

Environment and Climate Change Canada (ECCC) Comments on the Request for a Regional Assessment  
for the Salish Sea – July 22, 2022

## Introduction

Environment and Climate Change Canada (ECCC) is a science-based department that has specialist or expert information in the areas of air quality, greenhouse gas emissions and climate change; water quality and quantity; wildlife, species at risk, and habitat; environmental emergencies; and climate and meteorology. ECCC administers or has legislative responsibility for various Acts and regulations including the *Canadian Environmental Protection Act, 1999* (CEPA, 1999), including Disposal at Sea permits, subsection 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act (MBCA)*, and the *Species at Risk Act (SARA)*.

ECCC received a request from the Impact Assessment Agency of Canada (IAAC) for information in relation to a request for a regional assessment in the Salish Sea, requested by the Salish Sea Indigenous Guardians Association (SSIGA) under the *Impact Assessment Act (IAA)*. IAAC requested information to inform their analysis for a recommendation to the Minister on whether or not to proceed with a regional assessment.

ECCC's response focuses on existing or planned initiatives or programs that inform an understanding of regional cumulative effects. These program areas have common elements including regional focus, a data generation and/or analysis component, and other contributions to the understanding of cumulative effects.

### 1. ECCC Response

Environment and Climate Change Canada (ECCC) is engaged in initiatives that are either underway or under development in the Fraser River estuary and Salish Sea that inform our understanding of regional cumulative effects. These programs include Advancing Knowledge in Support of Managing Cumulative Effects in the Salish Sea, Reporting on Health of the Salish Sea, and the Whales Initiative. The common elements of many of these initiatives include a regional focus (i.e., geographically constrained); explicit or implicit contribution to understanding cumulative effects; the generation, consolidation and/or analysis of expertise, data, and information from a variety of sources; guided by science, community, and Indigenous knowledge; support for an integrated approach to decisions and management; and support for relationship building. However, these initiatives are not necessarily coordinated in their approach, and therefore may not reflect a holistic evaluation of cumulative interactions across valued components.

#### *ECCC – US EPA Joint Statement of Cooperation (the SoC) on the Georgia Basin - Puget Sound (Salish Sea) Ecosystem*

Signed in 2000 by the Minister of Environment and Climate Change and the Environmental Protection Agency (EPA) Administrator, the SoC commits both governments to transboundary cooperation in support of the long-term sustainability of the shared ecosystem comprised of the surrounding basin and

marine waters of the Strait of Georgia, Strait of Juan de Fuca, and the Puget Sound. ECCC and the EPA implement the SoC through a Working Group comprised of senior staff and advised by provincial/state agencies, key partners, and the Coast Salish Gathering – a transboundary policy forum of Indigenous Peoples on both sides of the Canada/US political boundary. ECCC and EPA maintain the SoC Working Group as it remains a key venue for international, intergovernmental, and Indigenous engagement, information sharing, and strategic collaboration on environmental issues impacting the sustainability of the transboundary ecosystem.

Key activities under the SoC include:

- *Health of the Salish Sea Ecosystem Report*: a collaboratively developed public report that presents trends for ten environmental indicators of transboundary significance in the Salish Sea Basin
- *The Salish Sea Ecosystem Conference*: a biannual international conference featuring the latest scientific research and management issues relevant to the health of the Salish Sea. ECCC and DFO are represented on SSEC organizing committees and departmental science figures in prominently throughout the conference. The conference is a major regional opportunity to engage both Indigenous and other groups on both sides of the political boundary on ecosystem management issues of shared concern.

#### *ECCC's Water Quality and Ecosystems Partnerships Program in the Fraser River Basin (2017-2022)*

ECCC has been supporting several projects throughout the Fraser River Basin with a view to strengthen collaborative watershed governance organizations through effective sharing of water quality information; coordination of freshwater science, assessment and decision-making; and enhancing Indigenous and stakeholder engagement. ECCC support has prioritized projects that enhance the capacity of Indigenous and other collaborative watershed organizations in the Fraser. While there is no existing, basin-scale governance arrangement for the Fraser, a number of Indigenous and other collaborative watershed organizations are active throughout the Fraser and across BC, many of which are influential in informing provincial and federal environmental policies and activities in the Fraser. This programming is being reviewed in the context of implementing commitments including i) the 2021 Ministerial mandate letter directing ECCC to implement a strengthened Freshwater Action Plan to protect and restore large lakes and river systems, including the Fraser River Basin and ii) Budget 2022 announcing funding (\$19.6 M) to sustain ongoing work while the future of the Freshwater Action Plan remains under development.

