

Southern Resident Killer Whale Executive Order WSF Strategy Report May 31, 2018

Executive Order Task
Develop strategies for quieting state ferries in areas most important to Southern Residents.

Completion Date	May 31, 2018 [UPDATED September 19, 2019]		
Lead Agency	Washington State Department of Transportation (WSDOT)		
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Supporting Agencies, if applicable			

Outcomes/Progress Narrative
<p>Governor Inslee’s Executive Order 18-02, signed on March 14, 2018, required the Washington State Department of Transportation (WSDOT) to develop strategies for quieting state ferries in areas most important to Southern Resident Killer Whales (SRKWs) by May 31, 2018. Washington State Ferries (WSF) has been aware of and working toward mitigating the impacts of noise on marine mammals, including SRKWs, in its area of service for more than a decade. Although the previous focus of this work has been on noise generated from shoreside infrastructure projects, most notably pile driving, within the last few years, WSF has made efforts to address noise generated by the ferry fleet. Funding and the need for additional research have been major challenges to these efforts.</p> <p>In response to Governor Inslee’s Executive Order, this document outlines the current practices, near term actions, and longer term plans that WSF is undertaking to address threats to SRKWs, including the threat of vessel noise. As a whole, these efforts form a strategy for WSF to contribute to the conservation and recovery of SRKWs and meet WSF’s Environmental Stewardship & Sustainability Program’s vision to “leave it better.”</p> <p><u>Current Practices</u></p> <ul style="list-style-type: none"> • Vessel Noise <ul style="list-style-type: none"> ○ Since 2015, WSF has been a member of the Port of Vancouver’s Enhancing Cetacean Habitat and Observation (ECHO) program, and has contributed to the collaborative development of research and actions to address transboundary vessel noise impacts in the Salish Sea. ○ In August of 2017, WSF participated in ECHO’s slow down trial for vessels in Haro Strait with WSF crossings to Sidney, BC, reducing speed from 16 knots to 11 knots through the Haro Strait shipping lanes. ○ In April of 2018, WSF issued a Fleet Advisory advising captains of optimum vessel speeds, primarily related to reducing fuel consumption in response to the Governor’s EO 18-01, with a potential co-benefit of lessening noise generated by the vessels.

- From June 24, 2018 to October 31, 2018, WSF participated in a voluntary slow down of its vessels through the Haro Strait shipping channel from 16 knots to 11 knots.
- Since October 31, 2018, WSF has been using the Whale Report Alert System to notify vessels, in Canadian waters at this time, of the presence of whales.
- From June 1, 2019 to October 31, 2019, WSF slowed its vessels through the Haro Strait shipping channel from 16 knots to 11.5 knots during its crossings to Sidney, BC.
- Shoreside Infrastructure Noise
 - All WSF pile driving includes trained Marine Mammal Observers (MMOs) who monitor for the presence of marine mammals, including SRKWs, within the projected zone of influence of noise generated, and shutdown pile driving if necessary.
 - WSF receives Incidental Harassment Authorization (IHA) from NOAA NMFS for all pile driving work that may affect marine mammals.
 - WSF requires all impact pile driving to use a bubble curtain to reduce the source sound level.
- Water Quality
 - Since 2008, WSF has removed more than 16,000 tons of creosote timber from the Salish Sea.
- Research
 - WSF, in collaboration with the US Navy and the University of Washington, has funded the development of an Underwater Sound Level Meter (USLM) that provides real-time data on in-water noise. With grants from WSDOT and the Federal Highway Administration, the University of Washington updated WSF's USLM with a new tablet and hydrophone as well as software that reflects NOAA's newest marine mammal thresholds.
 - WSF has developed a database that leverages an off-the-shelf GIS application to document marine mammal sightings by MMOs during projects. WSF is working with NOAA to provide the sightings data from this database as NOAA indicated that the data provides critical information on location and behavior for SRKWs.
 - WSF has funded and undertaken research to develop "quiet pile" technology to reduce noise generated by pile driving.
- Policy
 - WSF does not request harassment authorization ("take") for SRKWs and shuts down all pile driving work when SRKWs are nearing the projected zone of influence of noise generated.
 - WSF has integrated NOAA's "Be Whale Wise" guidelines into its Safety Management System (SMS) as operating procedure for all vessels. Unless safety dictates otherwise, vessels avoid getting closer than 200 yards from orcas, do not position vessel within 400 yards of oncoming whales, and reduce speed to less than seven knots and avoid course changes within 400 yards of whales. [WSF has revised its SMS to reflect the new Washington State laws regarding vessel behavior in the vicinity of SRKWs. The new more stringent Washington State standards for SRKWs have been applied to all whales in addition to SRKWs.]
 - WSF requires vessel crews to report marine mammal sightings to Orca Network and strandings to the Marine Mammal Stranding Network as part of its operating procedures in its SMS. [WSF currently working with Ocean Wise to report sightings through the Whale Report smartphone app, which will then allow for WSF sightings in Puget Sound to be included in the Whale Report Alert System (WRAS) run by Ocean Wise and financed by Vancouver Fraser Port Authority and the Port of Prince Rupert.]
- Education / Outreach
 - WSF collaborates with Orca Network and the Whale Museum to place naturalists aboard vessels during high season. [From May to September 2019, naturalists from the Whale Museum and Orca Network gave 56 presentations over 20 days, primarily on the San Juan

Islands route. Additionally, during Orca Action Month, the Orca Network organized the first “Kids for Orcas” program in which youth and adult naturalists gave talks to approximately 300 riders on the Friday Harbor-Anacortes, Clinton-Mukilteo, and Kingston-Edmonds routes.]

