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Vancouver Fraser
Port Authority



ECHO Program update on seasonal initiatives



Good afternoon,

We are pleased to report participation rates of more than 80% in all three of the ECHO Program's voluntary underwater noise reduction measures to support the recovery of southern resident killer whales. Since the season's launch on June 1, more than 3,000 ship transits have reduced their speed or increased their distance from areas of importance to southern resident killer whales in Haro Strait, Boundary Pass, Swiftsure Bank, and the Strait of Juan de Fuca.

We thank the more than **80 marine transportation organizations** for their continued support and participation in these efforts to reduce the impacts of shipping on at-risk whales. Southern resident killer whales continue to be heard and seen throughout the Salish Sea and, most recently, were detected by hydrophone along the coast of Vancouver Island, in the Strait of Juan de Fuca.

Participation rates in our voluntary initiatives are outlined below. Each table lists the percentage of participating ship transits, as well as the number of participating ship transits out of all ship transits, in parentheses.

Participation in the Swiftsure Bank slowdown trial

Inbound participation rates (Within 1-knot of speed-through-water target speed)			
Ship type	Week 13: August 20 - August 26	Week 14: August 27 - Sept. 2	Cumulative (June 1 - September 2)
Inbound Bulk Carrier	82% (32 of 39)	97% (28 of 29)	78%
Inbound Car Carrier	80% (8 of 10)	75% (3 of 4)	84%
Inbound Container	88% (23 of 26)	83% (19 of 23)	86%
Inbound Passenger	93% (14 of 15)	93% (13 of 14)	83%
Inbound Tanker	88% (7 of 8)	92% (11 of 12)	85%
Inbound Other	94% (17 of 18)	62% (8 of 13)	77%
TOTAL			82% (1136 of 1388)

Outbound participation rates (Within 1-knot of speed-through-water target speed)			
Ship type	Week 13: August 20 - August 26	Week 14: August 27 - Sept. 2	Cumulative (June 1 - September 2)
Outbound Bulk Carrier	90% (27 of 30)	93% (27 of 29)	84%
Outbound Car Carrier	80% (8 of 10)	83% (5 of 6)	66%
Outbound Container	82% (18 of 22)	92% (23 of 25)	86%
Outbound Passenger	79% (11 of 14)	73% (11 of 15)	73%
Outbound Tanker	86% (12 of 14)	67% (8 of 12)	76%
Outbound Other	75% (9 of 12)	67% (10 of 15)	74%
TOTAL			79% (1083 of 1364)

Combined (inbound and outbound) participation rates (Within 1-knot of speed-through-water target speed)			
Ship type	Week 13: August 20 - August 26	Week 14: August 27 - Sept. 2	Cumulative (June 1 - September 2)
Combined Bulk Carrier	86% (59 of 69)	95% (55 of 58)	81%
Combined Car Carrier	80% (16 of 20)	80% (8 of 10)	75%
Combined Container	85% (41 of 48)	88% (42 of 48)	86%
Combined Passenger	86% (25 of 29)	83% (24 of 29)	78%
Combined Tanker	86% (19 of 22)	79% (19 of 24)	81%
Combined Other	87% (26 of 30)	64% (18 of 28)	76%
TOTAL			81% (2219 of 2752)

Over the last fourteen weeks, large commercial vessel operators have maintained strong participation rates in the inbound and outbound slowdown at Swiftsure Bank, resulting in a cumulative participation rate of **81%**. Thank you to all participating ship operators and partners for continuing to slow down while transiting through this key foraging area for the southern resident killer whales.