#### *2018-2023 Whales Initiative*

The Government of Canada is committed to protecting and supporting recovery of endangered whales. In 2016, the Government launched the \$1.5 billion Oceans Protection Plan to ensure cleaner, healthier, and safer oceans and coastlines. Part of the Plan includes measures to protect marine mammals. In June 2018, the Government recognized the severity of the threat to endangered whales by investing an additional \$167 million to a dedicated Whales Initiative to protect and support recovery of whales including the South Resident Killer Whales (SRKW). In October 2018, the Government announced a suite

of additional measures focused on broadening and strengthening protection for the SRKW and committed an additional \$61.5 million for implementation.

DFO and ECCC are working together to support the recovery of SRKW by addressing key threats including physical and acoustic disturbance, prey availability and contaminants. The Government has implemented management measures each year in 2019, 2020, 2021 and 2022 to protect Chinook salmon, address contaminants and to minimize disturbance from vessels to support SRKW recovery.

*Indigenous Advisory and Monitoring Committee (IAMC) for the Trans Mountain Expansion Project (TMX)*

The Government of Canada's original decision to approve TMX included a commitment of \$64.7 million over 5 years to NRCan to establish an IAMC that brings together 13 Indigenous and six senior federal representatives (NRCan, ECCC, DFO, TC, CCG, CER) to provide advice to regulators and to monitor the TMX Project and existing pipeline.

The Indigenous Advisory and Monitoring Committee (IAMC) forms and oversees subcommittees to work on specific issues or regional concerns that require more expertise or focus. These include Indigenous Monitoring, Marine Shipping, Socioeconomic and Engagement Subcommittee.

*Advancing Knowledge in Support of Managing Cumulative Effects in the Salish Sea (TMX Recommendation 1)*

The Government of Canada is enhancing knowledge to inform cumulative effects assessment and management in the Salish Sea. In 2021, it took stock of the current state of knowledge generated by DFO, TC and ECCC and shared these results with Indigenous groups eligible for funding under the TMX Salish Sea Initiative (SSI), including Salish Sea Indigenous Guardians Association. Currently, it is identifying knowledge gaps associated with concerns and issues articulated by Indigenous groups along the TMX marine shipping route. Furthermore, it is augmenting research and monitoring on freshwater quality, air quality and marine emissions, and improving access to this knowledge. This work is linked to DFO's Marine Spatial Planning efforts and will be further informed as co-development of the Salish Sea Initiative is advanced.

*Water and Air Quality, and Marine Emissions Science (TMX Recommendation 1)*

ECCC is researching and monitoring air and water quality to enhance baseline information that can be used to inform the assessment of effects from development projects. ECCC is also analyzing current and future predicted emissions from shipping activities in the Salish Sea and is displaying that information on the Salish Sea Marine Emissions Tool. ECCC is also continuously updating the online Marine Emissions Inventory Tool with marine vessel emissions data for all vessels operating in Canadian waters out to 200 nautical miles, analyzing the feasibility and effectiveness of initiatives and technologies to reduce shipping emissions in the Salish Sea region, working with partner agencies, such as TC, to identify options for marine emission reductions, and funding emission reduction projects through the Salish Sea Marine Emissions Reduction Fund.

*Annual Reporting on the Health of the Salish Sea (TMX Recommendation 2)*

The Government of Canada is assessing current reporting to effectively communicate the status of federal initiatives and measures to address cumulative effects in the Salish Sea. This will inform appropriate levels of reporting and work to close gaps, where possible. This work will be aligned with key corresponding initiatives, notably the Salish Sea Initiative and Marine Spatial Planning programs.

*Marine Bird Monitoring and Conservation Program (TMX Recommendation 3)*

The Marine Bird Monitoring and Conservation Program is generating data and information to facilitate the development of actions to protect marine birds in the Salish Sea. This program complements the broader Salish Sea Initiative described below. It involves government-led scientific studies, which will enhance our understanding of the habitat use and distribution of marine birds in the Salish Sea and the effects of human activities on their populations.

