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Vancouver Fraser
Port Authority

Improved alignment of quiet ship notations

International Underwater Noise Webinar

May 17, 2021

Presented by:

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Canada

Improved alignment of quiet ship notations

The Enhancing Cetacean Habitat and Observation Program

What? A collaboration with marine transportation industries, conservation groups, scientists, Indigenous individuals and Canadian and US governments.

When? Convened Nov 2014

Why? To better understand and reduce the cumulative effects of commercial shipping activities on at-risk whales throughout the southern coast of British Columbia.

Key program actions:

- Convene collaborative partners
- Advance research projects - focus on underwater noise
- Trial and implement underwater noise reduction measures



Photo: Ocean Futures Society



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Background and objectives

- Incentives at the Port of Vancouver - EcoAction
- ECHO Program underwater listening stations (>20,000 measurements)
- Increased interest from stakeholders and customers in quiet notations
- Clarity for selection of a classification society for certification



Photo: Joan Lopez

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Background and objectives

Project objective: Improved alignment of measurement and analysis techniques to provide clarity for customers seeking quiet ship notations

End goal: Increase the number of ships achieving quiet notations and receiving incentives at the Port of Vancouver and internationally



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Project partners



New in
2021



Transport
Canada

Transports
Canada

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Project steps



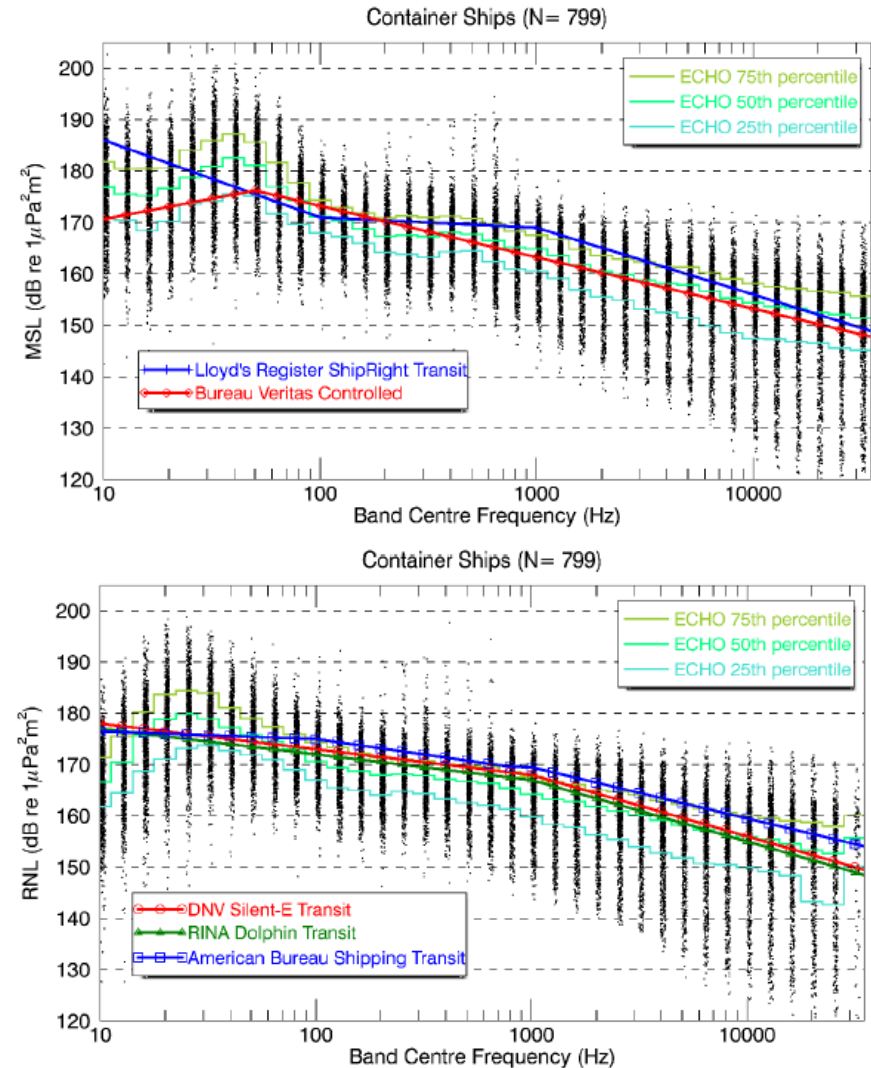
1. Comparison of ECHO Program source levels to existing notations
2. Draft document proposing options for alignment
3. Engage with classification societies – document review and workshops
4. Repeat steps 2 and 3
5. Potential amendments to quiet ship notations



