PORT of vancouver

Enhancing Cetacean Habitat and Observation (ECHO) Program

2019 Voluntary vessel slowdown trial

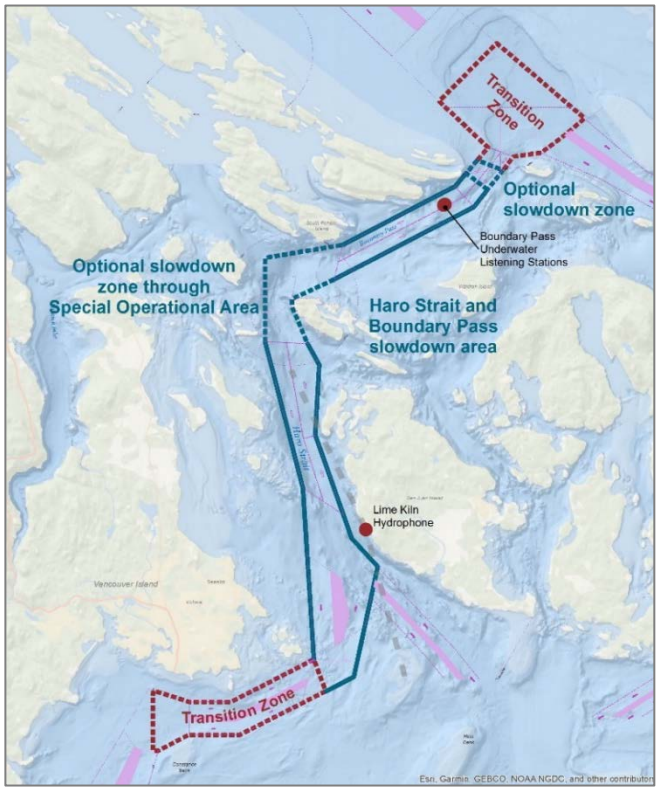
Haro Strait and Boundary Pass

Working together to reduce underwater noise effects on whales

Southern resident killer whales (SRKW) are listed as endangered under both the *Species at Risk Act* in Canada and the *Endangered Species Act* in the U.S. Since last year, the population has declined to 75 individuals. Over the last year, both countries' governments have continued to highlight the need to develop and implement measures to reduce underwater noise generated by ships, which research indicates can interfere with whales' ability to hunt, navigate and communicate.

In both 2017 and 2018, the Vancouver Fraser Port Authority-led Enhancing Cetacean Habitat and Observation (ECHO) Program coordinated voluntary vessel slowdowns in Haro Strait, a key feeding area within SRKW critical habitat. The slowdowns demonstrated that reducing ship speeds is an effective way of reducing both the underwater noise generated at the ship source and total underwater noise in nearby habitats, which is, in turn, predicted to benefit the behaviour and feeding success of SRKW.

In May 2018, the federal minister of fisheries and oceans and the minister of the environment and climate change formed the opinion that SRKW face imminent threats to survival and recovery. In October 2018, the Government of Canada announced that measures will be taken by government and others to address three imminent threats to the survival and recovery of SRKW. These measures build upon those implemented by the ECHO Program in previous years to reduce the threat of acoustic and physical disturbance to SRKW from commercial shipping activities, and will further include measures to address other threats to SRKW related to availability of prey, environmental contaminants, and small and whale watching boating activities.



The marine transportation industry has been an instrumental partner in the ECHO Program's voluntary vessel slowdown trials since they began in 2017. Building on the learnings and success of these voluntary vessel slowdowns, and in an effort to support ongoing SRKW recovery measures, this year the ECHO Program has again worked closely with marine industry partners to further adapt and refine the approach for a 2019 voluntary vessel slowdown trial that aims to maximize participation, underwater noise reduction levels and benefits to SRKW in a key foraging area.

Slowdown parameters for 2019

Where: Haro Strait and Boundary Pass

In 2019, Fisheries and Oceans Canada identified both Haro Strait and Boundary Pass as 'Key

Foraging Areas' for SRKW. In an attempt to reduce underwater noise effects from ships in both of these areas, the slowdown area will be expanded this year to include both Haro Strait and Boundary Pass. The trial area includes two optional slowdown zones where those operating the ship should only participate if it is navigationally safe to do so. There are transition zones before and after the trial area where those operating the ship are encouraged to slow down to the appropriate speed prior to entering the trial area. The total distance of the trial area is 29.6 nautical miles.

When: Approximately June 1 – October 31, 2019

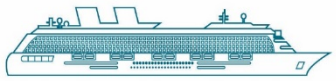
SRKW are historically known to return to the trial area in greater numbers from the month of June onwards. Therefore, a SRKW monitoring period will commence on June 1, 2019 and the slowdown trial will begin any time after that, when SRKW are confirmed in the area by hydrophone data and/or trusted observers. Once activated, the slowdown trial will continue to September 30, 2019 with two-week extensions to no later than October 31 if the whales are still confirmed present in the area. The official slowdown start and end date will be communicated to mariners through a Notice to Shipping and via the Pacific Pilotage Authority, BC Coast Pilots, shipping associations and agents, and the ECHO Program website and newsletter.

Speed: 14.5kn or 11.5kn, dependent on ship type

Based on analysis of data from the 2018 voluntary vessel slowdown, the ECHO Program has modified the 'speed through water' targets for different ship types in an attempt to further reduce underwater noise levels in the trial area while continuing to encourage maximum participation. Where it is safe and operationally feasible, ships are encouraged to transit the trial area at the following speeds through the water:

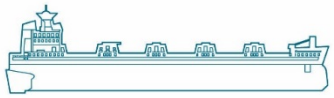
14.5kn

or less for vehicle carriers, cruise and container vessels



11.5kn

or less for bulkers, tankers, ferries and government vessels.



Transiting Haro Strait and Boundary Pass at these reduced speeds could add between 16 and 28 minutes to the total transit time, depending on the ship type. To download a full sized map of the trial area, visit www.portvancouver.com/echo/slowdowns.

Participation goal: Over 80 per cent

In 2018, 87 per cent of large commercial piloted ships participated in the slowdown. In order to reduce underwater noise levels as much as possible in 2019, the ECHO Program is seeking support from the industry for similarly high participation rates. Participation rates by sector will be reported regularly throughout the trial in the ECHO Program newsletter.

Monitoring and reporting: Participation, underwater noise, whale presence

The ECHO Program will monitor underwater noise levels before, during and after the trial using underwater listening devices located at Lime Kiln and Boundary Pass. SRKW presence will be monitored and recorded by hydrophone and human observers. Participation rates will be reported by the Pacific Pilotage Authority and be evaluated using AIS data. At the end of the slowdown trial, the ECHO Program team will conduct an analysis to evaluate the effectiveness of the trial.

For more information

For more information on the slowdown, visit www.portvancouver.com/echo/slowdowns. For questions, please contact us at echo@portvancouver.com or Vancouver Fraser Port Authority Operations Center, which is available 24/7 at 604.665.9086. For more information on the ECHO Program please visit www.portvancouver.com/echo.