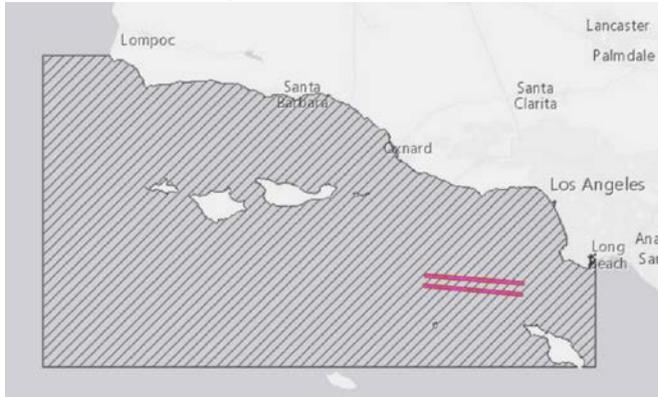
Discussion and Next Steps

- Greg Silber, NMFS, suggested a new idea: to use passive acoustic monitors to track whale distributions in real time.
- Kathy Metcalf, Chamber of Shipping of America, suggested the development of a grading matrix that will allow MSWG members to assess how well each preliminary management option idea performs with regard to the four goals of the MSWG.

- MSWG members agree that the status quo and the recommendations from the USCG 2011 PARS study should be included in the grading exercise.
- The following MSWG members volunteered to participate in a “grading subcommittee”: Kathy Metcalf, Zak Smith, TL Garrett, John Ugoretz, Kristi Birney, Mary Byrd, and Greg Silber.
- MSWG members agreed to tentatively hold **October 7th and 8th** for the next meeting (2-day meeting).

Preliminary Management Option Ideas

1. Shipping Lane Idea: Make Voluntary Western Lane an Official TSS (previously called “Permanent Western Lane”)

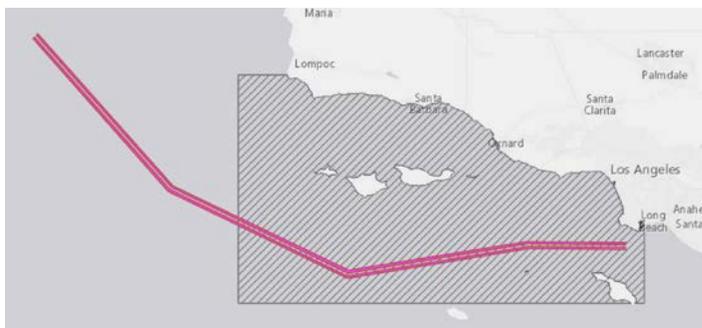


Rationale: The voluntary western lane is already used by many vessels. Official designation of a western lane by the International Maritime Organization (IMO) will encourage even wider use of the lane, reducing unorganized traffic. This will reduce the threat of ship strikes by creating lanes that can be managed for whale protection. For example, whale conservation efforts such as overflights and slow speed zones could be implemented in the western lane as well. It will also improve navigational safety by organizing traffic in designated lanes, thus reducing threat of collisions. Finally, the designation of this lane will reduce user conflicts because port managers can advise whether to use the lane or not based on military activity.

Discussion Points from June 29th MSWG Meeting:

- A disadvantage of this idea is that tankers headed for El Segundo would have to make a sharp left turn to reach port
- There was general support among the group for the existing voluntary western lane, but formalizing this segment with the IMO wouldn't carry specific benefits with regard to the goals of the MSWG.
- If you force ships into a smaller area, this results in smaller area to do whale reconnaissance.
- This lane falls within the 40 nm slow speed zone around the Ports of LA/LB. High compliance with speed reduction zones into the Ports of LA/LB already exists, although one could further reduce speeds in this zone.

