GOVERNMENT RESPONSE TO THE REVIEW PANEL RECOMMENDATIONS FOR THE PROPOSED ROBERTS BANK TERMINAL 2 PROJECT

The Roberts Bank Terminal 2 Project (RBT2, the Project) was assessed by a Review Panel under the *Canadian Environmental Assessment Act*, 2012. In its final report, the Review Panel made 22 recommendations to the Government of Canada and the Government of British Columbia (BC) regarding the effects of the Project, as well as measures that could improve the conduct of impact assessments in the future.

The Government of Canada and the Government of British Columbia's responses to the Review Panel's 22 recommendations to government are outlined in the following table. The Government Response focuses on existing or planned federal and provincial programs that may assist in mitigating the potential effects of the Project as well as addressing the recommendations. This document does not contain responses to Review Panel recommendations that are directed to the Vancouver Fraser Port Authority (the Proponent, VFPA). Appendix H of the Review Panel's report provides a complete list of these recommendations.

Following receipt of the Review Panel Report and in response to concerns raised by the Review Panel, the former Minister of Environment and Climate Change requested additional information from the Proponent on the following topics to further inform the environmental assessment and identify further opportunities for mitigation:

- the Proponent's fish and fish habitat offsetting plan;
- avoidance and mitigation measures for Project construction;
- avoidance and mitigation measures for Project operation and marine shipping associated with the Project;
- biofilm and effects to migratory birds; and
- Proponent's consultation with Indigenous communities.

This additional information further informed the Government Responses to Review Panel recommendations, including those recommendations related to marine shipping. For context:

- The Review Panel conducted an assessment of Project effects based on a capacity of 260 container vessel calls each year. The Proponent's response to the Minister's information request (available on the Agency's Impact Assessment Registry here) included a new forecast that showed the average number of container vessels calling at the Port of Vancouver will likely remain the same with or without the Project being operational. Transport Canada found the vessel projections to be well-constructed, plausible, and consistent with trends in the Port of Vancouver over the past two decades. Over this period, the number of container vessels calling at the Port of Vancouver remained stable as carriers seek to maximize efficiencies and adjust vessel sizes, including larger container vessels, or the number of containers unloaded, rather than adding additional vessel calls. These trends are expected to continue in the future, with or without the Project, resulting in a redistribution of vessel traffic within the Port of Vancouver.
- Transport Canada also noted that any forecast has some level of uncertainty, and while the most likely scenario is that there will not be an increase in the number of vessels calling to the Port of Vancouver, the less likely scenarios could result in an additional +1 or +2 ship calls per week to the terminal (+52 or +104 per year).

GOVERNMENT RESPONSES TO REVIEW PANEL RECOMMENDATIONS DIRECTED AT GOVERNMENT

Recommendation Number	Recommendation	Government Response or Consideration
1	The Panel recommends that the Government of Canada review ship inspection and aerial surveillance activities to identify improvements that would reduce the discharge of oil and other pollutants in the marine shipping area.	**The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. Existing policies, programs and initiatives in place are working to satisfy the intent of this Recommendation.** **Transport Canada (TC)** TC is of the view that existing ship inspection and aerial surveillance programs effectively monitor discharges of oil and other pollutants in the marine shipping area and reviews are not warranted at this time. Canada's robust Port State Control program ensures that foreign vessels entering Canadian waters, including container vessels, are boarded and inspected to ensure compliance with various major international maritime conventions, including pollution prevention requirements. Systems are in place to target high risk vessels and to prioritize the inspection of substandard vessels. Through the next phase of the Oceans Protection Plan, TC will modernize its Port State Control program, adopting modern technology and incorporating enhanced inspections for tankers. The Cargo Inspection Program will also be modernized to keep pace as export demands increase and the industry transitions to the use of more modern tools, such as automation and remote technology. In Canada, discharges from vessels to water are governed under the *Vessel Pollution and Dangerous Chemicals Regulations* (VPDCR). These regulations implement the requirements of the *International Convention for the Prevention of Pollution from Ships* (MARPOL). Bilge water is treated onboard through an oily water separator. Under the VPDCR, an oily mixture may be discharged from a vessel if it meets certain conditions. For example, vessels must be under way and the discharge must be processed through an oily water separator that produces an undiluted effluent with an oil content of not more than 15 parts per million. An alarm and a discharge-stopping device are triggered if the oil content in the effluent exceeds the prescribed criteria. Moreover, in the event of a separator malfunction, vessels have a dedicated holding tank that allows them to hold the capacity of their bilge water to prevent any discharge. TC monitors compliance with these and other regulations through Port State Control inspections. Inspectors verify that oily water separators are in good operating condition and that crew members are competent to operate the system. If inspectors determine that an oily water separator needs repair, the vessel would be required to carry out the repair before it could depart. Canada is currently undertaking a review of the VPDCR to further align with the existing international requirements of the MARPOL Convention. The review is being undertaken in three phases with completion scheduled for 2027. The World Class Tanker Safety System provided the department with funding to strengthen oil spill prevention, preparedness and response. Due to that funding, the National Aerial Surveillance Program (NASP) was expanded and aerial surveillance in the Pacific region was increased over Waters in Northern BC and as a result the Vancouver based Dash 8 is performing at maximum capacity under the current crew complement and maintenance program. TC has also received additional funding for the NASP from the 2018 Whales Initiative. This will allow the program to continue to help prevent pollution on Canadian waters, while increasing our capacity to monitor whales in the area. **Environment and Climate Change Canada (ECCC)** ECCC operates the Integrated Satellite Tracking of Pollution (ISTOP) program, which uses space-based satellite imagery to monitor Canada's coastal waters and improve pollution response. The program helps to detect marine oil spills off Canadian coasts, and encourages compliance with Canada's laws and International Conventions that seek to minimize oil pollution and impacts to the marine ecosystem, including to marine birds. ISTOP's key objectives are to identify the extent of marine oil pollution, improve surveillance of Canadian waters, support enforcement efforts, and reduce and deter the illegal release of oil. In the event of a spill, ISTOP supports enforcement and cleanup activities by providing reports with information on the location of potential spills, spatial extent and length, and nearby ship positions. ISTOP provides daily satellite surveillance and monitoring in Canadian waters. ECCC, Canadian Coast Guard, and TC are notified when potential pollution (hydrocarbon) is observed on a satellite image. TC leads enforcement, regulatory and additional surveillance activities (i.e. NASP). ECCC has a Quality Management System in place for ISTOP and program outcomes are reviewed on a regular basis based on feedback from our partners who receive this service, including TC and Fisheries and Oceans Canada. ISTOP is in the process of transitioning from RADARSAT2 to the RADARSAT Constellation Mission, which includes three new satellites to provide additional coverage in Canadian Waters for surveillance.

