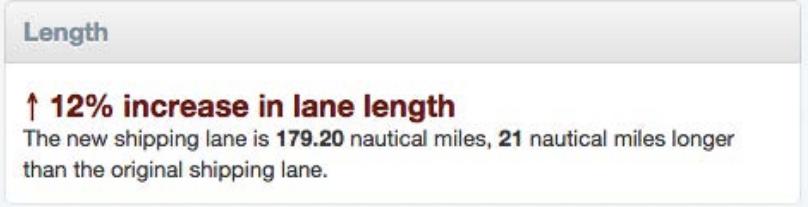
Analytical Reports in SeaSketch for the Marine Shipping Working Group

This document describes the available analysis in the Safe Passage project, found at safepassage.seasketch.org, organized by the questions those analyses may help working group (WG) members answer in their conversations of possible management plan ideas. Some reports are still in development, only appearing in draft form or not appearing at all. We have not developed analytics to inform research and education recommendations.

Note: We will continue to develop and revise analytics as the WG identifies additional questions they would like addressed with real-time analysis, and how new and existing analytics should operate.

General questions:

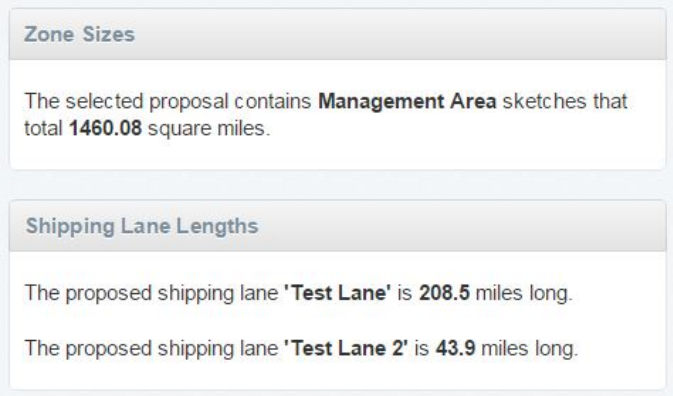
What is the distance of this Shipping Lane compared to the existing IMO shipping lane in the Santa Barbara Channel?



Does this Shipping Lane pass through an oil platform, which would make it infeasible? *[Note: many analytics link to relevant data layers.]*

What is the area of this Management Area?

For a Proposal folder containing multiple sketches, the areas of all Management Area sketches are summed, and the length of each Shipping Lane is displayed individually.

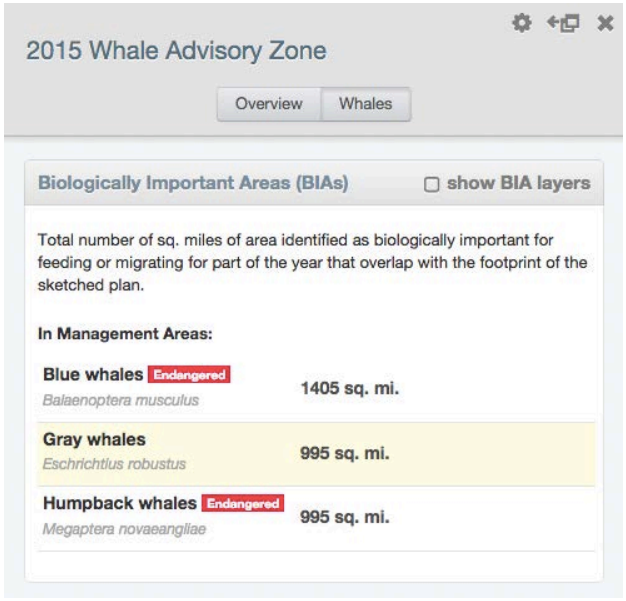


Questions related to whales:

These analytics provide metrics that will be useful in comparing multiple Management Area and Shipping Lane segment ideas.

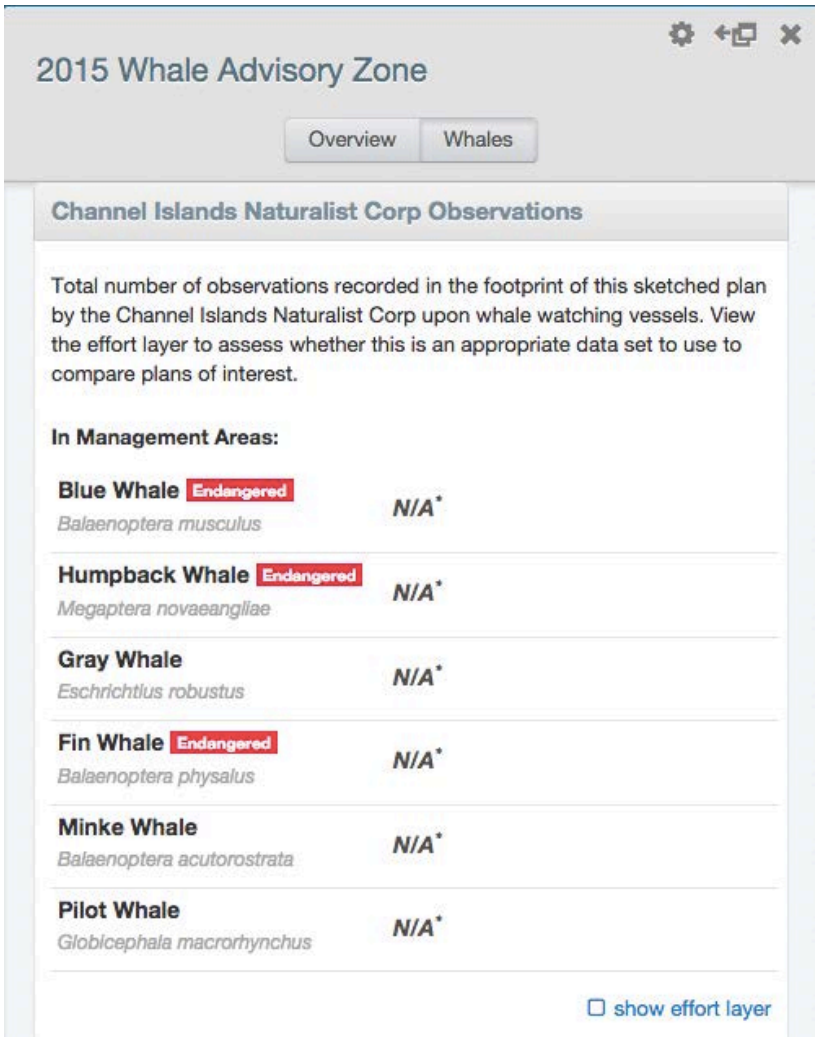
Is this Management Area or Shipping Lane in an area that has been identified by experts as important to whales or has high density whale habitat?

