



Fisheries and Oceans
Canada

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SOUTHERN RESIDENT KILLER WHALE

A science based review of recovery actions for
three at-risk whale populations



SUMMARY REPORT

Canada

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A science based review of recovery actions for three at-risk whale populations – a commitment under the Government of Canada’s Oceans Protection Plan

In November 2016, the Government of Canada announced its [Oceans Protection Plan \(OPP\)](#), which outlined several new initiatives aimed at addressing threats to populations of marine mammals in Canadian waters. Fisheries and Oceans Canada (DFO) was asked to conduct a science based review of the effectiveness of the current management and recovery actions for three at-risk whale populations: the Southern Resident Killer Whale (SRKW), the North Atlantic Right Whale (NARW) and the St. Lawrence Estuary Beluga (SLE Beluga).

As the first step in this review, DFO scientists assessed the overall effectiveness of the recovery actions undertaken to date at reducing the key threats to these whales. They also identified areas for immediate improvement in recovery efforts and priorities for new or enhanced efforts, most of which could be initiated within five years. These two elements make up the scientific assessment of recovery actions for each whale.

Now, we are engaging the Canadian public, Indigenous communities, government agencies, environmental groups, industry representatives and other key partners and stakeholders to hear their views and gather support for the priority actions identified by scientists. The scientific assessment, in addition to the feedback we receive during this engagement, will inform recommendations to the Minister of Fisheries and Oceans Canada for enhanced recovery efforts for these whales.

Priority management actions for the Southern Resident Killer Whale (SRKW)

This document is a summary of key findings of the scientific assessment of the effectiveness¹ of recovery measures undertaken to date to support recovery of the SRKW and the identified priority management actions. The complete scientific assessment report on the SRKW [can be found online](#) and contains background on the history of recovery measures completed to date, the threats affecting the population, and prioritized recovery actions.

The scientific assessment is distinct from the recovery planning and reporting processes outlined in the *Species at Risk Act (SARA)* (2002); however it similarly focuses on the threats to the population as identified in the [Committee on the Status of Endangered Wildlife in Canada’s \(COSEWIC\) status report \(2008\)](#) and It builds on the [Recovery Strategy for the Northern and Southern Resident Killer Whales \(*Orcinus orca*\) in Canada \(2011\)](#) (the Recovery Strategy); and the recovery measures identified in the [Action Plan for the Northern and Southern Resident Killer Whale \(*Orcinus orca*\) in Canada \(2017\)](#) (the Action Plan). To this foundation, it adds an assessment of the effectiveness of the actions implemented to date at abating threats, the most recent scientific knowledge, and a description of the latest population trajectory for the population. It also identifies areas where more

¹ The effectiveness of an activity is considered in terms of its ability to reduce the threat(s) to the population.

work is required to address threats, and a novel threat that was not previously identified. This information in turn supports the identification of priorities for immediate action. This science based review under the OPP is an opportunity for the federal government and its partners to enhance the recovery effort of the SRKW.

The Current State

The known range of the Southern Resident Killer Whale extends from northern British Columbia to central California; however, during the summer months they concentrate off the southern end of Vancouver Island and are most frequently sighted in Haro Strait, Georgia Strait, and the Strait of Juan de Fuca. Since the population began to be assessed in 1974, abundance has fluctuated from a low of 71 individuals in 1974 to a high of 96 individuals in 1996. Their close proximity to humans has jeopardized their survival, and this population was listed as Endangered under the *Species at Risk Act* in 2003. By 2016, only 78 individuals remain in this population.

Recovery of the population is considered feasible and the recovery goal for this population is:

“Ensure the long term viability of Resident Killer Whale populations by achieving and maintaining demographic conditions that preserve their reproductive potential, genetic variation and cultural continuity”(as stated in the Recovery Strategy).

Multiple human induced threats are impeding the recovery of this population. Those of highest concern include: reduced prey availability, acoustic and physical disturbance, and biological and chemical contaminants.

The Way Forward

The scientific assessment confirmed that main threats to the SRKW population are the lack of prey availability, acoustic and physical disturbance, and bio-accumulation of contaminants. The assessment also noted vessel strikes as a threat that had not previously been identified. The Action Plan (2017) identified numerous management and research oriented recovery measures anticipated to help abate human pressures on this population.