Participation in the Haro Strait and Boundary Pass slowdown

Pilot-reported participation by ship type			
Ship type	Week 13: August 20 - August 26	Week 14: August 27 - Sept. 2	Cumulative (June 1 - September 2)
Bulk Carrier	90% (54 of 60)	98% (62 of 63)	94%
Car Carrier	100% (12 of 12)	75% (3 of 4)	92%
Container	89% (17 of 19)	95% (20 of 21)	96%
Passenger	100% (3 of 3)	100% (1 of 1)	89%
Tanker	86% (6 of 7)	100% (8 of 8)	94%
Other	80% (4 of 5)	100% (3 of 3)	85%
TOTAL			94% (1223 of 1305)

The cumulative participation rate in the Haro Strait and Boundary Pass slowdown has increased by one percent — to 94% — since our last report on participation. We thank all participating ship operators and the BC Coast Pilots for their continued efforts to reduce underwater noise in this key area of southern resident killer whale critical habitat.

Participation in the Strait of Juan de Fuca lateral displacement

The cumulative participation rate in the Strait of Juan de Fuca lateral displacement is 96% — a slight decrease since our last report on participation. We thank all tug operators who have participated thus far and encourage all tugs transiting along the Canadian inshore area of the Strait of Juan de Fuca to laterally displace away from the known southern resident killer whale feeding area.

ECHO Program research featured in peer-reviewed journal

A recently published peer-reviewed article in the Journal of the Acoustical Society of America highlights important new research findings from the ECHO Program, in partnership with JASCO Applied Sciences and ERM Consultants Canada.

The article presents a statistical model that can be used to predict ships' underwater noise levels. This model was developed using the ECHO Program's database of nearly 10,000 underwater noise measurements of ships — the largest known non-military database of underwater ship noise in the world.

"By leveraging the statistical power of the ECHO Program's database, this model will enable vessel operators and researchers to better predict what particular ships might sound like underwater, without the need for hydrophone measurements," says Krista Trounce, research manager for the ECHO Program and a contributing author of the article. "We hope this model will be used around the world to predict and model ship-generated underwater noise and inform noise-reduction solutions."



The ECHO Program team thanks project partners JASCO Applied Sciences, ERM Consultants Canada, and ECHO Program Acoustical Technical Committee members for their contributions to this project, and Transport Canada for its ongoing funding of this important research effort.

To read the article, and test the model, visit the Journal of the Acoustical Society of America's website: **A functional regression analysis of vessel source level measurements from the Enhancing Cetacean Habitat and Observation (ECHO) database**

Opportunity to participate in world-leading research into ship-generated underwater noise



Call for participants in underwater noise studies

The ECHO Program is seeking the partnership of local marine transportation companies to participate in studies on ship-generated underwater noise. The goal of these studies is to better understand how structural and operational factors – such as a ship's speed, draft, propeller type, and more – affect a ship's underwater noise levels. In particular, the ECHO Program is interested in comparing the underwater noise levels of ships that have undergone recent maintenance or retrofitting, or that have sister ships with different configurations.

Participating in one of the ECHO Program's studies involves sharing basic vessel design and operational data (such as speed, draft, and RPM) while the ship passes over the Boundary Pass underwater listening station. In return for participating, your company can:

- Better understand your ships' underwater noise profile
- Identify potential design and operational measures that decrease underwater noise emissions
- Contribute to world-leading research into underwater noise
- Collaborate with the internationally recognized ECHO Program

If you are interested in better understanding your vessel or fleet's underwater noise while helping to advance important research, contact ECHO Program senior project manager Derek White to learn more at: derek.white@portvancouver.com.

Whale sighting highlight



On Thursday, September 8, several members of the K-Pod (K-36 AKA "Yoda"; K-26 AKA "Lobo"; and K-42 AKA "Kelp") surfaced alongside a tugboat near Lime Kiln lighthouse in Haro Strait.

Photo: Jeanne Hyde

Stay up to date on the ECHO Program

Throughout the season, we will continue to share bi-weekly newsletter updates on participation rates in the ECHO Program's voluntary initiatives, and other relevant news. If you were forwarded this email and would like to subscribe, click [here](#).

If you have any questions about the ECHO Program and its 2022 voluntary initiatives, please email us at echo@portvancouver.com.

Best regards,

The ECHO Program

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