2. Shipping Lane Idea: Bathymetric Feature Avoidance



Rationale: 1. Whale protection - Assumes upwelling events off bathymetric features may concentrate whales and routing should consider avoidance of those features - Potential to tie to weather related forecasting - Generally follows the existing tracks of vessels using the "Western Voluntary Approach" (overlay the AIS data) to the south of the Channel Islands and CINMS - Further Pushed to the west to avoid

shelf features and seamounts - Vessel Convergence Point Pushed approx. 80 nm north-west. When measurements are taken from new convergence point the actual transit is less than 20 nm further.

2. Air quality - the modest increase in emissions would be offset to some degree by the prevailing winds moving the mass southerly. According to the extensive tracer study done by CARB in 2000, almost none of the offshore ship emission made landfall in either Santa Barbara or Ventura Counties. Of the emissions that did make land they generally didn't do so until southern Orange and San Diego Counties. More importantly the Santa Barbara is already in attainment for all National Ambient Air Quality Standards NAAQS (designed to protect the most sensitive individuals in the population) including at the current 75 ppb O₃ (ozone). While there seems to be some concern by the Santa Barbara County Air Pollution Control District (SBCAPCD) that the proposed new O₃ NAAQS (est. 65 - 70 ppb) may be a problem. However, that concern is based on a 2005 fleet that simply doesn't exist today and air quality improvements that have been made are significant. More importantly continuing improvements are already hardwired into the system through international treaty. Including the further reduction of greenhouse gases.

3. No real difference to the Navy from current conditions; same potential for increased frequency of transits. Further from whale watching, fishing impacts unknown but unlikely.

4. Would need to consider in associated with a vessel speed reduction (VSR) proposal in the SB Channel and the increased traffic avoiding the existing vessel traffic separation scheme (TSS).

Discussion Points from June 29th MSWG Meeting:

- This idea aims to move ships to lower density whale areas.
- It is consistent with existing traffic patterns (see AIS data).
- A TSS in this area might incentivize more ships to use it; this would increase the potential for more ships traveling through the Navy's sea range.
- Potential for increased interaction between ships and whales according to Navy aerial survey data.
- This idea would benefit from increased communications with and among vessels to alleviate potential impacts to the sea range.
- The greatest risk of ship-to-ship collision is at the southwest point of proposed shipping lane (see map below) because there is a turn-point beyond visual navigational aids.



- Could improved organization of ship traffic (i.e., better than the status quo) help address Navy interests in the Sea Range?
- A concern is that establishing a TSS south of the islands tells ships to come in to the sea range. Currently, there are not too many ships in the sea range and they heed navy re-location requests.
- We need to consider unintended consequences. For example, a mandatory speed reduction only in the SB Channel will likely encourage ships to go through the sea range.

3. Dynamic Management Area (DMA) Idea: AIS Whale Warning Zone



Description: This DMA would be based upon the actual presence of whales as seen by observers, scientists, ships, etc. Anyone observing an aggregation of 3 or more whales remaining in an area of less than 10 square miles over the course of 2 or more days would report to a central clearinghouse. Such sightings would then be transmitted in spatial form via Automatic Identification System (AIS) to ships with a recommendation to avoid the area or reduce speeds through it.

Criteria: Sightings of 3 or more whales remaining in a 10 square mile area for 2 or more days.

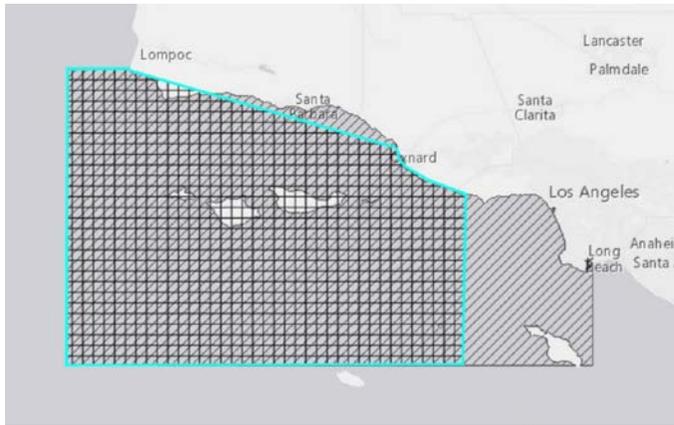
Rationale: The biggest issue with any sort of spatial management at this point in time is the relative paucity of spatially specific data on whale aggregations. Additionally, both within and among years the locations where whales aggregate change. The above system would take advantage of existing communications systems to alert ships to the specific locations where whales are being seen, allowing them to either alter course or reduce speed to avoid.