The scientific assessment identifies priority management actions that are anticipated to help reduce human pressures on this population. Priority actions are organized by threat and by their ability to directly or indirectly abate that threat, in no order of priority. The complete scientific assessment report on the SRKW also contains recommendations for priority research based actions to support the management actions, and provides further context for the management based actions presented here.

Priority actions to directly abate the lack of prey availability

(In no particular order)

- A. Plan and manage salmon fisheries in ways that will reduce anthropogenic competition for SRKW prey in important foraging areas during key times (e.g., create protected areas; implement fishery area boundary adjustments and/or closures) or when there are indications of population nutritional stress. Among other things, this will require the formation and formalization of a transboundary working group of science and management representatives from DFO, National Oceanic and Atmospheric Association (NOAA), and other technical experts to ensure that SRKW prey needs are incorporated consistently in the management of salmon fisheries for transboundary stocks (e.g. Canada's Policy for Conservation of Wild Salmon, Pacific Salmon Treaty).
- B. During years of poor Chinook returns, implement a more conservative management approach than would be used in typical years to further reduce or eliminate anthropogenic competition for Chinook and other important prey in key SRKW foraging areas during key times.

Priority actions to indirectly abate the lack of prey availability

(In no particular order)

- C. Protect and preserve the freshwater habitat of important SRKW prey stocks.
- D. Implement fisheries management measures that will foster healthy and abundant populations of herring and sand lance to support greater availability of Chinook.

Priority actions to directly reduce the threat of acoustic and physical disturbance

(In no particular order)

** Management based measures denoted by an asterisk also address the threat of vessel strikes*

- E.* Implement area-specific vessel regulations and/or guidelines (e.g. speed restriction zones, rerouting vessel traffic, altering vessel traffic scheduling to create convoys) that reduce the overall acoustic impact on SRKWs in their habitat, particularly in the Salish Sea.
- F. Implement incentive programs and regulations that result in reduced acoustic footprints of the vessels habitually travelling in and near important SRKW habitat (e.g., through changes in vessel maintenance, application of quieting technologies) and the elimination of the noisiest vessels.
- G.* Identify candidate acoustic refuge areas within foraging and other key areas of SRKW habitat, and undertake actions for their creation.
- H.* Increase the distance between SRKWs and pleasure crafts and whale-watching vessels.

Priority actions to indirectly reduce the threat of acoustic and physical disturbance

(In no particular order)

** Management based measures denoted by an asterisk also address the threat of vessel strikes*

- I. Establish a transboundary committee to ensure consistency among U.S. and Canadian management actions aimed at reducing shipping noise in the Salish Sea.
- J.* Maintain and improve the existing 24 hour hotline (BCMMRN/ORR) for the reporting of acoustic or physical disturbance incidents to ensure timely response and enforcement of whale watching guidelines.

Priority actions to directly reduce the threat of chemical and biological pollutants

(In no particular order)

- K. Adequately enforce existing, and/or newly added or expanded, Canadian regulations aimed at reducing toxic chemical compound discharges at the source.
- L. Accelerate the rate of compliance with the Canadian Wastewater System Effluent Regulation (2012) in wastewater treatment facilities that border the Salish Sea.
- M. Review policies and best management practices for ocean dredging and disposal at sea and modify them to include an examination of Polybrominated diphenyl ethers (PBDEs) as well as any other necessary modifications to minimize SRKW contaminant exposure.
- N. Identify programs that mitigate small scale and/or chronic contaminant spills and leaks and provide support to them (e.g. financially, in-kind). If none exist, design and implement an ongoing program that focuses on mitigating small scale and/or chronic spills and leaks in SRKW habitat.

Priority actions to indirectly reduce the threat of chemical and biological pollutants

(In no particular order)

- O. Use best currently available knowledge of SRKW distribution, foraging behavior, and their food web to ensure that assessment and remediation plans for contaminated sites will reduce the risk of lifetime contaminant exposure in SRKWs.
- P. Develop a spill response plan including training, equipment, and deterrence methods and ensure that the protection of SRKWs and their habitat is made a high priority in spill response and monitoring protocols in Canada.
- Q. Form an interagency contaminants working group to identify roles and responsibilities for actions to reduce the impacts of contaminants on SRKWs and their environment. The group should also set targets for reduction of chemical contaminants (e.g. PBDEs) and the priorities and timelines for reaching those targets.