



Apr 6th, 10:45 AM - 11:00 AM

## Washington State Ferries: update on ferry vessel noise in the Salish Sea

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Huey, Richard; James, Leslie; and Peterson, Greg, "Washington State Ferries: update on ferry vessel noise in the Salish Sea" (2018). *Salish Sea Ecosystem Conference*. 508.  
<https://cedar.wwu.edu/ssec/2018ssec/allsessions/508>

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# Salish Sea Ferries Vessel Noise Update

Washington State and British Columbia Ferries

Rick Huey, WSF Biologist  
Leslie James, BCF Environmental Manager  
Greg Peterson, BCF Technical Director



# WSF/BCF

- WSF
  - 22 vessels
  - 20 routes
  - 19 terminals
- BCF
  - 35 vessels
  - 26 routes
  - 47 terminals



# Thousands of Sailings/Year

- 57 Ferries = 70% of the Salish Sea Noise Budget
- Average noise level of 185 dB





# WSF Vessel Noise Studies

- Data Analysis/Collection:
  - Phase I - Analyze existing noise data for 2 vessel classes.
  - Phase II – Collect and analyze remaining 5 vessels classes.



# WA Governors Executive Orders

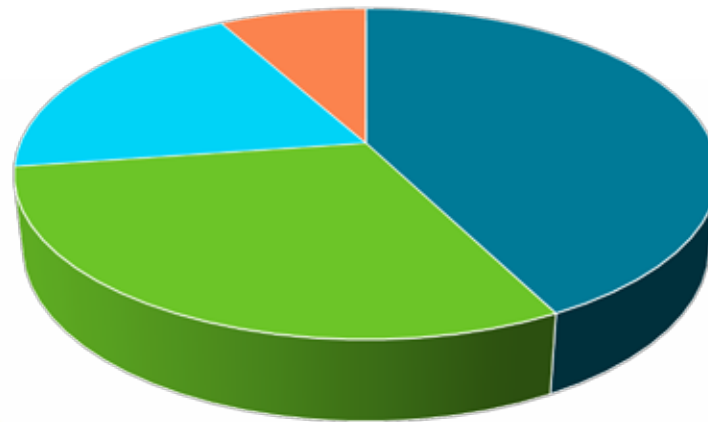
- 18-02 Southern Resident Killer Whale Recovery and Task Force
  - WSF directed to address ferry vessel noise.
- 14-04 Washington Carbon Pollution Reduction and Clean Energy Action
  - WSF directed to address ferry vessel Greenhouse Gas Emissions.



# WSF Greenhouse Gas Emissions

- WSF Vessel Contribution: 19% of all State Agencies
- 17 million gallons of diesel/year

Sources of State Agencies' GHG Emissions  
(2015)



■ Electricity and Steam (0.46)

■ Natural Gas and Other Fuel (0.32)

■ WSF Vessels (0.21)

■ State Fleet Vehicles (0.09)



# Vessel Retrofits

- Three Jumbo Mark II Hybrid Conversion
- \$600,000 in WSDOT budget for hybridization pilot
  - Fuel savings
  - GHG reduction
  - Potential noise reduction
  - Will compare pre/post retrofit noise data
- Two Vessels Complete – 2020
- Third Vessel Complete – 2021





# Vessel Retrofits

- 4 to 5 Blade Propeller Replacements
  - Fuel savings
  - Reduce cavitation
  - Potential noise reduction (compare pre/post noise)
- Hull and Propeller Cleaning
- Low Friction Vessel Coatings
- Operational Efficiencies (slow down)



# Future Outlook

- Vessel Design - Future vessel construction with in-water noise reduction as a goal.



# Questions?

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