PORT of vancouver | Vancouver Fraser Port Authority

Noise management program overview

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December 1, 2020

Canada

Presentation overview

The purpose of this presentation is to provide an overview of the noise monitoring program, including the following:

- Port authority noise monitoring and reporting program
- NEPTUNES Project to reduce ship noise
- Noise management for construction projects on port lands
- Infrastructure projects that help reduce road and rail noise

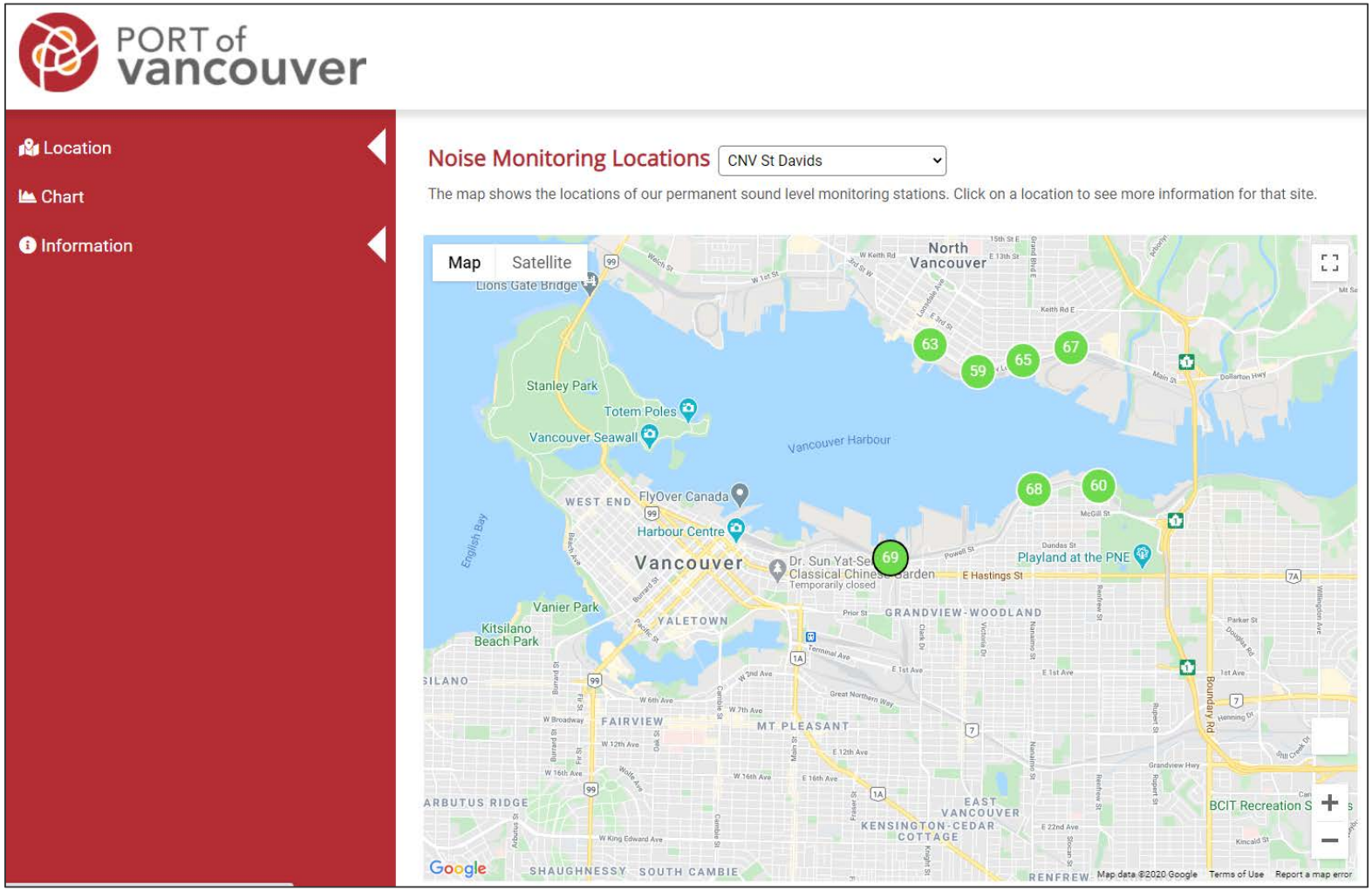
Noise monitoring

The port authority's noise monitoring program is designed to help better understand the source and intensity of port-related noises to assist responding to community concerns regarding noise.