Recommendation Number	Recommendation	Government Response or Consideration
2	The Panel recommends that the Government of Canada, in collaboration with Bird Studies Canada, develop a monitoring program to assess chronic oiling in the marine shipping area. The program should identify the most vulnerable bird species and locations in the marine shipping area that are at highest risk of oil exposure.	**<u>The Government of Canada accepts the Recommendation, and proposes to take the actions described below in implementing the Recommendation.</u>** **Environment and Climate Change Canada (ECCC)** ECCC supports the Panel's recommendation, and is committed to evaluating how existing ECCC programs may be expanded and/or utilized to refine our understanding of species and areas at highest risk of oil exposure within marine shipping areas directly applicable to the RBT2 project. Additional studies on chronic oiling should consider overall oil exposure risk (i.e., inclusive of catastrophic and chronic oiling events consistent with RBT2's Accident and Malfunction scenarios) and could be conducted in partnership with appropriately qualified collaborators, including Birds Canada (formerly Bird Studies Canada) as well as Indigenous communities. 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 Transport Canada'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 then 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. ECCC is undertaking multi-year, systematic vessel survey programs to improve baseline data on marine bird abundance and distribution in coastal waters of southern British Columbia. This work is supported by two programs; (1) Trans Mountain Expansion Project's National Energy Board Recommendation 3 to implement a marine bird monitoring program to better understand impacts of vessels within the Salish Sea, and (2) (under the Oceans Protection Plan [OPP]) to improve preparedness for response to marine pollution incidents in the Salish Sea and the west coast of Vancouver Island. Coupled with information relating to chronic oiling, models, and incident records, this information supports ECCC's ability to identify species, areas, and time periods with increased risk of oil exposure. To respond to the Panel's recommendation 2, ECCC will contemplate extensions to existing ECCC programs to include directed studies applicable to RBT2 with existing and new partners, should the project be approved. This includes a multi-pronged approach for data collection and management that considers overall oil exposure risk, and: • improves the Crown's understanding of the Project's potential contribution to avian oiling events in areas expected to be of highest risk of exposure (e.g., in proximity to the terminal) through programs with other scientific organizations and Indigenous communities; • engages with Indigenous Communities and provides opportunities for capacity building on oil spill preparedness, response and recovery; • supplements existing systematic vessel survey programs to improve ECCC's understanding of marine bird presence, abundance, and distribution in nearshore environments, including areas with increased sensitivity to chronic oiling events; and • supports an extension of the stochastic modelling approach to produce an output that is directly associated with this Project.
13	The Panel recommends that Fisheries and Oceans Canada and Transport Canada, in collaboration with the Proponent, identify suitable locations for the placement of hydrophones to monitor changes in underwater noise due to the Project and marine shipping associated with the Project.	**<u>The Government of Canada accepts the Recommendation, and proposes to take the actions described below in implementing the Recommendation.</u>** **Fisheries and Oceans Canada (DFO)** DFO is well-positioned to measure and conduct science-based monitoring of underwater noise in relation to marine shipping associated with the Project. Hydrophone monitoring stations have been deployed through DFO's Marine Environmental Quality Program in key areas of importance to the Southern Resident Killer Whale along the marine shipping route between the Strait of Georgia and Swiftsure Bank. A baseline description of the soundscape, and changes over space and time, using the first two years of recordings from these moorings was published February 2021 (Burnham et al., 2021a[1]). Two additional hydrophone moorings were deployed in the Strait of Georgia on August 9, 2020. These monitoring stations will facilitate the establishment of an underwater noise baseline that could be used to better understand future changes in vessel traffic noise, including additional RBT2 vessels. A report on the state of the soundscape at the monitoring locations in the Strait of Georgia will be produced.

[1] References: Burnham, R.E., Vagle, S., O'Neill, C. (2021a). Spatiotemporal patterns in the natural and anthropogenic additions to the soundscape in parts of the Salish Sea, British Columbia, 2018-2020. Mar Poll Bull 170, 112647

Recommendation Number	Recommendation	Government Response or Consideration
		For monitoring of underwater noise near the terminal, DFO can provide expertise to identify suitable locations for the placement of hydrophones to monitor changes in underwater noise due to the Project construction and operation. DFO's Whale Tracking Network monitors and tracks the locations of marine mammals. The expertise and data collected through this network could help determine the best locations for hydrophones. The Proponent would be responsible for costs associated with the placement and maintenance of additional hydrophones and resources to evaluate the data. Ideally such system(s) should be real-time, either as a system cabled to shore or as surface deployed with radio link to shore. This way such a system can be used to monitor the overall impact of the Project on the local soundscape and to inform the Proponent about possible marine mammals in the area during construction. **Transport Canada (TC)** TC's underwater noise monitoring serves a complementary role with efforts focused on reducing vessel noise at its source. TC has also installed a hydrophone array in Boundary Pass that will monitor close to 90% of traffic going to VFPA ports. This Underwater Listening Station (ULS) began operation in early June 2020 and measures 4,000 to 5,000 vessel transits every year. Every day the ULS sends over one terabyte of data to shore in real-time, so it can be immediately analysed. The data collected by the ULS enables Transport Canada and other key stakeholders (e.g. Department of Fisheries and Oceans, VFPA – ECHO Program) to assess whether the measures (such as slowing down or redirecting vessels) put in place to improve underwater vessel noise are effective. It's also helping our understanding of the different noise emissions from different sizes and types of vessels. The results of this project will also help our understanding of the relationship between underwater vessel noise emissions and operational and design factors, helping to test the effectiveness of "quiet ship" technologies. As part of its Conservation Agreement with the VFPA, the two parties have agreed to work together on measuring underwater noise levels throughout Southern Resident Killer Whale (SRKW) critical habitat, assessing the contributions of large commercial vessels, supporting whale detection activities, and monitoring the effectiveness of implemented mitigation measures for large commercial vessels. This includes work to engage partners and map existing hydrophone coverage, identifying gaps in the network, and ongoing reviews of the existing hydrophone coverage and work to improve the existing network.
17	The Panel recommends that the Government of Canada evaluate, through a one year pilot project, compulsory measures to reduce underwater noise in collaboration with the Proponent and industry stakeholders.	**<u>The Government of Canada agrees with the intent of the Recommendation, but not with the suggested methodology for reasons detailed below.</u>** Through the Oceans Protection Plan, a dedicated Southern Resident Killer Whale noise research program, which includes 13 acoustic monitoring stations that are collecting acoustic data 24/7, was established and has generated important scientific data to support Southern Resident Killer Whale protection measures. During the next phase of the Oceans Protection Plan, this initiative will monitor and assess the physical and acoustic (noise) effects of the Trans Mountain Expansion project and other major development projects along the coast of BC on the Southern Resident Killer Whale and other at-risk marine mammals. The resulting scientific data from this initiative will support Fisheries and Oceans Canada, Transport Canada, and decision makers by helping to inform major project impact assessments, as well as whale protection measures. **Transport Canada (TC)** TC agrees with the Panel's finding that "efforts undertaken by both the Proponent and the Government of Canada to reduce underwater noise levels should be continued and enhanced". Through its adaptive management approach, the Government of Canada, in cooperation with the VFPA, has implemented measures year over year, with the results of previous years informing and enhancing protections for subsequent years. Current voluntary measures (e.g., vessel slowdown in Haro Strait and Boundary Pass) cover both the inbound and outbound lanes (in Canadian and US waters, respectively), with participation rates consistently above 80%. Canada's regulatory authority does not cover the inbound lane in US waters, thereby limiting the effective area covered by any compulsory measure to those waters within Canada's jurisdiction. Further, given that shipping lanes cross the Canada/US border and vessel traffic is jointly managed by both countries, the existing joint Coordinated Vessel Traffic Services Agreement (CVTS) would need to be renegotiated and the U.S. would need to agree to undertake mandatory measures at Canada's behest. Given the Salish Sea is shared waters, the ability of Canada to move forward unilaterally with compulsory measures involving international shipping is limited. Additionally, "Segment B" in the Marine Shipping Area includes not only the shipping lanes, but portions of the Gulf Islands where TC has implemented mandatory measures, specifically the Interim Sanctuary Zones (ISZ). While these measures have generally been designed to not impact large commercial vessels, the ISZs do prohibit all traffic, and could affect large commercial vessels going to anchor in the Gulf Islands. TC agrees that current voluntary trials, measures, and pilots should be continued and adapted to ensure their effectiveness and that new pilots, trials and measures should be implemented as needed and in a manner to ensure their effectiveness.