Discussion Points from June 29th MSWG Meeting:

- Benefits include:
 - o This approach lets ships manage their own behavior based on better information.
 - o Easy to do. This is already being done in an ad hoc fashion.
- A key incentive is that ships are more likely to respond to a specific need/purpose
- Problems/challenges include:
 - o Ships don't read incoming messages consistently.
 - o It is a challenge getting information from ships to shore and back.
 - o Limitation is that the Port of LA/LB only transmits notices to outgoing ships; for inbound ships near Pt. Conception, Port of LA/LB can contact Vessel Traffic Service San Francisco to notify the southbound ships, but that doesn't address the ships traveling Great Circle
 - o This approach is limited by available whale sightings information.
 - o What is the mariner expected to do with the information? Slow down? Avoid the area? How?
- In the future, there may be more whales with AIS tags which would provide more data of where whales are located.
- Idea – use commercial shipping as a platform for thermal imaging (see research from NZ); start with a pilot program.
 - o Can detect whales within 1-2 km
 - o Potential issue: risk for ships regarding ESA

- The MSWG should consider all potential tools to inform DMA decisions including but not limited to: passive acoustic monitoring, whale reporting system (Channel Islands Naturalist Corps and/or Whale Alert), overflights, thermal detection, active acoustic monitoring, etc.

4. Speed Reduction Zone Idea: VSR



Description: After careful review of all material, I see interwoven spaghetti of current ship paths and whale sightings/paths. The whales seem to be everywhere throughout the MSWG area, so I see nowhere to move the ships and be clear of the whales.

Rationale: Therefore, the only recommendation I have regarding Management Areas or Shipping Lanes is a Maximum Ship Speed alternative throughout the entire MSWG area. I plugged in 12 knots because that's the figure used for the pilot in the summer of 2014, but defer to scientists on whether that's the right speed, and I defer to scientists on the minimum size of vessel this should apply to.

Discussion Points from June 29th MSWG Meeting:

- This approach would add at least a day to timing of ships. This would disincentivize the use of California ports.
- This approach solves problem of implementing VSR on both sides of the islands.
- This approach generally addresses most goals, except there are major economic downsides; it does not meet the goal of economically efficient maritime commerce.

5. Multi-part Management Idea: Area of Interest, DMA, Seasonal Management Area (SMA) & TSS Shipping Lane



Overall Rationale: Large area encompassing entire Santa Barbara Channel Down to Ports of Long Beach/LA. New Study Region This Area of Interest would be a large Management Zone and include two

components. First, Dynamic Management during the year. Sightings of 3 or more whales trigger operating vessels 65 feet (19.8 meters) or greater route around speed reduction zones (Dynamic Management Areas—DMAs) or transit through them at 12 knots or less. Once whales have left the area to DMA could be removed. The second component would be a shipping corridor (to be identified) through the Naval range. When dynamic management is triggered, ships could choose to use either the Santa Barbara TSS (at a slower speed) or transit south of the islands through the alternate transit corridor. This corridor could be designed to minimize overlap with known whale habitat areas identified in the biologically important areas (BIAs), Redfern modeling, and Irvine modeling, while also minimizing interruption of naval testing operations. Some suggestions include having ships transit a similar (but slightly different) path from the tankers to avoid being inside the Santa Barbara Channel. Having the corridor encompasses the areas of high use from the 2012 & 2013 AIS data.

Support Goals of MSWG: 1) Reduced risk of ship strikes: Yes. Ships would either slow down to 12 knots or re-route during times when there are high concentrations of whales in the Santa Barbara TSS. Identifying a corridor through the Naval testing range that minimizes overlap with BIA's, Redfern model, and Irvine model could result in reduced co-occurrence with whales through the region.