- Implemented in 2015, 11 noise monitoring stations installed in Burrard Inlet and Roberts Bank
- Recently transitioned to new technology provider and website
- Mobile noise monitoring stations available to supplement fixed stations; deployed in response to community concerns
- Analysis and reporting on annual noise data by BKL Consultants
- We encourage community members to access the noise website to help us identify and respond to noise issues

Noise monitoring stations

Noise monitoring website (new)



https://seti-media.com/infopopulation/port_vancouver/

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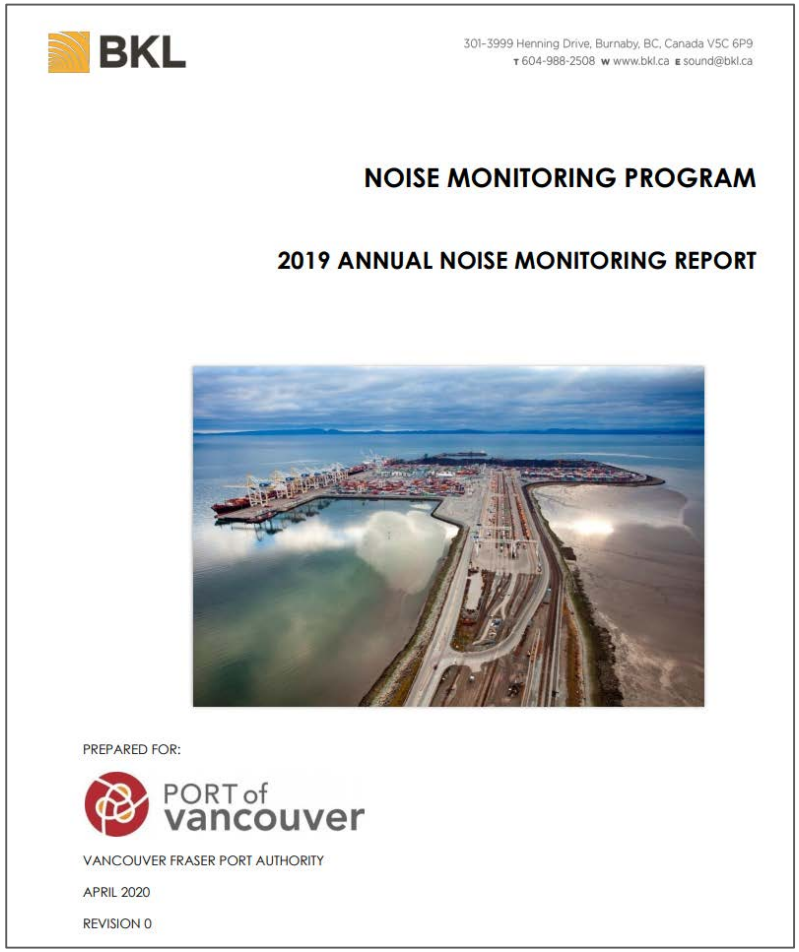
Annual noise monitoring reporting

A third party is retained to review annual noise data from the 11 stations and provide an analysis of the trends relative to previous reporting period for each site, identifying variations in sound levels and number of recorded incidents.

The South Shore trade area is supported by four noise monitoring terminals (NMTs), including:

- Raymur, Semlin, Nanaimo, and Renfrew



BKL

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NOISE MONITORING PROGRAM

2019 ANNUAL NOISE MONITORING REPORT

PREPARED FOR:

PORT of vancouver

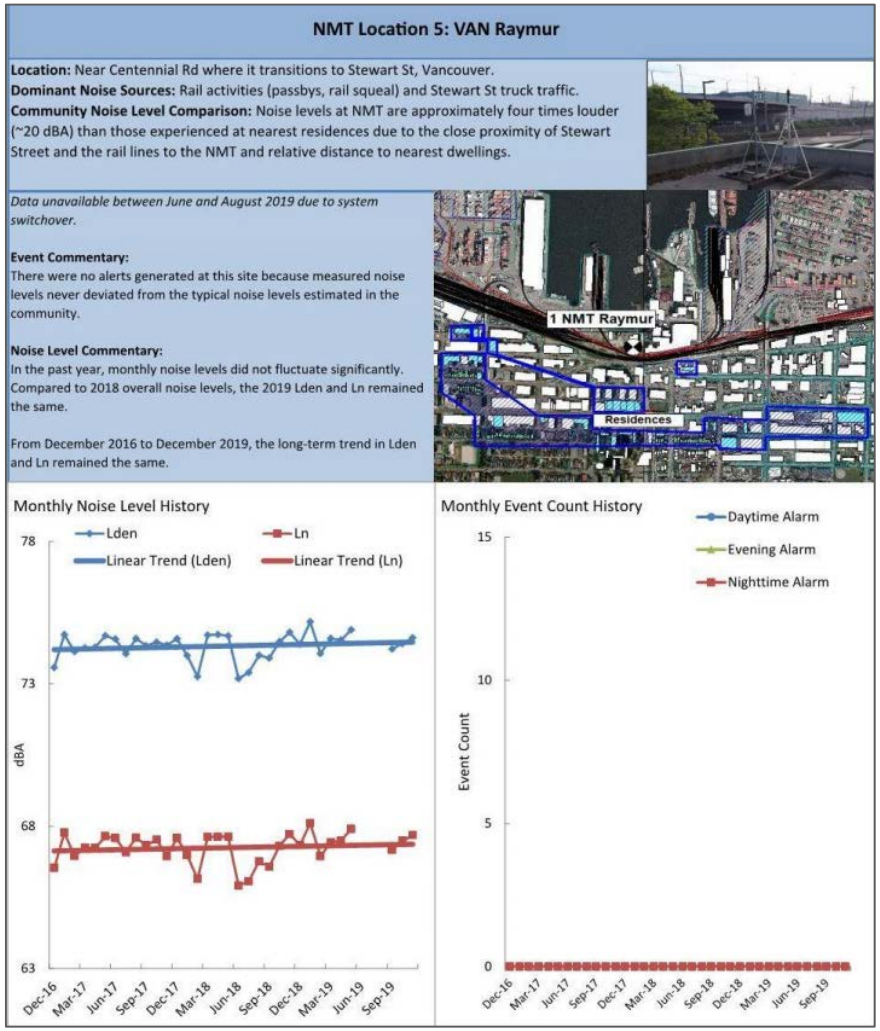
VANCOUVER FRASER PORT AUTHORITY

APRIL 2020

REVISION 0

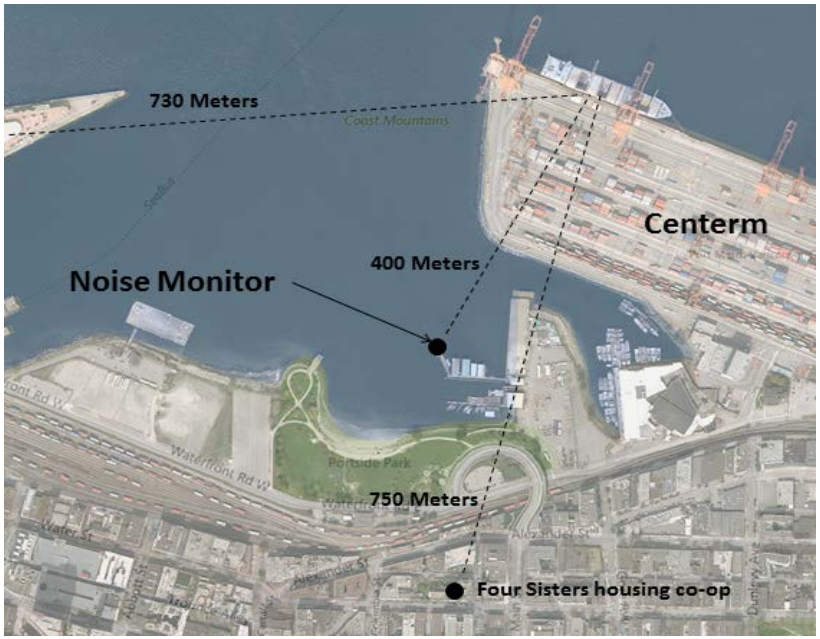
South Shore noise trend (2018 – 2019)

- For the South Shore NMTs (Locations 5 to 8), noise levels recorded in 2019 were similar or slightly lower than those measured in 2018.
- Almost all events were recorded at VAN Semlin and VAN Nanaimo.
- There was a drop in recorded events in VAN Renfrew due to the update of noise alert thresholds starting 2019 Q1 after updating the housing and noise sources in the area.