Recommendation Number	Recommendation	Government Response or Consideration
		As part of the next phase of the Oceans Protection Plan, the Government of Canada will launch the Salish Sea Strategy that will help to facilitate discussions on marine transportation issues and link to existing work that is taking place within the Salish Sea region. The Strategy will also seek the involvement of Indigenous, industry, and stakeholder partners to collaboratively plan for a series of Salish Sea Summits, which will help to build awareness of existing work and identify connections to regional concerns. **Fisheries and Oceans Canada (DFO)** DFO is well placed to support the evaluation of measures to reduce underwater noise in areas critical to Southern Resident Killer Whale along the shipping route between Vancouver and Swiftsure Bank. DFO hydrophone moorings in this area are being used to establish an underwater noise baseline and to assess existing vessel mitigation measures implemented by other agencies. Data from these hydrophone moorings has been used to evaluate: 1. lateral displacement trials in the Strait of Juan de Fuca in 2018, 2019 and 2020 (Vagle and Neves, 2019; Vagle, 2020; Burnham et al., 2021b); 2. voluntary vessel slowdowns in Haro Strait, Boundary Pass and on Swiftsure Bank from 2017 to 2020 (Joy et. al., 2019; McGillivray and Li, 2018a, b; Burnham et al., 2021b); and, 3. effectiveness of the 2019 and 2020 Interim Sanctuary Zones that prohibited vessel traffic (with some exceptions) off the south-west coast of Pender Island and south-east end of Saturna Island, and at Swiftsure Bank (Vagle and Neves, 2019; Vagle, 2020; Burnham et al., 2021b) Data from these hydrophone moorings will be used to evaluate: 1. Lateral displacement trial in the Strait of Juan de Fuca in 2021; 2. Voluntary vessel slowdowns in Haro Strait, Boundary Pass and on Swiftsure Bank in summer and autumn of 2021; and, 3. Effectiveness of Interim Sanctuary zones off the south-west coast of Pender Island and south-east end of Saturna Island, and at Swiftsure Bank in 2021. DFO will publish reports on the evaluation of 2021 mitigation measures.[2]
30	The Panel recommends that Fisheries and Oceans Canada and Transport Canada renew their commitment to the '*Species at Risk Act* Section 11 Conservation Agreement to Support the Recovery of the Southern Resident Killer Whale' for an additional five-year term.	**The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. The timing of the current Conservation Agreement make any renewal premature at this point.** **Transport Canada (TC) and Fisheries and Oceans Canada (DFO)** In 2018, TC and DFO collaborated on the development of "*A Species at Risk* Act Section 11 Conservation Agreement to Support the Recovery of the Southern Resident Killer Whale" (the Agreement) with the VFPA and six other member organizations of VFPA's Enhancing Cetacean Habitat and Observation (ECHO) Program. The Agreement was signed May 10, 2019, and will be implemented over five years (2019-2024). The goal of the Agreement is to reduce acoustic and physical disturbances from large commercial vessels in Pacific waters, in particular those vessels that call at the Port of Vancouver. This agreement commits the parties to develop and implement threat reduction measures to support Southern Resident Killer Whale (SRKW) recovery, and advance research and educational outreach. The agreement was made between: • DFO • TC • VFPA • The Pacific Pilotage Authority • The Chamber of Shipping of British Columbia • The Shipping Federation of Canada • Cruise Lines International Association • The Council of Marine Carriers

[2] References:Joy R, Tollit D, Wood J, MacGillivray A, Li Z, Trounce K and Robinson O (2019) Potential Benefits of Vessel Slowdowns on Endangered Southern Resident Killer Whales. Front. Mar. Sci. 6:344. doi: 10.3389/fmars.2019.00344.
MacGillivray, A., and Li, Z. (2018a). Vessel Noise Measurements from the ECHO Slowdown Trial: Final Report. Document 01518, Version 3.0. Technical report by JASCO Applied Sciences for Vancouver Fraser Port Authority ECHO Program. Victoria, BC: JASCO Applied Sciences
MacGillivray, A. O., and Li, Z. (2018b). 'Reductions in underwater radiated noise from shipping during the 2017 Haro Strait vessel slowdown trial'. J. Acoust. Soc. Am. 144, 1731–1731. doi: 10.1121/1.5067678
Vagle, S., and Neves, M. 2019. Evaluation of the effects on underwater noise levels from shifting vessel traffic away from Southern Resident Killer Whale foraging areas in the Strait of Juan de Fuca in 2018. Can. Tech. Rep. Hydrogr. Ocean Sci. 329 : vi + 64 p.
Vagle, S. 2020. Evaluation of the efficacy of the Juan de Fuca lateral displacement trial and Swiftsure Bank plus Swanson Channel interim sanctuary zones, 2019. Can. Tech. Rep. Hydrogr. Ocean Sci. 332:
vi + 60 p.
Burnham RE, Vagle S, O'Neill C and Trounce K (2021b) The Efficacy of Management Measures to Reduce Vessel Noise in Critical Habitat of Southern Resident Killer Whales in the Salish Sea.Front. Mar. Sci. 8:664691.doi: 10.3389/fmars.2021.664691

Recommendation Number	Recommendation	Government Response or Consideration
		• The International Ship Owners Alliance of Canada **Transport Canada (TC)** There is agreement to continue with the current five-year conservation agreement. Any renewal of the Conservation Agreement will need to be informed by the outcomes of the current Agreement. The five-year conservation agreement recognizes the leadership that the VFPA and the other organizations have taken on underwater noise through the ECHO Program. The Government of Canada is committed to the protection and recovery of SRKW and will continue to work in the future with the VFPA on reducing disturbance from large commercial vessels including through the establishment of effective Conservation Agreements. While it is very likely the agreement would be renewed, an analysis of the effectiveness of the current agreement would need to be undertaken before a renewal of the commitment. **Fisheries and Oceans Canada (DFO)** The *Species at Risk Act* (SARA) enables the Minister of Fisheries and Oceans to enter into conservation agreements "with any Government in Canada, organization, or person to benefit a species at risk". As per section 11 of SARA, a conservation agreement must provide for the taking of conservation measures and any other measures consistent with the purposes of SARA. These measures may include measures like developing and implementing recovery strategies and action plans; protecting the species' habitat, including its critical habitat; and developing and implementing education and public awareness programs. The Agreement recognizes the leadership the VFPA and other organizations that worked to reduce underwater noise through the ECHO Program. DFO is supportive of ECHO as indicated through ongoing participation in the program and having signed the Agreement. DFO is committed to carrying out its responsibilities under the Agreement. DFO is prepared to consider renewal of the Agreement, if it continues to advance threat mitigation measures for SRKW and potentially other cetaceans and their habitat. However, it is premature at this time to commit specifically to renewal of the Agreement without understanding how current work may evolve; the effectiveness of the current Agreement; an assessment of whether the governance structure as currently set out in the Agreement will continue be the most effective venue to achieve positive results; and understanding who the participating parties will be. Additionally, under Section 10 of the Agreement, the Agreement can only be amended or extended with written consent of all the Parties. Should the Agreement prove to be effective, DFO would work to initiate renewal of the Agreement.
31	The Panel recommends that the Government of Canada, in collaboration with the Proponent, and other commercial traffic vessel operators: • Achieve an objective of net overall decrease in underwater noise by commercial vessel traffic, and report annually on their progress; and • Identify those portions of the Salish Sea where marine shipping overlaps most strongly with Southern Resident Killer Whale both spatially and temporally so as to maximize the benefits of underwater noise reductions.	**<u>The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below.</u>** The Government of Canada is implementing a suite of measures to reduce the threat of underwater vessel noise to Southern Resident Killer Whale (SRKW). Further, a draft federal project condition is being developed which would require the Proponent to establish baseline levels of underwater noise and avoid, throughout operations, adverse effects to SRKW by maintaining underwater noise levels at or below the baseline. Through the Oceans Protection Plan, a dedicated SRKW noise research program, which includes 13 acoustic monitoring stations that are collecting acoustic data 24/7, was established and has generated important scientific data to support SRKW protection measures During the next phase of the Oceans Protection Plan, this initiative will monitor and assess the physical and acoustic (noise) effects of the Trans Mountain Expansion project and other major development projects along the coast of BC on SRKW and other at-risk marine mammals. The resulting scientific data from this initiative will support Fisheries and Oceans Canada, Transport Canada, and decision makers to manage on-going and potential future impacts from projects, as well as to inform whale protection measures. **Transport Canada (TC)** *Achieve an objective of net overall decrease in underwater noise by commercial traffic* A full suite of measures are currently being implemented to support SRKW recovery by reducing vessel impacts are expected to help mitigate the effects of underwater noise from marine shipping in the Salish Sea, including the cumulative effects that are threatening the SRKW. TC's role with respect to supporting SRKW survival and recovery focuses on mitigating the impacts of underwater vessel noise, including the feasibility assessment, implementation and management of noise mitigation measures and technologies in the Salish Sea. These measures include: • Legislative changes to the *Canada Shipping Act 2001*, to allow for the creation of regulations and interim orders for the protection of the marine environment, • Research and Development, including the deployment of passive acoustic monitoring devices, underwater noise modelling, and trials of promising noise mitigation measures and technologies, • A feasibility study on potential permanent changes to the traffic separation scheme (TSS) that, in whole or in part, are within Canadian waters, • Development of policy on Underwater Vessel Noise Management Plans, requiring stakeholders to develop tailored approaches to reducing their own underwater noise footprint,

Recommendation Number	Recommendation	Government Response or Consideration

		• Cooperative research and large commercial vessel management measures with the ECHO program, including:
		  ○ A voluntary vessel slowdown in Haro Strait and Boundary Pass
		  ○ A voluntary slowdown trial off Swiftsure Bank, which commenced August 2020
		  ○ A lateral displacement of vessel traffic in the Strait of Juan de Fuca
		  ○ Vessel quieting options study and port incentives for quiet design
		  ○ A regional noise contribution study
		  ○ Communication material for the education of mariners
		  ○ Encouraging the use of Whale Report Alert System to inform mariners of whale presence
		• Utilization of National Aerial Surveillance Program (NASP) planes for whale surveillance flights, monitoring of vessel activities, increased marine security, pollution prevention in Canadian waters, and protection of the Salish Sea marine environment.
		• International collaboration, including engagement of the International Maritime Organization and counterparts in the U.S. on establishing standards and measures for the reduction of underwater vessel noise.
		• Conservation Agreements with key stakeholders including the membership of the VFPA ECHO Program, and the Canadian Ferry Association, committing signatories to take action with respect to reducing/mitigating the impacts of vessels on SRKW.
		