2) Decrease air pollution: Yes. Fewer air emissions from ships that chose to slow down in the SB TSS, instead of re-routing.

3) Improve navigational safety: Uncertain. Proposed corridor could identify directional travel corridors for north and south bound traffic (similar to shipping lanes). This would reduce the chances of north and southbound traffic crossing paths through the navy range and could improve navigational safety.

4) Minimize interruptions to Navy operations and other ocean users: Uncertain, but trending towards yes. Establishing a known corridor through the Navy range would allow the Navy to plan and execute operations outside the area. Should the Navy choose to conduct trainings in the corridor they could then easily identify ships within the corridor and notify them to re-route to avoid testing operations. This option could build on the existing role the Marine Exchange already plays in intercepting and communicating with ships when they enter the Navy zone, letting them know of any testing operations and if they need to vacate the zone.

Discussion Points from June 29th MSWG Meeting:

- Benefit include:
 - o This idea has more options and recognizes that individual management options alone may not be enough.
 - o This is the best approach for not interfering with navy interests.
 - o Predictability improves with 12 hour lead time.
- Problems/challenges include:
 - o We still need more information where whales are in general. At least this idea is based on habitat data.
 - o Ship crews don't all speak English.
- This idea is similar to the East Coast approach in that there are multiple options.
- Key to success: the DMA needs to be well implemented.
- Recommendation: Look more closely at AIS data to see whether speeds are already sufficiently slow in specific areas.

6. Seasonal Management Area Idea: VSR Seasonal Inside and Outside Channel



Description: Voluntary and possibly incentive-based speed reductions to 12 knots or less. Existing rules in effect in this area include CARB fuel rule and North America Emission Control Area (ECA) rules.

Rationale: Reductions of air emissions during peak ozone season, and reduces lethality to whales during peak whale season.

Discussion Points from June 29th MSWG Meeting:

- Benefits include:
 - o This approach avoids DMA (dynamic management area), which is more complicated.
- Problems/challenges include:
 - o How to have a SMA (seasonal management area) when whales seem to be everywhere; different species have different seasonality
 - o We need to consider issue of unintended consequences (e.g. shifting traffic patterns).
 - o Ships will avoid the VSR zone if it does not cover the entire area.
 - o Past solutions avoided a southern lane because it was found to exacerbate air pollution.
 - o Jurisdictional concern – if it is not in the channel, it needs to be designated internationally.
 - o DMA is more likely to cause “speed up” when vessel leaves the zone.
 - o Will VSR below 16 knots be a big difference for air quality?
- The risk of collision should not be an issue going forward due to low numbers of ships each day.
- The shape of the southern VSR zone is arbitrary. A potential fix is to expand the zone.
- Note – the northern VSR zone already exists.
- The southern VSR zone needs data to support it.
- Context for existing VSR zones in the Santa Barbara TSS (status quo): the focus is on blues, humpbacks and fins, the requirement is to see 5 whales or more in or around the TSS to implement the VSR zone; this is a voluntary measure.
- Note – on the east coast, SMAs are based on historical data, and DMAs are based on real-time data.
- It is less certain that protection south of the islands will work because there is less information about whales south of the islands.
- From the Navy’s perspective, it is important to take the same action in the Santa Barbara channel and south of the islands because ships will move.
- Note – this is not a new idea.
- Whale distribution tends to be driven by bathymetric features, so we do have some information on where they tend to be.
- Note – new IMO policies may give more authority to nations/states.

- Dynamic vs. Seasonal approaches – dynamic approaches allowed those on the east coast to make seasonal areas as small as possible.
- Voluntary approaches have not worked very well on the west coast, but there has been some success with incentive-based.
- Shippers like the predictability of seasonal management, but on the west coast, we need to demonstrate that SMAs actually benefit whales.
- Vessels are incentivized to use TSSs.