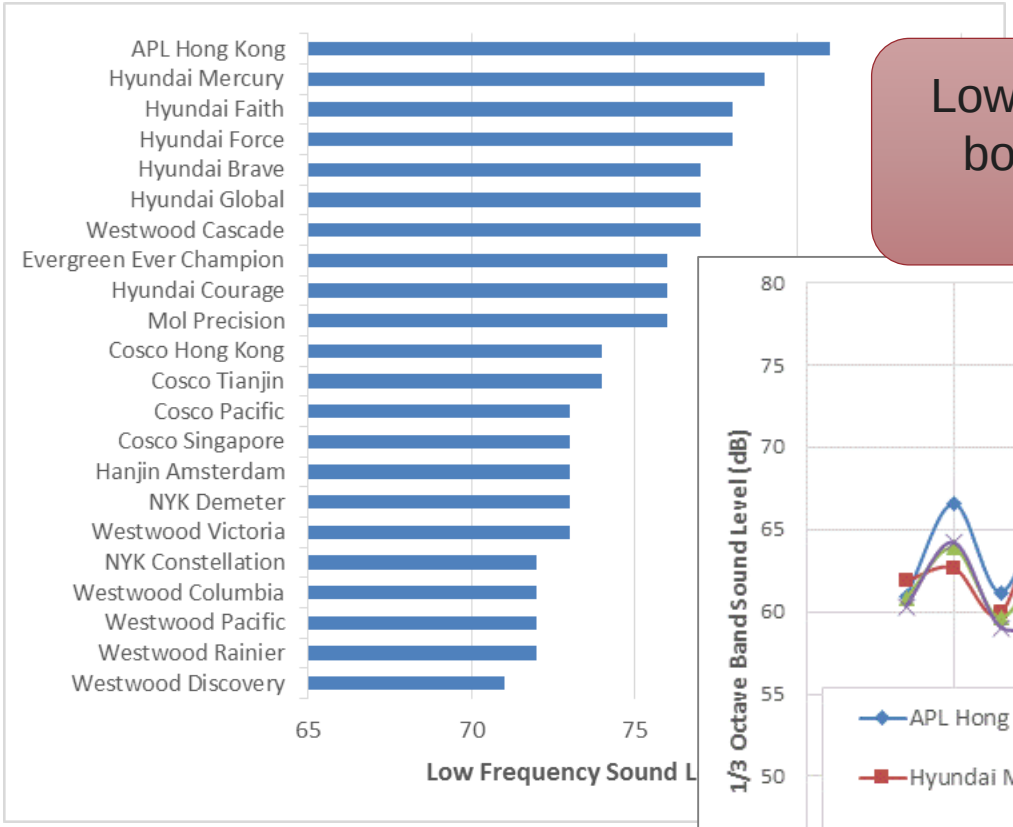


Centerm ship noise study

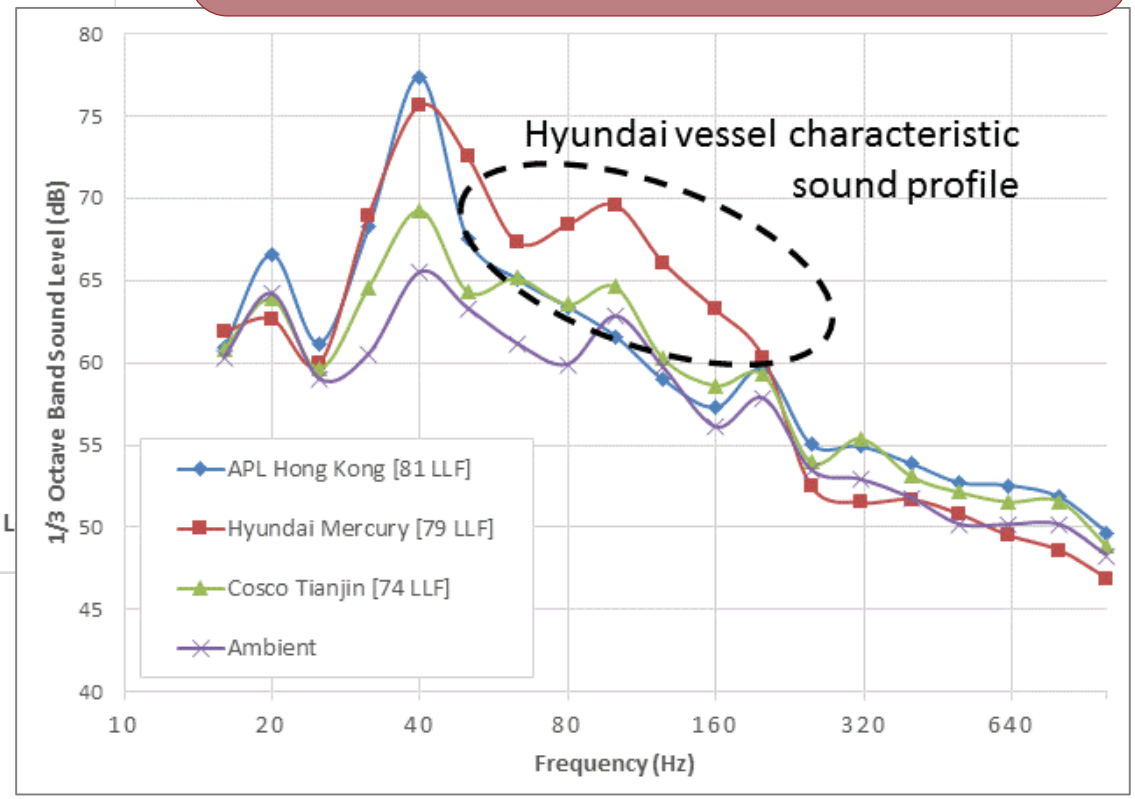
- Noise concern:
  - Low frequency rumbling emanating from vessel(s) berthed at Centerm terminal generating complaints and annoyance
- Study objectives:
  - Quantify sound of auxiliary engines
  - Compare different vessels
  - Why are some more annoying?
  - Work with terminal operator (DP World) and vessel owners to gather operational details