*The Terrestrial Cumulative Effects Initiative (TMX TCEI)*

The TCEI is an accommodation measure for TMX. Through the TCEI, the Government of Canada collaborates with Indigenous groups to develop a five-year cumulative effects initiative and provides funding for community capacity and Indigenous-led projects in freshwater and terrestrial environments. The TCEI has two phases: one aimed at building capacity in communities through the provision of capacity funding (led by NRCan), and a second that focuses on funding Indigenous-led projects related to cumulative effects (led by ECCC and DFO). The focus now is on Phase II, with priority on increasing the number of groups accessing project funding.

*Salish Sea Initiative (TMX SSI)*

Led by DFO and in collaboration with ECCC, the SSI is an accommodation measure from TMX that responds to Indigenous concerns regarding cumulative effects, including impacts on SRKW. The purpose of the SSI is to support capacity building, development and implementation of stewardship and monitoring programs to assess the effects of human impacts on VECs within the Salish Sea marine environment. The SSI is also co-developing a long-term investment strategy (the Arms-Length Fund) to support stewardship activities beyond March 31, 2024.

*Marine Spatial Planning*

Marine Spatial Planning (MSP) in the South Coast of British Columbia, inclusive of the Salish Sea but not the Fraser River estuary, is a process led by DFO that brings together relevant authorities to coordinate how humans use and manage marine spaces that balances ecological, economic, cultural, and social objectives. The process is currently in the initial stages of planning and anticipates core elements to include collaborative governance; shared science, knowledge, and data; and shared analysis/planning. Moving forward, federal departments the province of BC, Indigenous groups and stakeholders will be engaged in the planning process. Advancing reconciliation with Indigenous Peoples through their involvement as partners in MSP and meaningful inclusion of Indigenous knowledge and knowledge systems in planning, management and decision-making will be foundational to the process.

## 2. Other Relevant Programs or Initiatives

ECCC also leads or contributes to other environmental protection activities in research science or regulatory capacities as they relate to the department's mandate areas: air quality and greenhouse gases (GHGs), water quality, wildlife and habitat, and environmental emergencies.

### **Air Quality and Greenhouse Gases (GHGs)**

#### *Strategic Assessment of Climate Change (SAAC)*

The Strategic Assessment of Climate Change (SAAC), revised October 2020, will enable consistent, predictable, efficient and transparent consideration of climate change throughout the impact assessment process. It describes the climate change-related information requirements throughout the federal impact assessment process, and requires proponents of projects with a lifetime beyond 2050 to provide a credible plan to achieve net-zero emissions by 2050. All project proponents will be asked to provide information on GHG emissions, impact of the project on carbon sinks, impact of the project on federal emissions reduction efforts and on global GHG emissions, mitigation measures, including Best Available Technologies/Best Available Practices and climate change resilience. As well, the SAAC describes the thresholds in which an upstream GHG assessment will be required. It also explains how the Impact Assessment Agency of Canada (IAAC) or lifecycle regulators, with support from expert federal authorities, will review, comment on and complement this information.

#### *Canada-United States Air Quality Agreement*

The Canada-US Air Quality Agreement seeks to control and reduce transboundary air pollution between Canada and the US and includes commitments on notification of potential new sources of transboundary pollution, consultation on existing sources of possible transboundary pollution, and biennial progress reports. Transboundary air notifications are required for proposals located within 100 km of the Canada-U.S. border when any of the following scenarios are applicable:

- The proposal entails a new air pollution source that is expected to emit greater than 90 tonnes/year of any one of the common air pollutants: SO<sub>2</sub>, NO<sub>x</sub>, carbon monoxide, total suspended particulates (TSP) and volatile organic compounds (but not including carbon monoxide, carbon dioxide, methane and chlorofluorocarbons); or,
- The proposal entails major modifications of existing facilities that result in an increase of 40 tons per year of an identified air pollutant noted above; or,
- The proposal entails a release of greater than 1 ton per year of any hazardous air pollutant for a new source or a modification of an existing source.