		These measures target specific stakeholder groups, from large commercial vessels, to ferries, to smaller vessels (including recreational boaters and fishers). Measures put in place for large commercial vessels include a vessel slowdown in Haro Strait and Boundary Pass, a lateral displacement of inshore traffic away from the northern coast of Juan de Fuca Strait, as well as Interim Sanctuary Zones that all vessels must avoid.
		
		Overall noise is being monitored through DFO underwater noise acoustic monitoring devices in place along the relevant areas of the shipping lanes, and the efficacy of specific vessel mitigation measures will be monitored through the Boundary Pass Underwater Listening Station.
		
		Through ongoing monitoring and adapting measures to effectively target spatial and temporal areas of concern, the Government of Canada is working to reduce the overall threat of acoustic and physical disturbance to SRKW.
		
		As part of the next phase of the Oceans Protection Plan, the Government of Canada will launch the Salish Sea Strategy that will help to facilitate discussions on marine transportation issues and link to existing work that is taking place within the Salish Sea region. The Strategy will also seek the involvement of Indigenous, industry, and stakeholder partners to collaboratively plan for a series of Salish Sea Summits, which will help to build awareness of existing work and identify connections to regional concerns.
		
		Fisheries and Oceans Canada (DFO)
		Achieve an objective of net overall decrease in underwater noise by commercial vessel traffic, and report annually on their progress
		One of the recovery objectives for SRKW is to ensure that disturbance from human activities does not prevent the recovery of SRKW. Recommendation 31 is well aligned with this recovery objective and DFO supports the concept of no net increase in vessel-related noise from RBT2. TC would be the lead federal department for the implementation of measures to reduce underwater noise by commercial vessel traffic. DFO is responsible for modelling, monitoring and evaluating the effectiveness of underwater noise reduction strategies in relation to at-risk aquatic species.
		
		The Proponent made several commitments, within their control and/or authority to implement, that aim to reduce the Project impacts of underwater noise on SRKW. These include delaying unberthing of container vessels during daylight hours when SRKW are present; provide shore power connection to container vessels while they are docked; evaluating and implement potential technologies to reduce underwater noise associated with tug activity; continue to manage the Enhancing Cetacean Habitat and Observation (ECHO) program to reduce acoustic and physical disturbances by large commercial vessels in Canadian Pacific waters; as well as, contractually require the terminal operator to require that Project-bound container vessels participate in the ECHO program.
		
		A Project condition was developed and refined to establish baseline levels of underwater noise and avoid, throughout operations, adverse effects to SRKW by maintaining underwater noise levels at or below the baseline.The implementation of such a condition aimed at ensuring that underwater noise can be measured and managed through both Proponent actions, and through Government of Canada measures, provides a viable means to address underwater noise impacts on SRKW from marine shipping associated with the Project. It is important that this condition would only permit increases in Project-related underwater vessel noise if adequate measures to offset the residual impacts of the Project on SRKW are in place.
		
		For the Trans Mountain Expansion (TMX) Project, the Government of Canada committed to report, over time, on the extent to which the increase in underwater noise from project-related marine shipping has been offset by the underwater noise measures. DFO will report on the state of the soundscape based on data from DFO hydrophone moorings and from a shipping noise model. This approach is intended to inform the adaptive management of measures and enables the Government of Canada to demonstrate the effectiveness of underwater noise measures to mitigate, avoid or lessen project-related effects.

Recommendation Number	Recommendation	Government Response or Consideration
		The assessment of effectiveness of underwater noise measures in relation to TMX could also inform the approach for addressing underwater noise from other commercial vessel traffic, such as vessels transiting to RBT2. It could also provide the framework to establish a baseline, and to monitor and report on the extent to which underwater noise has been offset by underwater noise measures. If it is determined in the future that, after Proponent actions are accounted for, additional offsets are needed to counterbalance residual effects of the Project related underwater noise, the Government of Canada would likely need to implement additional actions. These actions could include: developing regulatory mechanisms to make voluntary measures (e.g., vessel slowdowns) mandatory; broadening or augmenting current measures (e.g. further renewing and/or expanding the Whales Initiative); launching new initiatives to reduce noise impacts in the SRKW critical habitat; and achieving noise reductions in other shipping industries and sectors (e.g., ferries, tourism vessels). The renewal and expansion of the Whales Initiative will also support an ongoing, federally coordinated approach to addressing threats to, and improve the health and recovery of, Canada's priority at-risk whale populations (including SRKW) while supporting trade and sustainably growing the nation's vital ocean-based industries. The initiative supports, among other things, Government of Canada actions, and the development of tools and management measures, to address threats to SRKW from marine shipping. However, the initiative, on its own, may not fully address the residual impacts of underwater noise associated with any specific project. In addition, Whales Initiative funding is time bound and may not be in place at the time of the Project's operations without further renewal of the investments. As such, a combination of Proponent commitments, ongoing support for regional initiatives, enforceable Project conditions, and an adaptive offsetting approach, is needed to provide strong assurances that effects from underwater noise from RBT2 vessel traffic on SRKW can be avoided and mitigated. *Identifying those portions of the Salish Sea where marine shipping overlaps most strongly with SRKW both spatially and temporally so as to maximize the benefits of underwater noise reductions.* DFO has identified areas of overlap of vessel traffic and habitat use by SRKW (DFO, 2021; Vagle et al., 2021)[3]. This work will inform long-term spatial planning for SRKW, which will be developed in collaboration with First Nations, other federal departments, other governments, and stakeholders. Spatial measures could include some form of sanctuaries, areas free from or with reduced levels of physical and acoustic disturbance to increase the likelihood of successful foraging. **Canadian Coast Guard (CCG)** While other agencies will define areas requiring attention via measures such as voluntary slowdown areas, lateral displacement requests and Interim Sanctuary Zones, CCG through its Marine Communications and Traffic Services (MCTS) centres, will continue to inform mariners of voluntary slowdown areas and will remind pilots of voluntary lateral displacement initiatives. MCTS Headquarters will continue to provide weekly reports to TC regarding vessels entering the Interim Sanctuary Zone. MCTS also delivers support to the VFPA ECHO program. CCG provides oversight and provides marine communications and traffic management services according to the *Oceans Act*, the *Canada Shipping Act, 2001* and its associated regulations; enforcement authority rests with TC and possibly DFO. CCG issues and reports contraventions to other government departments whom can follow up as they see fit. CCG has added MCTS personnel, however, to support the mitigation measures identified. Under the TMX submission, additional MCTS staff will monitor vessel traffic. An additional position within MCTS has been created through the SRKW initiative. MCTS officers will support maritime domain awareness with an additional focus on the movements of certain marine mammals, in addition to standard MCTS services. MCTS officers will communicate requirements to vessels approaching and within mandatory Interim Sanctuary Zones, monitor compliance and may report contraventions to TC for follow up.
32	The Panel recommends that Fisheries and Oceans Canada undertake a context-specific analysis of acoustic impacts on Southern Resident Killer Whale from commercial vessel traffic in the Salish Sea, and make the results available to the Proponent and to the public.	**<u>The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. Existing policies, programs and initiatives are not specifically aimed at addressing this Recommendation but may help to support its intent.</u>** **Fisheries and Oceans Canada (DFO)** During the environmental assessment, DFO advice to the Panel included that the Proponent undertake a context-specific analysis of effects to Southern Resident Killer Whale (SRKW) resulting from the Project which would account for the context of a population that is already endangered. A context-specific analysis of acoustic impacts on SRKW would be expected to provide a more accurate and appropriate representation of the potential impacts of the Project than the behavioural response analysis conducted by the Proponent. Recommendation 32 requests that DFO undertake this type of analysis of acoustic impacts to SRKW from all commercial vessel traffic in the Salish Sea.