Centerm noise study: vessel comparison



Low frequency annoyance is related to both the overall level and frequency profile.



Centerm noise study: what did we learn?

- Overall sound level (LAeq) is not a good predictor of annoyance
- Auxiliary generators that show increased sound levels between 60 and 160 Hz are perceived as more annoying
- Auxiliary generators on the same vessel can show significant noise profile variability
- Terminal operators and shipping lines support investigating noise issues that may be impacting the local communities
- Ship noise is an important issue for port communities that requires further investigation and action

NEPTUNES Project

Noise **E**xploration **P**rogram **T**o **U**nderstand **N**oise **E**mitted by **S**eagoing ships

Participating ports:

- Rotterdam
- Amsterdam
- Hamburg
- Stockholm
- Copenhagen/Malmö
- Cork
- Gothenburg
- New South Wales
- Turku
- Valencia
- Vancouver

NEPTUNES Project

- Project objectives:
  - Gain insight into ship-related noise issues at collaborating ports
  - Identify type(s) of vessel and source(s) that cause noise and nuisance perceived by residents
  - Advance science of measuring and quantifying ship noise
  - Investigate policy options for promoting quieter ships
- Desired outcome:
  - Rating and labelling system to categorize vessel noise performance
- In 2021, VFPA will be among first ports globally to offer a discount on harbour dues for vessels that demonstrate lower ship noise through the Environmental Ship Index rating system

Noise considerations for construction projects

VFPA developed noise assessment guidelines for all physical works on VFPA lands, which include consideration of the following:

- Assess baseline noise environment
- Assess noise levels associated with project activities/construction
- Presence of undesirable characteristics and high-energy impulsive noise
- Proximity and population potentially exposed to project noise
- Noise-sensitive areas
- Noise hours/days of operation
- Presence of noise shielding or reflection
- Level of community concern about noise

Addressing noise through infrastructure

VFPA facilitates and leads infrastructure projects that improve operational efficiency and reduce noise impacts on local communities, for example:

- Low Level Road Project: elimination of 3 at-grade rail crossings (first large scale Envision Platinum project in the world)
- South Shore Trade Area Project: elevated road over 3 at-grade crossings at terminals and Powell street overpass
- Roberts Bank Rail Corridor Project: multiple overpasses along the rail corridor throughout the valley
- Gateway Transportation Collaboration Forum: VFPA member of the steering committee leading portfolio of additional rail and road improvement projects throughout Lower Mainland

Summary

- VFPA maintains a noise monitoring program to better understand and respond to port-related noise concerns
- VFPA is actively participating in international initiatives to reduce terrestrial and underwater noise from ships, and promotes quieter vessels through the EcoAction Program
- VFPA reviews every project on port lands for potential noise impacts and requires practices to minimize noise and impacts of noise on communities
- VFPA is actively leading infrastructure projects that are intended to improve road and rail efficiency and reduce impacts on communities such as noise and traffic congestion
- We encourage community members to help us identify and respond to noise concerns

Questions?