#### *Air Quality Management System (AQMS)*

The AQMS is a collaborative program between federal, provincial and territorial governments to improve air quality through the establishment of standards, requirements, management plans and reporting, and coordination. The AQMS establishes new Canadian Ambient Air Quality Standards (CAAQS) for fine particulates and ozone, new Base-Level Industrial Emission Requirements for major

industries and some equipment types, air zone management that supports actions to improve air quality and with the objective to keep clean areas clean, enhanced coordination where pollution crosses jurisdictional borders, and increased collaboration on actions to reduce transportation emissions.

There are seven air zones identified in BC. Air zones are defined as areas that typically exhibit similar air quality characteristics, issues and trends, and are the basis for monitoring, reporting and taking action under the AQMS. As of 2015, annual air zone reports are being prepared for each air zone where sufficient monitoring data are available. These reports describe achievement of the national air quality standards, and the assignment of management levels to guide the level of response, or other actions to improve air quality.

### **Water Quality**

ECCC has a number of water monitoring, science research and technology programs that contribute to a broader understanding of the region:

*Freshwater Quality Monitoring Program* is a long-term program that measures, tracks and communicates freshwater quality across a range of watersheds throughout Canada. Monitoring locations are chosen to reflect the level of risk from water quality stressors, and provincial and federal priorities. In BC, monitoring is undertaken through a partnership agreement with the BC government. Seven long-term stations are located in the Salish Sea Ecosystem. All data collected are shared through the Government of Canada's Open Data platform, and interpreted and communicated through the Canadian Environmental Sustainability Indicators series.

*The Canadian Aquatic Biomonitoring Network (CABIN)* is a program developed by ECCC to assess the health of freshwater ecosystems in Canada and estimate the severity of cumulative effects at test locations. Biomonitoring sites in the Lower Mainland ecoregion characterize the health of the lower Fraser. Additional sites in the Pacific Ranges and Eastern Vancouver Island may be used to characterize the Salish Sea ecosystem. CABIN data is shared through the Government of Canada's Open Science and Data platform.

*ECCC's Emergency Science and Technology Section (ESTS)* has an established internationally recognized oil and chemical spill research and development program that advances research to enhance understanding of the fate of hydrocarbons in fresh and marine waters. Outside of emergencies, ESTS establishes a knowledge base to inform area response planning. Baseline characterization was recently completed of shoreline conditions in the Burrard Inlet, Indian Arm and Fraser Delta.

*Shellfish Water Classification Program* collects marine bacteriology, water temperature and salinity data from bivalve shellfish harvest areas along the BC Pacific coast including the Salish Sea. Sanitary surveys are also conducted to assess pollution sources that can impact these areas. Data are collected within the framework of the Canadian Shellfish Sanitation Program for the purpose of recommending classifications to bivalve shellfish harvest waters and are publicly available through the Government of Canada's Open Data platform.

## **Wildlife and Habitat**

### *Migratory Birds Convention Act (MBCA)*

ECCC administers and enforces the *Migratory Birds Convention Act*, which prohibits depositing and permitting the deposit of substances harmful to migratory birds in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area. This includes all types of oily discharges, including catastrophic spills and chronic oiling.

In support of this mandate, ECCC developed the Birds Oiled at Sea (BOAS) program and has partnered with TC's National Aerial Surveillance Program (NASP), the Integrated Satellite Tracking of Pollution (ISTOP) program, and the University of Victoria, to assess chronic oil discharges and monitor vessel traffic using an automated tracking system (the Automatic Identification System for Ships (AIS)) and optical satellite imagery.

ECCC is also partnering with the University of British Columbia to build a stochastic oil spill model to predict probability distributions of oil spill events that would take into account the likelihood that a discharge occurs, the type of discharge, and the trajectory of the spill. The results of the model would be used to determine which sensitive marine habitats, species, and human resources would potentially be affected. In addition, ECCC maintains a database and spatial records of marine pollution events in the Pacific Region from pollution reports received from the Canadian Coast Guard and ECCC's National Environmental Emergencies Centre (NEEC).