Meeting Attendance Roster (June 29, 2015)

Cassidy Teufel	CA Coastal Commission	<i>Absent</i>
John Calambokidis	Cascadia Research	<i>Absent</i>
Kathy Metcalf	Chamber of Shipping of America	<i>Present</i>
Sean Kline	Chamber of Shipping of America	<i>Absent</i>
Stephen Whitaker	Channel Islands National Park	<i>Present</i>
Kristi Birney (Co-Chair)	Environmental Defense Center	<i>Present</i>
Andrea Mills	Island Packers	<i>Present</i>
Jeromy McConnell	Maersk Line	<i>Present*</i>
Lee Kindberg	Maersk Line (alternate)	<i>Absent</i>
Capt. Kip Louttit	Marine Exchange of Southern California	<i>Present</i>
Jessica Redfern	National Marine Fisheries Service	<i>Absent</i>
Megan McKenna	National Park Service	<i>Absent</i>
Zak Smith	Natural Resources Defense Council	<i>Present</i>
Taryn Kiekow	Natural Resources Defense Council (alternate)	<i>Absent</i>
TL Garrett	Pacific Merchant Shipping Association	<i>Present</i>
John Berge	Pacific Merchant Shipping Association (alternate)	<i>Absent</i>
Mary Byrd	Santa Barbara County Air Pollution Control District	<i>Present</i>
Joseph Petrini	Santa Barbara County Air Pollution Control District	<i>Absent</i>
LT Jevon James	U.S. Coast Guard	<i>Present</i>
LCDR Brandon Link	U.S. Coast Guard (alternate)	<i>Absent</i>
John Ugoretz	Dept. of Defense - U.S. Navy	<i>Present</i>
Walt Schobel	Dept. Of Defense (alternate)	<i>Absent</i>
Phyllis Grifman	USC Sea Grant	<i>Present</i>
James Fawcett	USC Sea Grant	<i>Present</i>

* *Participated remotely*

Also in attendance: Greg Silber, National Marine Fisheries Service (NOAA); Dan Dorfman, National Centers for Coastal Ocean Science (NOAA); Brent Kraushaar, Santa Barbara County Air Pollution Control District, sanctuary staff Morgan Visalli, Sean Hastings, Kendall Mills, Elena Meza, and David Minovitz; SeaSketch staff Grace Goldberg and Will McClintock; and Kearns and West representatives Janet Thompson and Eric Poncelet.

Final Agenda
Marine Shipping Working Group – Meeting #3
Channel Islands National Marine Sanctuary Advisory Council
Channel Islands Boating Center (Upstairs Classroom)
3880 Bluefin Circle, Oxnard, CA 93035
June 29, 2015; 9:30 a.m. – 4:00 p.m.

Meeting Objectives

- Review and discuss analytic updates in SeaSketch
- Discuss preliminary management option ideas
- Confirm next steps for proposal development

Meeting Agenda

Time	Item	Lead
9:00 am	<i>Arrivals</i>	
9:30 am	Welcome, Introductions, and Agenda Review	• MSWG Co-Chairs, Facilitators
9:45 am	Receive updates on analytics in SeaSketch <ul style="list-style-type: none">• Updates from work of Data Subgroup• Overview of changes to analytics	• SeaSketch, with Data Subgroup
10:10 am	Informational Presentations <ul style="list-style-type: none">• Ship routing and scheduling drivers	• Kip Louttit, Marine Exchange • Jeromy McConnell, Maersk
10:45 am	<i>Morning Break</i>	
11:05 am	Informational Presentations – Continued <ul style="list-style-type: none">• Science of whale strikes	• Greg Silber, NOAA
11:45 am	Introduce Breakout Group Activity	• Facilitators
11:50 am	Public comment	• Public
12:00 pm	<i>Lunch Break</i>	
1:00 pm	Discuss preliminary management option ideas	• All
3:50 pm	Wrap up and Next Steps	• Co-Chairs, Facilitators
4:00 pm	<i>Adjourn</i>	

Meeting Materials

- Worksheets describing preliminary management option ideas
- Summary of SeaSketch analytic capabilities
- Updated MSWG Member Roster
- 2nd Policy Memo from Co-Chairs and Support Staff