



Protecting Blue Whales and Blue Skies - 2014 Vessel Speed Reduction Incentive Trial in the Santa Barbara Channel

Overview

In 2014, the Channel Islands National Marine Sanctuary, the Santa Barbara County Air Pollution Control District, and the Environmental Defense Center launched a trial incentive program to slow ships down in the Santa Barbara Channel to reduce air pollution and protect endangered whales. The trial was based on existing successful ship speed reduction programs at the Ports of Los Angeles and Long Beach.

Seven global shipping companies participated in the effort and slowed 27 transits to 12 knots or less from July through November in the reduced speed zone, with most of the transits occurring between July to October. This time period coincides with the busiest whale season and the prime period for high levels of ozone air pollution. The program achieved more than 16 tons of ozone-forming nitrogen oxides emissions reductions from the participating ships, a more than 50 percent reduction from baseline emissions; also, the program achieved approximately 500 metric tons of regional greenhouse gas emission reductions, a more than 50 percent reduction.

The trial demonstrated the willingness of shipping companies to participate in a voluntary, non-regulatory, non-port program, and the feasibility of implementing such a vessel speed reduction program in the Santa Barbara Channel. The success of the trial also provides a solid foundation for a future larger-scale program.

Issue

Each year, thousands of large container ships going to and from the Ports of Los Angeles and Long Beach travel in designated shipping lanes through the Santa Barbara Channel. Air emissions from these vessels are a significant source of air pollutants in Ventura and Santa Barbara counties, including ozone-forming nitrogen oxides, sulfur dioxide, greenhouse gases, diesel particulate matter, and other toxic air pollutants that are hazardous to human health. Fatal ship strikes on endangered whale species, including blues, fins, and humpbacks, which feed and travel in and around the shipping lanes seasonally, are another impact of ocean going vessels. Within the Channel, pollution and endangered whale concerns from ship traffic may become more pronounced with the expected increase in annual transits to pre-recession numbers, after more stringent North American Emissions Control Area fuel requirements took effect on January 1, 2015. Ozone pollution concerns will be heightened with a stricter federal ozone standard on the horizon.

Goals for the Vessel Speed Reduction (VSR) Trial Program

Slowing ships down reduces the chances that a ship strike on a whale will be fatal, and substantially reduces air emissions. Overall goals of the Vessel Speed Reduction Trial were to:

- assess potential air quality and whale protection benefits from a voluntary speed reduction program in the Santa Barbara Channel
- test the shipping industry's willingness to participate in this kind of a program
- refine data collection and tracking mechanisms
- lay the foundation for establishing a larger-scale program in the future

Program Implementation

Ships selected for the VSR Trial reduced average speeds to 12 knots or less (from typical speeds of 14-18 knots) as they traveled between Point Conception and the Ports of Los Angeles and Long Beach. Companies with participating vessels that achieved the reduced speed through the Channel received a \$2,500 incentive per enrolled transit. The companies also received recognition for participation in the VSR Trial through a public relations campaign by the partners.

The VSR Trial was developed and implemented by staff from the partner agencies and organizations. The National Marine Sanctuary Foundation served as a fiscal agent for receiving funds and making incentive payments. Funding was provided by the Santa Barbara Foundation, the Santa Barbara County Air Pollution Control District, and the Ventura County Air Pollution Control District. Payments were provided to the shipping lines upon verification of the ships' speeds through the Channel by using Automatic Identification System monitors that receive vessel speed and location data from transponder signals emitted by ships as they transited the Channel.

We received enrollment forms from eight different shipping companies for 89 transits. After we determined eligibility to participate, seven of the eight shipping companies enrolled, including: COSCO, Hapag-Lloyd, K Line, Maersk Line, Matson, Mitsui O.S.K. Lines, and United Arab Shipping Company. During the enrollment period, we received more applications for eligible transits (40) than we could incentivize. In total, 35 transits were enrolled in the VSR Trial and 27 of these qualified for an incentive payment, with a total incentive payout amount of \$67,500. We calculated a 5.1-knot average reduction from baseline speeds for the 27 eligible transits.

In addition to nitrogen oxides emission reductions noted above, the VSR Trial achieved approximately 500 metric tons of regional greenhouse gas emission reductions in the reduced speed zone. No known ship strikes on whales by participating vessels occurred. The VSR Trial's design, enrollment process, and data collection/processing mechanisms were refined throughout, and a solid foundation is in place for establishing a larger-scale program.

Given the success of the VSR Trial, the next step is to explore ways to expand the program in the future to include more vessels and possibly a larger geographical scope on a permanent basis.