[3] References: DFO. (2021). Identification of areas for mitigation of vessel-related threats to survival and recovery for Southern Resident Killer Whales. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2021/025
Vagle, S., Burnham, R., Thupaki, P., Konrad, C., Toews, S., Thornton, S.J. (2021). Vessel presence and acoustic environment within Southern Resident Killer Whale (*Orcinus orca*) critical habitat in the Salish Sea and Swiftsure Bank area. DFO Can. Sci. Advis. Sec. Res. Doc. 2021/058. x + 66 p.

Recommendation Number	Recommendation	Government Response or Consideration
		That said, DFO has identified areas of overlap of vessel traffic and habitat use by SRKW and has ongoing work related to impacts of underwater noise on SRKW behaviours (feeding, communication, migration, resting, etc.), and the potential of masking of communication calls and echolocation signals (DFO, 2021; Vagle et al., 2021).
34	The Panel recommends that Fisheries and Oceans Canada determine the likelihood of lethal and non-lethal vessel strikes based on updated and effort-corrected information on Humpback Whale density in the areas utilized by Project-related vessels, and communicate the results to the Proponent and pilots to reduce the potential for vessel strikes.	**<u>The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. Existing policies, programs and initiatives are not specifically aimed at addressing this Recommendation but may help to support its intent.</u>** **Fisheries and Oceans Canada (DFO)** During the environmental assessment, DFO advice to the Review Panel included that the Proponent quantify the likelihood of strikes (lethal and non-lethal) resulting from Project-related vessels using a current, effort-corrected spatial model of Humpback Whale densities throughout the area affected by Project-related vessels (including US waters). This would provide a more accurate prediction of the potential impacts of the Project than the analysis relied on by the Proponent that used outdated Humpback Whale density data. This recommendation was aimed at the Proponent, in order to fill gaps in the analysis of Project effects, and to support the Panel in the development of their assessment and conclusions. Predictive analysis requires comprehensive data sets on vessel type and presence concurrent with spatial and temporal whale distribution and abundance data. DFO is improving our understanding of the distribution, movement patterns and habitat use of *Species at Risk Act* (SARA) listed marine mammals other than the Southern Resident Killer Whale, by undertaking studies to examine presence and distribution. This work will enable a better understanding of how different cetaceans, including the North Pacific Humpback Whale, could be impacted by marine shipping. Currently funded data collection will not be sufficient to inform a predictive analysis. However, with additional time and resources, it would be feasible for DFO to undertake a more robust analysis of likelihood of lethal and non-lethal vessel strikes to North Pacific Humpback whale.
38	The Panel recommends that Transport Canada and Fisheries and Oceans Canada, in collaboration with the Proponent, be required to address safety concerns and the practicality for the Tsawwassen First Nation and the Musqueam Indian Band to harvest crabs for food, social and ceremonial purposes within the existing and expanded navigational closure areas using floats. Utilization of floats during crab fishing could occur during short-term berthing windows or when container ships are absent from Port facilities.	**<u>The Government of Canada accepts the Recommendation, and proposes to take the actions described below in implementing the Recommendation.</u>** **Fisheries and Oceans Canada (DFO)** DFO supports this recommendation and is having ongoing discussions with Tsawwassen First Nation, Musqueam Indian Band, and the VFPA regarding access to crab harvesting by Food, Social, and Ceremonial fishers in the proposed navigational closure areas. Tsawwassen, Musqueam and DFO have committed to co-develop a pilot project to support First Nations access to the existing and proposed expanded Navigational Closure Area, to fish crab for Food, Social and Ceremonial (FSC) purposes. This pilot project will focus on testing approaches for mitigating project effects on the exercise of the right to harvest crab for FSC purposes, and will also involve collaborative work on supporting elements of the pilot such as co-drafting of documents (including licence conditions) that would support crab harvesting without the use of current marking requirements. Tsawwassen, Musqueam and DFO have committed to work together on maintaining and/or restoring access to the expanded NCA for FSC purposes for the life of project, and in the immediate term, to co-draft a Terms of Reference that sets out pilot parameters. The Proponent would be responsible for costs associated with piloting alternative gear/technology for Tsawwassen and Musqueam to harvest crabs for food, social and ceremonial purposes within the existing and expanded navigational closure areas, and for the resources to evaluate the pilot data and systems for effectiveness and long-term application. A federal project condition has been developed that will outline the responsibility of the Proponent in relation to a crab pilot study.
40	As part of the Ocean Protection Plan initiatives the Panel recommends that Transport Canada, in collaboration with the Proponent, Indigenous groups and other stakeholders, develop and implement a program that facilitates safe harvesting in and around shipping lanes in the Project area and the marine shipping area (Segments A, B, C, and D). The Program should include:	**<u>The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. Existing policies, programs and initiatives in place are working to satisfy the intent of this Recommendation. However, as noted below, CCG has concerns with bullet #4 of the recommendation.</u>** The Government of Canada understands that Indigenous groups have expressed concerns about project vessels interfering with access to places of cultural and spiritual significance, fishing grounds, and harvesting sites, and impacting their ability to exercise Aboriginal or Treaty fishing and harvesting rights. Canada also understands that concerns regarding safe navigation and access are closely linked to concerns for culture practices and knowledge transfer. Marine shipping is a global activity governed by the standards set by the International Maritime Organization (IMO), a specialized agency of the United Nations. At the IMO, maritime nations, including Canada, work together to develop and adopt international standards for the safety, security and environmental protection of international shipping, including the efficiency of navigation and the prevention and control of marine pollution. Shipping in the Salish Sea is managed jointly by the United States and Canada. This compliance-based system includes traffic separation schemes (shipping lanes), pilotage, vessel traffic communication systems, emergency response and many other elements which ensure the all vessels travelling in the marine shipping area are safe and secure, as described in Canada's Marine Safety

Recommendation Number	Recommendation	Government Response or Consideration
	• An evaluation of conditions affecting Indigenous groups' ability to safely access and harvest in fishing areas prior to construction of the Project and for the first five-year period of operations in order to determine the effects from marine shipping activities associated with the Project; • An identification of measures to prevent further cumulative effects, particularly at Swiftsure Bank, the Gulf Islands and the Salish Sea; • A proposal to map out different options for the relocation of the shipping lanes and the need for the addition of tug escorts and any resulting effects; and • An assessment of the needs for maritime technical capacity for the Pacheedaht First Nation, the Ditidaht First Nation, the Pauquachin First Nation, and the Maa-nulth Nations. This should include the capacity to anticipate and monitor vessel traffic and to engage in real-time communication with large commercial ships and the Marine Communication and Traffic Service.	and Security System document[4]. This includes the IMO International Regulations for Preventing Collisions at Sea, 1972 (COLREGs) which are adopted under the *Canada Shipping Act*, 2001 with Canadian modifications (Collision Regulations). Canada's marine safety system prioritizes the safety of all boaters and seafarers. Efforts to mitigate risks of small vessel interactions with other vessels are in place via the *Collision Regulations*, which provide uniform measures in regard to the safe conduct of vessels. The regulations describe rules of general conduct. These rules also cover key aspects of marine safety including safe speeds and minimizing risks in traffic separation schemes which include shipping lanes. Traffic separation schemes require certain vessels, including large international vessels such as the container ships that would call at RBT2, remain inside shipping lanes in part to limit disruption of fishing and marine activities in areas outside the shipping lanes. Smaller vessels can travel and fish within a shipping lane so long as they do not impede the passage of these vessels. All waterway users must comply with the *Collision Regulations* and play a part in reducing the risk of vessel incidents. Should the Project be approved, the vessels calling at RBT2 would need to meet the international standards and Canadian regulations set out by Canada's marine safety and security system. Compliance with those standards and regulations will be monitored and enforced through existing compliance and enforcement programs. As detailed in Transport Canada submissions to the Panel, Canada's marine safety and security system is scalable, adaptive and responsive to changes in marine shipping, and has the ability to manage vessel traffic related to RBT2. Consistent with the principles of adaptive management, and as explained in Canada's various submissions and presentations to the Panel, Canada is committed to continuously improving its marine safety and security system regardless of whether RBT2 moves forward. Canada is working together with Indigenous peoples, coastal communities and stakeholders on a number of programs and initiatives designed to improve safety, incident preparedness and response, protections for species at risk, and keep the Salish Sea ecosystem healthy. A summary of the current programs and initiatives already in progress that respond to aspects of the Review Panel's Recommendation 40 is provided below. **Transport Canada (TC)** The following initiatives are undertaking invaluable work to address key marine shipping concerns raised by Indigenous communities in British Columbia's South Coast region. These programs are producing meaningful information, analysis, frameworks, and tools that will inform next steps in responding to the concerns Recommendation 40 is intended to address. TC is committed to ongoing discussions with Indigenous groups as these initiatives continue being implemented. *Existing Initiatives Contributing to the Evaluation of conditions affecting Indigenous groups and identification of measures to prevent further cumulative effects* Through the Cumulative Effects of Marine Shipping (CEMS) initiative, TC is working with Indigenous peoples, local stakeholders and coastal communities to better understand the effects of these activities on coastal environments. This initiative relies on regional engagement and collaboration with many coastal communities and Indigenous peoples to improve our understanding of cumulative effects from marine shipping at each of our identified pilot sites, including South Coast of BC. Integration of Indigenous knowledge will occur throughout the course of the initiative, including through the identification of priority shipping issues and valued components of concern. Depending on the priorities identified by Indigenous groups in South Coast BC, this may include an assessment of Indigenous marine uses, such as open-water harvesting, shoreline harvesting, and access to travel routes which could respond, in part to (a) and (b) of Recommendation 40 and in part to Recommendation 46. The approach to CEMS in South Coast BC is meant to support the establishment of meaningful relationships and the provision of input by all interested parties throughout the process. It is also meant to be collaborative in nature and as such, planned timelines for the completion of specific activities and results are not definite. Timelines will be influenced by the collaborative process. Additional information on CEMS is provided in response to Recommendation 69. Furthermore, TC is leading ongoing and regular engagement with the First Nations Fisheries Council of BC, funded through TC Indigenous and Local Communities Engagement and Partnership Program (ILCEPP) projects contribution agreements, to address issues of vessel traffic management affecting local marine areas along the South Coast of BC. This partnership has been extended through to 2025. The TC ILCEPP projects with FNFC entail the establishment and ongoing support of three First Nations and federal agency collaborative committees which focus on providing recommendations and feedback related to OPP initiatives involving ship movement and vessel management, and enhance the participation of local First Nations in governance, planning, and contributions to the areas vessel traffic management along the South Coast of BC. *Existing Initiatives Contributing to development of Options for the relocation of the Traffic Separation Scheme (shipping lanes) and the need for the addition of tug escorts* In 2022, Transport Canada concluded a Traffic Separation Scheme Feasibility Study to determine the feasibility of potential amendments to shipping lanes and whether such amendments would be of benefit to Southern Resident killer whales, a species of cultural and social significance to numerous Indigenous groups around the Salish Sea. The study looked at a number of factors including vessel