### *Priority Places Initiative (PPI)*

ECCC has adopted a conservation approach that focuses on multi-species and ecosystem-based conservation action, including species of cultural significance. This enables conservation partners to work together to achieve better outcomes for species at risk. In BC, the two priority places are Southwest British Columbia and the Dry Interior. These priority places were selected due to their significant biodiversity, concentrations of species at risk, and opportunities to advance conservation efforts. In each priority place, the federal and provincial or territorial governments will work collaboratively with Indigenous Peoples and other partners and stakeholders to develop conservation action plans. These action plans will identify key actions to address the greatest threats to species and will be funded by multiple government and non-government partners and stakeholders, including contributions under the Canada Nature Fund.

### *Pacific Birds Habitat Joint Venture*

The Pacific Birds Habitat Joint Venture (PBHJV) is a partnership between government and non-governmental groups established to conserve birds and their habitat along the West Coast of Canada and the United States. In British Columbia, the PBHJV partners work together to determine priority habitat types found on the coast (including estuaries identified by the Pacific Estuary Conservation Program), secure lands that contain such habitats, work with landowners to encourage habitat stewardship, and conduct habitat restoration and enhancement activities to improve ecological

functions. More recently, the PBHJV published the 2020-2030 PBHJV Implementation Plan, whereby partners developed conservation strategies and objectives in light of current and future stressors. One of the priority areas of the program is the Fraser River Delta, which is considered a crossroads for birds from three continents, and is a major link to the Pacific Flyway network.

## **Environmental Emergencies**

### *Environmental Emergency Regulations (E2 Regulations)*

These regulations aim to help reduce the frequency and severity of accidental release of hazardous substances into the environment. The E2 Regulations require emergency plans for toxic or other hazardous substances set out in Schedule 1 in Part 8 of the *Canadian Environmental Protection Act, 1999* (CEPA, 1999). The E2 Regulations require those who own, have charge, management or control of toxic and hazardous substances set out in Schedule 1 to the E2 Regulations at or above the specified thresholds to provide required information on the substance(s), their quantities and to prepare and implement environmental emergency plans. The primary goal of preparing and implementing an environmental emergency plan is to prevent emergencies from occurring and provide appropriate response activities in the event that an emergency does occur.

### *National Environmental Emergencies Centre (NEEC)*

ECCC's *National Environmental Emergencies Centre* (NEEC) responds to pollution-related emergencies, 24 hours a day. The NEEC manages the receipt of spill notifications, evaluates that reasonable measures are taken to protect the environment and human health, and is able to take or direct reasonable measures, if required. ECCC plays a scientific support role to the lead government (federal or provincial) agency that has oversight of the spill cleanup. During a pollution emergency, the NEEC provides scientific information to agencies leading the response to an emergency, such as maps to show resources that may be impacted or at risk.

### 3. Other Relevant Data Sources

#### *Open Science and Data Platform*

The Government of Canada's Open Science and Data Platform provides access to science, data, publications and information about development activities across the country that can be used to understand the cumulative effects of human activities to support better decisions in the future.

#### [Open Science Data Platform \(canada.ca\)](https://open-science-data.ca)

#### *Cumulative Effects in the Salish Sea*

In response to TMX Recommendation 1, the Government is advancing knowledge in support of managing cumulative effects in the Salish Sea, and in response to Recommendation 2, it is improving access to knowledge by consolidating references from diverse sources on a single page that is searchable with intuitive terms such as cumulative effects and the Salish Sea (see website).



[Cumulative effects Salish Sea - Canada.ca](#)

*Cumulative Effects in 6 Western Canadian Regions*

The Government is increasing public understanding of cumulative effects for terrestrial and freshwater environments that are connected to the Salish Sea including the Lower Fraser-South Coast Region, Thompson-Fraser Canyon and Upper Fraser Watershed (see website).

[Sharing knowledge on cumulative effects for 6 Western Canadian regions - Canada.ca](#)

*State of the Salish Sea Assessment*

In July 2021, Western Washington University published a transboundary assessment on past, present and emerging stressors in the Salish Sea Ecosystem, cumulative effects, and opportunities for further assessment. Contributors represented multiple orders of government in Canada and US including ECCC and EPA, Tribes and First Nations, non-governmental organizations and academics.

[https://cedar.wvu.edu/salish\\_pubs/1/](https://cedar.wvu.edu/salish_pubs/1/)