- Biologically Important Areas: An analysis reports the sq. miles of overlap between the BIA for three species and the footprint of your sketched area or lane.
- {in development} Habitat Density Models: An analysis reports the sq. miles of overlap between the areas with top 20% density values with the footprint of your sketched area or lane.
- {in development} Blue Whale Core Area of Use: An analysis reports the # of core use area polygons with which your sketched area or lane overlaps. Each polygon represents the core area of use for a single Blue whale with a satellite tag.



Is this Management Area or Shipping Lane in an area where many whales have been observed?

- Channel Islands Naturalist Corp Observations: An analysis reports the number of sightings that occurred within the footprint of your sketched area or lane. If you receive a value of N/A, this means that less than 50% of your sketch overlaps with the area in which these data were collected. This will allow us to only compare sightings observations between plans where appropriate given observation effort.



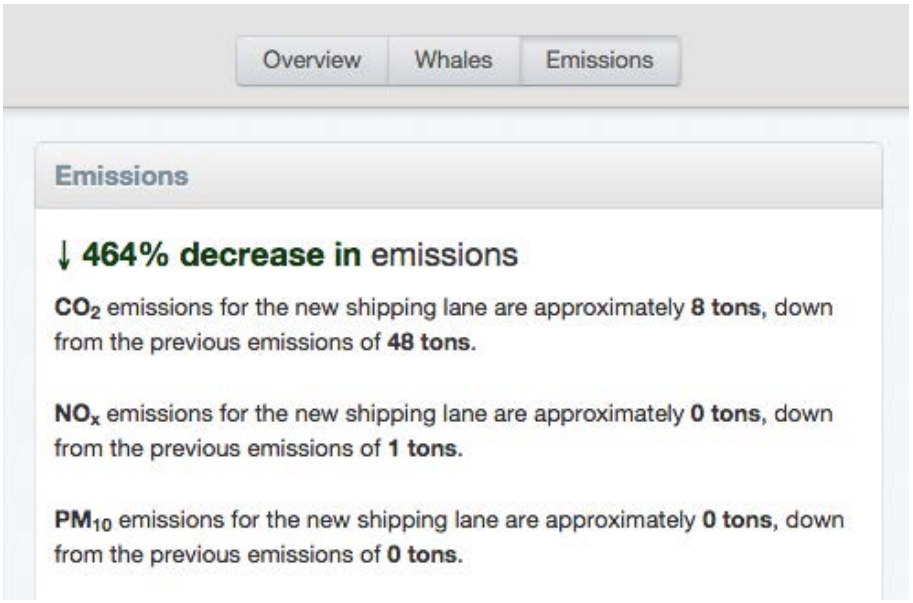
For a Proposal folder with multiple sketches:

- The above metrics are calculated cumulatively for each Management Area 'type' and for each Shipping Lane segment individually.

Questions related to air quality {in development}**:**

How much air pollution will be emitted from one transit along my shipping lane? How does this compare to emissions when using the existing IMO shipping lane in the Santa Barbara Channel?

- These emissions estimates are rough calculations to be used when comparing plans. The calculations are based on the length of your shipping lane, an assumed speed of 16 knots, and averages from the Santa Barbara Air Pollution Control Board based on Cargo ships transiting the area.
- These metrics are compared to emissions from one transit along the existing IMO shipping lane between LA/LB and the end of the Santa Barbara Channel near Point Arguello.



Example: Because the Western voluntary Lane is significantly shorter than the current IMO shipping lane, the analysis estimates a proportional decreasing key pollutants

How much pollution will be emitted if ships use this shipping lane, given that I have also sketched an overlapping Management Area set to the Speed Reduction Zone type?

- To analyze emissions from a shipping lane paired with a Speed Reduction Zone, place all relevant sketches in a Proposal folder, and View Reports for the Proposal.
- Calculations are performed as described above, but the shipping lane is analyzed in segments, separating those that overlap with a Speed Reduction Zone and those that do not. For segments that overlap with a Speed Reduction Zone, calculations are performed assuming the speed that was selected when sketching the zone. Other segments are calculated assuming a speed of 16 knots. Then, emissions totals for each segment are summed for the report, giving the total estimated emissions for a transit along the sketched Shipping Lane.