[4] Appendix B - Canada's Marine Safety and Security System (see CIAR 1303)

Recommendation Number	Recommendation	Government Response or Consideration
		safety and impacts on Indigenous rights/usage. The outcomes of the TSS Feasibility study, including a final report and decision support tools, are publicly available and can be obtained by contacting Sonja Henneman at sonja.henneman@tc.gc.ca. First Nations including Tsleil-Waututh Nation and Tsawout First Nation were engaged in the process and provided input on the statement of work. TC is supportive of on-going dialogue with Pacheedaht First Nation, Ditidaht First Nation and other Indigenous groups to discuss marine safety concerns at Swiftsure Bank, including the location of the shipping lanes. Given the cross-border nature of the Traffic Separation Scheme, close collaboration with the United States is paramount and a proposed change would require ratification by the International Maritime Organization (IMO). A range of existing safety measures to ensure world-leading marine safety, including a compulsory pilotage regime, and the enhancements underway as part of the Oceans Protection Plan are an effective way to mitigate risks. While TC understands the intent of the recommendation to consider the need for additional tug escorts, it is worth noting that additional tugs would have negative environmental consequences, including increased GHG emissions and increased levels of underwater noise. *Existing Initiatives Contributing to the development of Maritime Technical capacity to anticipate and monitor vessel traffic* Enhanced Maritime Situational Awareness (EMSA) is an initiative that partners with Indigenous communities to develop and test a user-friendly, web-based system that displays a range of near real-time data on vessel traffic, weather, hydrography and marine protected areas. The information helps coastal Indigenous communities better plan vessel routes, identify sensitive areas, enhance local marine safety and protect the environment. The initiative was initially launched in partnership with ten Indigenous communities across Canada as part of the Oceans Protection Plan (OPP) and has expanded to include three additional communities along the marine shipping route as part of TMX Accommodation Measures. Despite the impacts of COVID-19, a virtual weekly working group was established in April 2020 to plan for the future of EMSA and co-develop recommendations to Government. Under the next phase of the OPP, EMSA has become a steady-state system under the shared governance of Transport Canada and the 13 Indigenous partner communities. Partner communities continue to provide feedback for ongoing system development. The co-development aspect of the EMSA initiative is foundational for Nation-to-Nation relationship building, co-governance around the marine space, and ensuring a future system responds to the priorities of EMSA pilot partners and Indigenous communities. EMSA places strong emphasis on the Indigenous principles of OCAP (Ownership, Control, Access, and Possession) to protect Indigenous traditional knowledge. This ensures that any Indigenous Knowledge that communities add to EMSA, is strictly protected and not shared, unless they desire to do so such as with CCG for response operations. In that case, control may be enhanced with data sharing agreements, which are arranged between the parties involved. TC has no access to the local data that communities add to EMSA. In addition, the EMSA team can provide support to communities that would like to access and use the system for their own requirements, through familiarization and training, then technical support to help them get the most from the system. The EMSA system has also expanded to other key partners (e.g. other government departments, industry, non-governmental organizations and marine science organizations, academia, port authorities, etc.) to support information sharing and collaboration in the marine space. Indigenous groups interested in learning more about becoming an EMSA account holder can contact the Pacific Region Program Manager, Kelly Larkin at Kelly.Larkin@tc.gc.ca. TC's Marine Safety Equipment and Training (MSET) initiative supports enhanced safety for Indigenous vessels. The initiative provides funding for equipment to increase navigation/marine safety (e.g. AIS, VHF radiotelephones, and EPIRBs) and for training to build understanding about safety on the water. MSET was developed in response to concerns raised during the Trans Mountain Expansion Project consultations by Indigenous mariners who may face increased interaction with large vessels. The MSET initiative was launched in October 2020. The Communities expressed initial interest in the program, but impacts from COVID-19 and the subsequent flooding in fall 2021, exacerbated existing community capacity challenges. In response to these challenges, and based on input received through ongoing engagement with communities, TC revised MSET's program delivery model to simplify the application process, streamline the funding delivery model, and provide community-level support to applicants through the application phase. The result of the new processes and support is an easier application process, an expedited approval process, and faster funding disbursement. With obstacles related to program delivery removed, and application support provided, ten grants have been approved for a total of $1.2M. Transport Canada attributes the ability to overcome the initial challenges faced by applicants to true collaboration with Indigenous communities, which speaks to the co-developed nature of the program from inception to program delivery.