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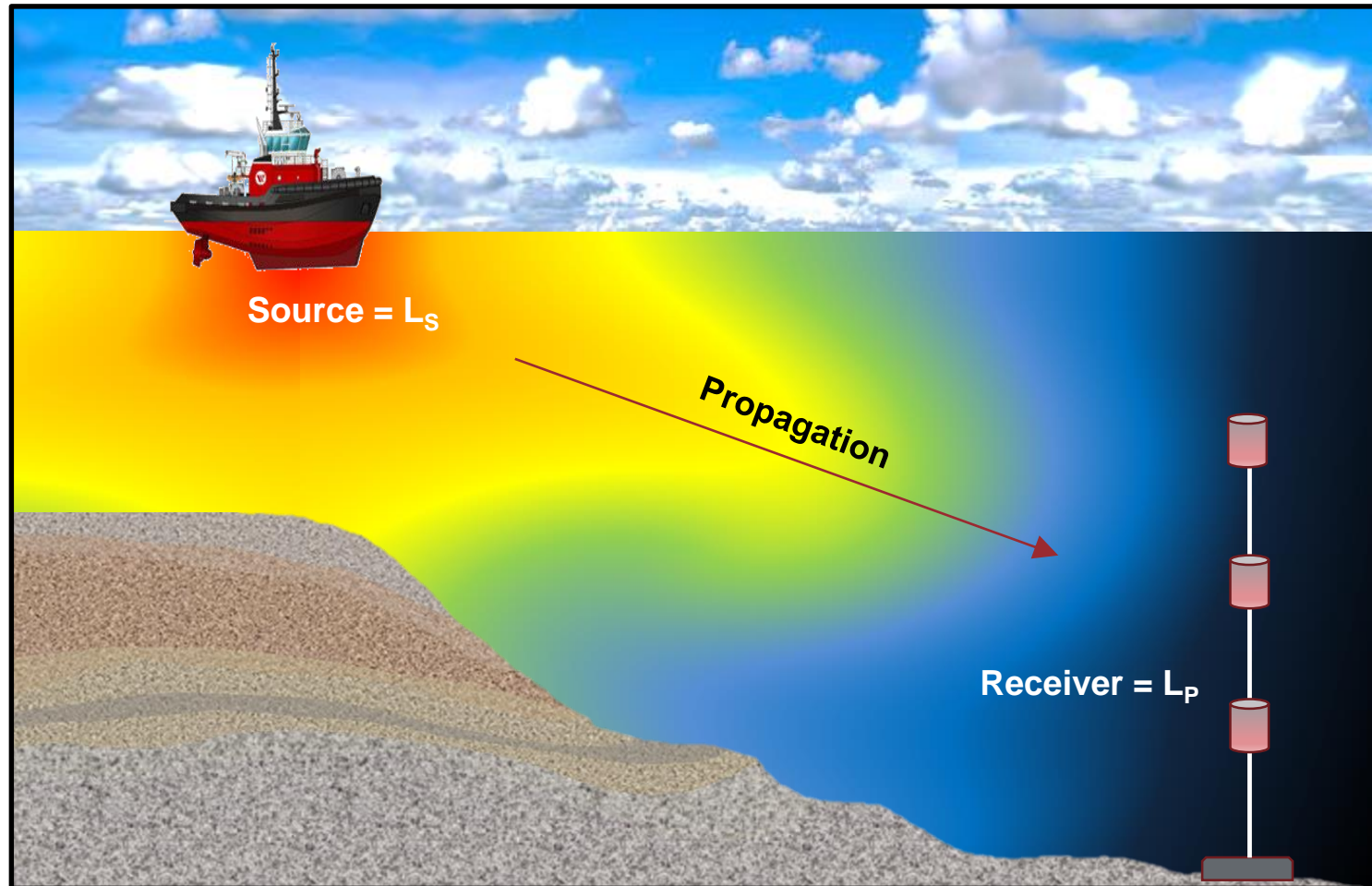
Comparison of existing notations

- Notations well designed, but not comparable (RNL vs SL)
- Limits differ, especially at low frequencies
- Most notations do not specify vessel category/ type
- Some notations more stringent than others
- Vessel compliance varied by category and notation – lowest % compliance for containers, highest for tugs



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Comparison of reporting metrics



Source: JASCO Applied Sciences Ltd

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Measurement and analysis conditions

Topics of discussion for improved measurement alignment included:

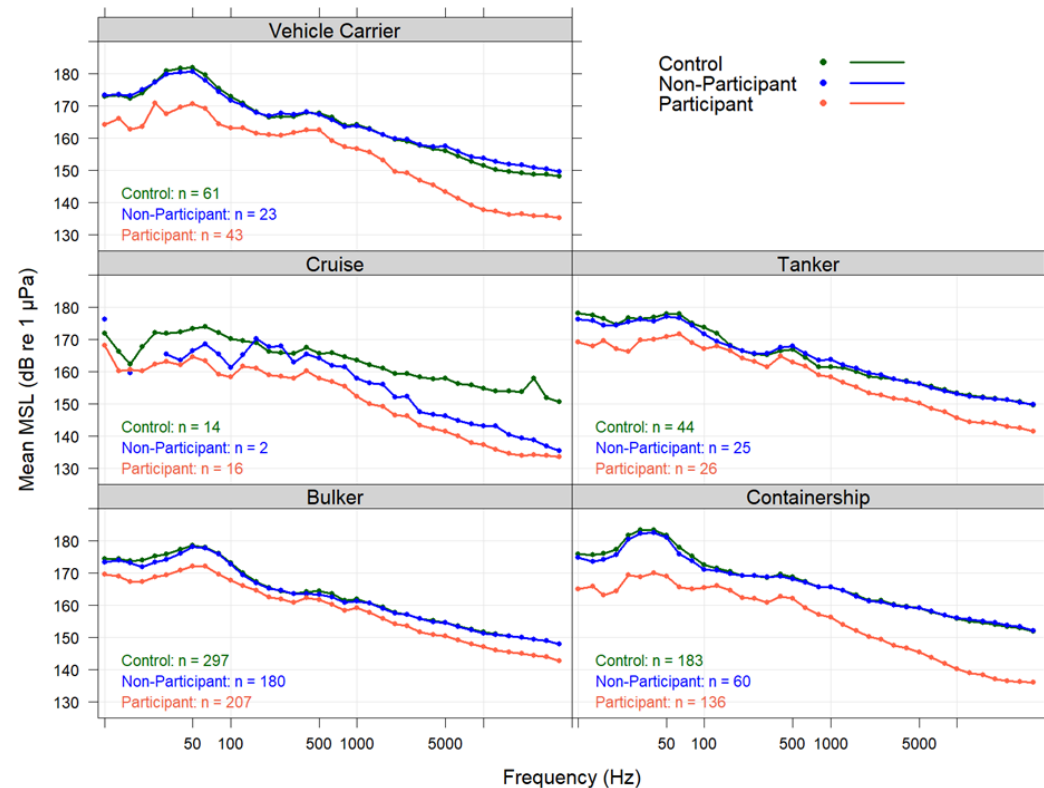
- Hydrophones: calibration, number, depth
- Measurement transits: distance to hydrophone, number of transits
- ✓ Weather and ocean conditions: wind speed and wave height or sea state
- ✓ Frequency range for measurement
- ✓ Correction for background noise



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Notation limits

- Category-specific notation limits?
- Scaling to accounting for speed, draft and size (known to affect noise emissions)
- ✓ Limits exceedances: permitted? how many? magnitude?
- ✓ Potential application of frequency weighting for marine fauna



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General outcomes and next steps

- Alignment was reached on some measurement parameters and terminology
- More work required on source level metrics: deep versus shallow water
- Further discussion required on category-specific limits
- Notation limits need not be the same between societies
- Amend alignment document and reconvene in October 2021

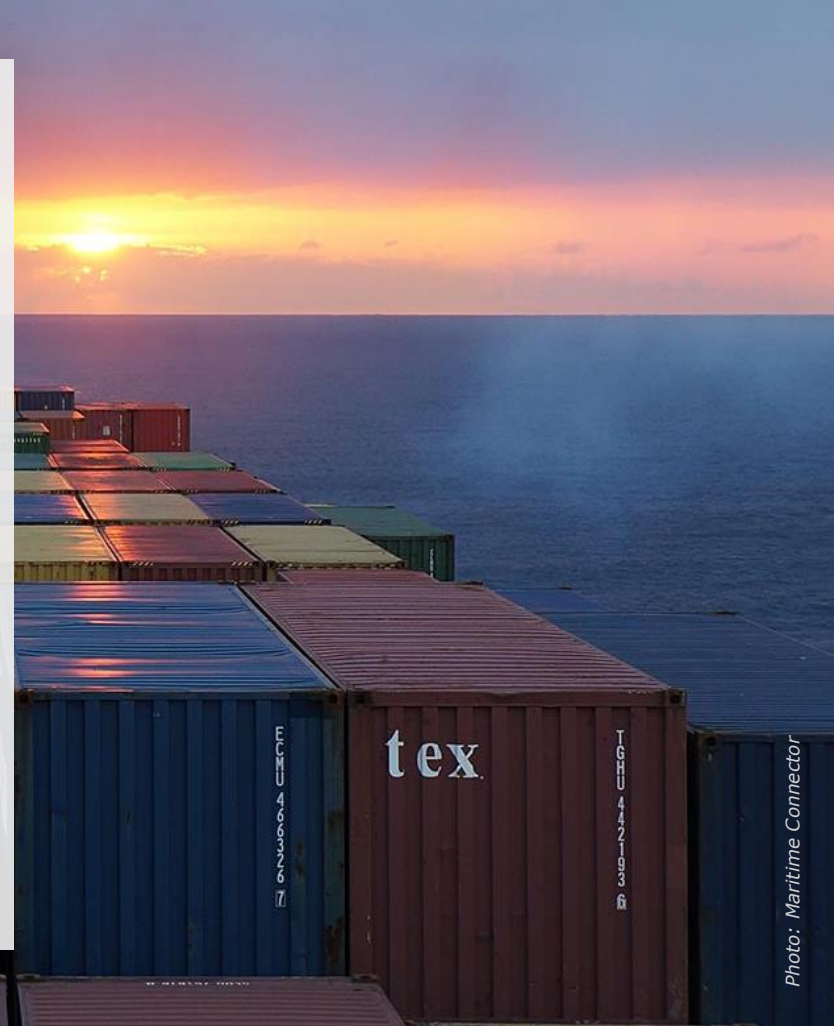


Photo: Maritime Connector

Thank you



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Photo: Joan Lopez



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