- WSF collaborates with Orca Network, the Whale Trail, the Whale Museum, and other organizations to place educational materials on vessels and at terminals. [Current Be Whale Wise materials are being included electronically on messaging screens on vessels and at terminals.]

Near Term Actions

- Vessel Noise
 - WSF is undertaking analysis of existing data to determine if such data can be used to develop baseline noise levels for the entire fleet. (Pilot project on two vessel classes to be completed by July 2018). [Final pilot report delivered on October 10, 2018, and included four vessels from three vessel classes. Given slower speeds at which vessels were measured, the data from the pilot report will need to be augmented by the baseline study for the entire fleet.]
 - WSF will seek funding from the Federal Highway Administration (FHWA), NOAA, and others to expand noise analysis pilot project to all existing data and collect additional new data to fill data gaps to develop baseline noise levels for the entire fleet. (Grant opportunities due in Fall 2018 with award likely in 2019). [WSF has funding from the Washington State Legislature, WSDOT Research Office, and FHWA to undertake a fleet noise baseline study. Glisten/Noise Control Engineering will collect field data on all WSF vessel classes by placing hydrophones on three routes in October 2019 with a report scheduled for delivery in late 2019 or early 2020.]
 - Following completion of baseline noise analysis, WSF will identify and implement mitigation measures, both operational and engineered, to address on-vessel sources of frequencies of concern. [As part of the baseline noise analysis, WSF will begin analysis to determine sources of frequencies of concern emanating from vessels. Once likely sources are identified, WSF will problem solve to attempt to lessen these noise sources.]
 - By January 2019, WSF will begin a program to minimize trim on all vessels through enhanced loading procedures, primarily related to reducing fuel consumption in response to the Governor’s EO 18-01, with a potential co-benefit of reducing noise generated by pressure differential and cavitation. [WSF’s Operational Efficiency Workgroup launched this effort at the end of April 2019 and is currently refining the data collection effort and analyzing the initial data.]
 - In January of 2019, WSF will incorporate a marine mammal training program as part of its mate orientation. [BC Ferries and the Vancouver Fraser Port Authority created the online “Whales in Our Waters” training and certification, which was launched publically in February 2019. WSF incorporated “Whales in Our Waters” as mandatory training for New Mates Orientation in February 2019. The training is included in the materials provided in Ordinary Seamen Training and will be made available aboard vessels for use on the shipboard learning system.]
 - WSF will participate as members of the Governor’s EO 18-02 Task Force and Vessels Work Group to develop additional measures and support for actions that may benefit SRKWs. [A. Scarton has represented WSF on the Task Force, and K. Bartoy has represented WSF on the Vessels Work Group.]

Longer Term Plans

- Vessel Noise

- WSF will include vessel noise reduction as a key criteria for future vessel design-build contracts. [WSF currently working towards new vessel construction including specifications to meet quiet vessel notations.]
- WSF will pursue electrification of Jumbo Mark IIs, primarily related to reducing fuel consumption in response to the Governor's EO 18-01, with a potential co-benefit of noise reduction. [Electric-hybrid transition for Jumbo Mark II Class currently being pursued and Legislature has provided funding for one vessel retrofit.]
- As part of a current long range planning effort, WSF will investigate an electric hybrid ferry to replace the MV Elwha as one of two vessels in the fleet meeting SOLAS standards for the crossing to Sidney, BC. [WSF's draft Long Range Plan includes hybridization of Jumbo Mark II and Kwa-di Tabil classes, and all new builds being electric-hybrid. WSF planning to retire 13 vessels by 2040 and replace with new electric-hybrids. By 2040, the only non-hybrid vessels in the fleet will be the four most recently constructed Olympic class vessels. Legislature provided funding for one new hybrid Olympic Class vessel.]
- Shoreside Infrastructure Noise
 - WSF will continue negotiations with NOAA NMFS and USFWS for a programmatic Endangered Species Act (ESA) consultation for pile driving that includes a conservation program addressing SRKWs and salmon responsive to the established recovery plans for those species. [Work with NOAA and USFWS continuing. WSF currently drafting Programmatic Biological Assessment for consultation. Draft conservation program, which uses the SRKW Recovery Plan and Chinook Salmon Recovery Plan as a framework, has been reviewed by NOAA and USFWS.]
 - WSF will pursue a Letter of Authorization (LOA) from NOAA NMFS covering incidental harassment of marine mammals by pile driving noise. [Kick off meeting held with NOAA NMFS on April 24,2019. Work currently underway.]
- Water Quality
 - WSF will continue to remove creosote from its assets with 8,000 tons planned for removal by 2020. [WSF beginning effort to map out remaining creosote in its system, place information in a GIS environment, and use this information to develop a removal plan.]
- Research
 - WSF will seek funding to study baseline stormwater quality at its facilities. [WSF will map all stormwater systems at its facilities and enter the data into GIS beginning in October 2019. This data will be used to prioritize and plan baseline stormwater studies.]
- Policy
 - WSF will develop additional agency policy addressing SRKW conservation and recovery efforts as needs are identified. [Policy to follow from the completion of the Governor's EO 18-02 Task Force process.]
- Education / Outreach
 - WSF will pursue grant and internship opportunities with Orca Network, the Whale Museum, the Whale Trail, and others to increase naturalist and other education programs aboard vessels. [As part of the 19-21 biennial budget, WSF will pursue an internship program to provide more naturalists aboard vessels.]