Recommendation Number	Recommendation	Government Response or Consideration
		Regular community-level engagement and application support continues, along with Program information sessions. Applications are accepted on an ongoing basis through 2024, with funding available until March 2025. Indigenous groups interested in learning more about MSET can contact MSETProgram-ProgrammeFESM@tc.gc.ca. *Additional Measures* Transboundary Vessel Risk Assessment (Government Response to CER Trans Mountain Expansion Project Reconsideration Recommendation 9): Transport Canada has been conducting a preliminary analysis to determine if the existing programs and initiatives in place are sufficient to address target outcomes with respect to navigational safety in the transboundary waters of the Salish Sea. Engagement and Awareness Activities Targeting Small Vessel Operators to Prevent Marine Collisions (Government Response to CER Trans Mountain Expansion Project Reconsideration Recommendation 12): TC's Office of Boating Safety will expand efforts to educate recreational boaters across Canada on safe boating practices and applicable marine safety and environmental regulations. Dedicated resources in TC's Pacific region will target education and outreach activities among coastal Indigenous groups along marine shipping trade corridors, such as the shipping lanes to the Port of Vancouver, and modernize the boating safety engagement and awareness activities. **Canadian Coast Guard (CCG)** In response to the fourth bullet in the Panel's recommendation, CCG is committed to improving maritime domain awareness by sharing maritime information, including near real-time vessel traffic. CCG is prepared to have these discussions with Pacheedaht First Nation, the Ditidaht First Nation, and the Maa-nulth Nations and all the other First Nations to improve maritime domain awareness in their area in order to enhance the capacity to monitor vessel traffic and communications. Under the Trans Mountain Pipeline Expansion Project (TMX) submission, additional Marine Communications and Traffic Services (MCTS) staff will be hired to monitor vessel traffic. An additional position within MCTS has been created through the Southern Resident Killer Whale initiative. MCTS officers will support maritime domain awareness with an additional focus on the movements of certain marine mammals, in addition to standard MCTS services. However, providing Indigenous groups with the ability to communicate directly with vessels has the potential of confusing mariners, especially international vessels. MCTS is the authority on communication with vessels transiting Canadian waters and has a legal responsibility as per the *Oceans Act*, the Canada Shipping Act, 2001 and its associated regulations. Therefore, the CCG does not support Indigenous Groups having the ability to communicate directly with vessels for the purposes of providing instructions related to the vessel's transit.
43	The Panel recommends that Parks Canada and the Archaeology Branch of the British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development establish an erosion monitoring and protection program for coastal archaeological sites and areas of archaeological potential in the zones of influence identified in Segment B of the marine shipping area. The archaeological monitoring and management plan should: • Establish a baseline by documenting the condition of previously known archaeological sites and by assessing areas of archaeological potential concurrently with the construction of the Project;	**Government agrees with the intent of the Recommendation, and proposes to take the actions described below in implementing the Recommendation.** **Parks Canada** Parks Canada supports the intent of the Panel recommendation. However, Parks Canada's mandate and capacity to respond is limited. Parks Canada will continue to carry out basic archaeological monitoring on Parks Canada lands within the zones of influence in collaboration with First Nations. In addition, Parks Canada can provide advice and support in collaboration with Archaeology Branch of the BC Ministry of Forests and First Nations, to anyone carrying out monitoring of archaeological resources. **BC Ministry of Forests** Archaeology Branch is prepared to support an effort to establish an erosion-monitoring program by providing access to and analysis of archaeological site information from the Provincial Archaeological Site Inventory, as well as providing technical advice. The Archaeology Branch does not have the capacity to establish a new field program to monitor coastal erosion of archaeological sites, but is committed to working with Parks Canada and any other parties with established interests, including First Nations, when it comes to developing the design, scope and parameters for such a program. **Transport Canada (TC)** While TC does not regulate vessel wake, pilots can use their discretion to manage wakes by modifying vessel speed. It is important to keep in mind that the master of a vessel is responsible for the safety of that vessel, therefore masters navigate accordingly, taking into account all hazards to navigation, risk of collision, and the prevailing circumstances and conditions including any limitations of the vessels involved. TC recommends that where Indigenous groups have site-specific concerns about the impacts of wake, they can contact the Pacific Pilotage Authority (PPA) to notify them of their concern. The PPA can work with pilots to modify vessel speed, where possible within the parameters required to maintain safe vessel movement, to minimize potential wake-related damage at specific sites.

Recommendation Number	Recommendation	Government Response or Consideration
	• Document any changes from the established baseline; • Document and collect, where applicable, the findings of archaeological resources that are exposed during the course of the monitoring program; and • Identify and implement site protection measures.	
45	The Panel recommends that the Government of Canada, in collaboration with the Proponent and the Tsawwassen First Nation, co-develop a plan to protect cultural heritage, including support for their language protection efforts and sea-based learning activities.	**<u>The Government of Canada accepts the Recommendation, and proposes to take the actions described below in implementing the Recommendation.</u>** **Impact Assessment Agency of Canada** The Government of Canada is supportive of the objectives of this recommendation and is working with Tsawwassen First Nation to understand their vision of the appropriate scope and objectives of any such plan.
46	The Panel recommends that Transport Canada, with the collaboration of concerned stakeholders and Indigenous groups, develop and implement a monitoring program to determine the overlap of Indigenous use and vessel traffic within the shipping lanes. Monitoring components should include safety and potential loss of cultural heritage due to the interference with cultural practices and knowledge transmission in the shipping lanes. The results of the monitoring program should be used to develop mitigation measures that would reduce any adverse effects identified through the monitoring program. Consideration of mitigation measures should include the feasibility of speed reductions in areas of high overlap and provision of funds for safety improvements.	**<u>The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. Existing policies, programs and initiatives in place are working to satisfy the intent of this Recommendation.</u>** In any implementation of this recommendation, it is important that consideration be given to the principles of OCAP (ownership, control, access, possession) in the collection and sharing of any data regarding Indigenous use in the shipping lanes, as only Indigenous communities can decide how and when to share this knowledge. The Government of Canada is supportive of this recommendation and open to working collaboratively with Indigenous groups to monitor the overlap of Indigenous use in the marine environment and vessel traffic in the shipping lanes. Shipping in the Salish Sea is managed jointly by the United States and Canada. This compliance-based system includes traffic separation schemes (shipping lanes), pilotage, vessel traffic communication systems, emergency response and many other elements which ensure the all vessels travelling in the marine shipping area are safe and secure, as described in Canada's Marine Safety and Security System document[5]. This includes the IMO International Regulations for Preventing Collisions at Sea, 1972 (COLREGs) which are adopted under the *Canada Shipping Act*, 2001 with Canadian modifications (Collision Regulations). Efforts to mitigate risks of small vessel interactions with other vessels are in place via the *Collision Regulations*, which provide uniform measures in regard to the safe conduct of vessels. The regulations describe rules of general conduct. These rules also cover key aspects of marine safety including safe speeds and minimizing risks in traffic separation schemes which include shipping lanes. Traffic separation schemes require certain vessels, including large international vessels such as the container ships that would call at RBT2, remain inside shipping lanes in part to limit disruption of fishing and marine activities in areas outside the shipping lanes. Smaller vessels can travel and fish within a shipping lane so long as they do not impede the passage of these vessels. All waterway users must comply with the *Collision Regulations* and play a part in reducing the risk of vessel incidents. Should the Project be approved, the vessels calling at RBT2 would need to meet the international standards and Canadian regulations set out by Canada's marine safety and security system. Compliance with those standards and regulations will be monitored and enforced through existing compliance and enforcement programs. As detailed in Transport Canada submissions to the Panel, Canada's marine safety and security system is scalable, adaptive and responsive to changes in marine shipping, and has the ability to manage vessel traffic related to RBT2. Consistent with the principles of adaptive management, and as explained in Canada's various submissions and presentations to the Panel, Canada is committed to continuously improving its marine safety and security system regardless of whether RBT2 moves forward. Canada is working together with Indigenous peoples, coastal communities and stakeholders on a number of programs and initiatives designed to improve safety, incident preparedness and response, protections for species at risk, and keep the Salish Sea ecosystem healthy. A summary of the current programs and initiatives in place that respond to the Review Panel's Recommendation 46 is provided below. **Transport Canada (TC)**

[5] Appendix B - Canada's Marine Safety and Security System (see CIAR 1303)

Recommendation Number	Recommendation	Government Response or Consideration
		Since it was launched in 2016, the Oceans Protection Plan has strengthened protections for our coasts and wildlife, improved marine traffic and incident management, and advanced partnerships with Indigenous communities. The Prime Minister announced the next phase of Canada's Oceans Protection Plan. With the new investment of $2 billion over nine years, announced in Budget 2022, Canada will establish 15 new measures to expand ocean protection initiatives to more regions and better proactively combat emerging threats to marine safety, while continuing or expanding 39 existing initiatives. This new funding is in addition to the $1.5 billion initially announced in 2016 and brings the total invested in support of the plan to $3.5 billion. The renewed and expanded plan will help make further progress to: • Enhance the protection and restoration of vulnerable marine ecosystems and wildlife; • Improve the efficiency, safety, and sustainability of Canada's marine supply chains and mitigate their impacts on the environment, including by advancing research on marine pollution, ecosystems, and wildlife; • Better manage marine traffic navigation off our coasts and marine incidents of all types; and • Advance partnerships and training opportunities for Indigenous and coastal communities to incorporate their expertise and experiences in various aspects of marine safety and ecosystem protection. Through the Oceans Protection Plan, our marine safety system is even stronger by using new scientific research, technology, and equipment. The Oceans Protection Plan also brought benefits through engaging and forming partnerships with Indigenous Peoples, the marine industry, and scientists. *Extending the Office of Boating Safety* Under the Oceans Protection Plan, TC's Office of Boating Safety delivered a small vessel safety component of the Boating Safety Contribution Program. In addition, the Office of Boating Safety increased its education and outreach activities in Indigenous communities along the Trans Mountain Expansion Project marine shipping route. During the next phase of the Oceans Protection Plan, TC's Office of Boating Safety will receive operational funding to continue to improve recreational boating awareness across the country. This includes increasing the number of education and engagement activities on the importance of following safe boating practices to foster safe behaviour and reduce overall boating-related fatalities, incidents and property damage. *Expanding the Enhanced Maritime Situational Awareness Program* Through Canada's Oceans Protection Plan, the Enhanced Maritime Situational Awareness (EMSA) initiative was co-developed with Indigenous communities to provide near real-time vessel activity and other marine environmental information in local waters through a user-friendly web platform. Since the launch of the EMSA system in 2019, many Indigenous and coastal communities across Canada have adopted the technology, improving their situational awareness on the water. Through the next phase of the Oceans Protection Plan, EMSA will continue to grow the number of Indigenous community partnerships and be integrated into other Oceans Protection Plan initiatives. The system itself will also be enhanced to further improve marine safety, environmental monitoring, and protection. The Enhanced Maritime Situational Awareness (EMSA) system may support the marine monitoring aspect of this recommendation as it provides access to near real-time vessel traffic data (terrestrial and space-based AIS feed). Indigenous communities can track vessels entering identified areas using the system (e.g. culturally sensitive areas, sensitive habitats, etc.). Historical Automatic Information System (AIS) data is also available to support analysis of marine traffic patterns. While EMSA is an effective system for advance planning before heading out on the water, use of EMSA does not replace IMO approved marine safety information systems fitted or carried aboard vessels at sea. These systems include VHF marine radio, radar, and AIS. *Expanding Marine Dialogue Forums* Through the Oceans Protection Plan, the Government of Canada engaged extensively with Indigenous Peoples, coastal communities, and stakeholders across the country to improve our marine safety system. As part of this work, ten Marine Dialogue Forums were held on Canada's west coast to share information and engage on a wide range of Oceans Protection Plan initiatives. These forums have welcomed hundreds of participants from marine organizations, various levels of government, scientists, and Indigenous communities to discuss the key issues around marine shipping and oceans protection. During the next phase of the Oceans Protection Plan, Marine Dialogue Forums will be launched in other regions across Canada. This will allow the Government of Canada to engage even more Canadians, Indigenous Peoples, and marine stakeholders so they can continue to shape Canada's marine safety system. *Assessing the cumulative effects of marine shipping* Any activity on the water can affect the marine environment. The Cumulative Effects of Marine Shipping Initiative was launched in 2017 to better understand the impacts of shipping activity on marine environments. Working collaboratively with Indigenous Peoples, academia, industry, and other government departments, Transport Canada has established a national framework for assessing environmental, social, and cultural impacts of marine shipping. This framework will help support future assessments of marine shipping. Moving forward, the Cumulative Effects of Marine Shipping Initiative will continue building meaningful relationships with Indigenous Peoples across the country. Regional assessment projects at existing pilot sites are ongoing. This work is helping to collaboratively identify measures to mitigate impacts to the environment and communities.

Recommendation Number	Recommendation	Government Response or Consideration
		Through the Cumulative Effects of Marine Shipping (CEMS) initiative, TC is working with Indigenous peoples, local stakeholders and coastal communities to better understand the effects of these activities on coastal environments. This initiative relies on regional engagement and collaboration with many coastal communities and Indigenous peoples to improve our understanding of cumulative effects from marine shipping at each of our identified pilot sites, including South Coast of BC. Integration of Indigenous knowledge will occur throughout the course of the Initiative, including through the identification of priority shipping issues and valued components of concern. Depending on the priorities identified by Indigenous groups in South Coast BC, this may include an assessment of Indigenous marine uses, such as open water harvesting, shoreline harvesting, and access to travel routes which could respond, in part to (a) and (b) of recommendation 40 and in part to recommendation 46. The approach to CEMS in South Coast BC is meant to support the establishment of meaningful relationships and the provision of input by all interested parties throughout the process. It is also meant to be collaborative in nature and as such, planned timelines for the completion of specific activities and results are not definite. Timelines will be influenced by the collaborative process. Additional information on CEMS is provided in response to recommendation 69. *Salish Sea Strategy* As part of the next phase of the Oceans Protection Plan, the Government of Canada will launch the Salish Sea Strategy that will help to facilitate discussions on marine transportation issues and link to existing work that is taking place within the Salish Sea region. The Strategy will also seek the involvement of Indigenous, industry, and stakeholder partners to collaboratively plan for a series of Salish Sea Summits, which will help to build awareness of existing work and identify connections to regional concerns. TC's Marine Safety and Training (MSET) initiative was developed in response to concerns raised by Indigenous mariners who may face increased interaction with large vessels, and supports enhanced safety for Indigenous vessels. The initiative provides funding for equipment to increase navigation/marine safety (e.g. AIS, VHF radiotelephones, and EPIRBs) and for training to build understanding about safety on the water. MSET is currently available until 2025 and Indigenous groups are invited to apply for funding on an ongoing basis. **Canadian Coast Guard (CCG)** Through established programs, CCG will support TC in its work and will continue to explore impact of increases of traffic on CCG operations. CCG's Marine Communications and Traffic Services (MCTS) centres regularly convey information about marine-related safety concerns. For instance, mariners are informed of voluntary slow down areas by traffic advisories and by navigational warnings (NAVWARN). Under the Oceans Protection Plan, additional MCTS officers were hired to improve the efficiency and effectiveness of the federal government's response to marine emergencies, including marine pollution incidents and the strategic management of all transportation related emergencies. CCG will continue to work with other government departments, including TC, to further define their role in the monitoring and protecting of marine mammals, including safety and potential loss of cultural heritage.
54	The Panel recommends that Transport Canada in collaboration with Canadian Port Authorities: • Work collaboratively with existing associations, such as the Worldwide Association of Port Cities and Canadian urban planners, to develop a charter, with principles and guidelines that could be followed to minimize visual effects of port expansions and promote social acceptance; and • Develop and implement with Indigenous groups and other stakeholders, ways to promote port areas as an asset for tourism and/or the promotion of existing heritage elements.	**<u>The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. Existing policies, programs and initiatives in place are working to satisfy the intent of this Recommendation.</u>** **Transport Canada (TC)** *Work collaboratively with existing associations, such as the Worldwide Association of Port Cities and Canadian urban planners, to develop a charter, with principles and guidelines that could be followed to minimize visual effects of port expansions and promote social acceptance* The Government of Canada agrees with the intent of the Panel's recommendation that measures be taken to minimize visual effects of port expansions and promote social acceptance in relation to RBT2. However, TC's role in implementing this measure would be required to be informal as the legislative and regulatory framework for Canada Port Authorities (CPAs) is oriented around port users and local communities having the primary voice in port operations and development. To this end, CPAs hold annual general meetings and make their Land Use Plans (where they disclose their long-term port development plans) available to the public. CPAs operate at arm's-length from the Government of Canada and do so in a commercial manner. TC's role in this framework provides a system-wide oversight functions as it relates to each CPA's mandate of facilitating trade and economic development. TC is not mandated to direct CPAs in any capacity, including with respect to implementing this recommendation. Rather, TC encourages CPAs to be proactive and transparent in their operations to achieve social license for their development plans to achieve the maximum benefits for all parties concerned. Historically, there is a strong connection between port growth and the cities that have matured around them. While not all CPAs reside in an urban setting, those that do engage with municipal governments and citizens alike concerning port development as a matter of good business. These interactions inherently address issues related to economic development as well as the reconciliation of industrial and living spaces. At the moment, many CPAs undertake measures to mitigate impacts their operations may have on their neighbors through measures like constructing sound barriers, fences to obfuscate industrial areas, or taking actions to minimize negative impacts such as measures to minimize dust or ensuring adequate green spaces are created or maintained. Port development in an urban area is inherently a regional and public conversation on the interaction of industrial development and the impacts on the integrity of shared public space. West coast port development is currently subject to a level of public scrutiny that has not manifested itself in other parts of the country. As a result, any public conversation concerning establishing guidelines in Vancouver could be expected to generate similar discussions within, what is currently, a diverse port system. In other words, despite the Panel's recommendation being limited to the VFPA, TC's ownership of this issue could be expected to result in west coast oriented guidelines with national implications that run the risk of not being sensitive to local and regional perspectives.

Recommendation Number	Recommendation	Government Response or Consideration
		Given that the Panel's recommendation reflects the regional perspective of the project area only, a Vancouver centered arrangement aligned with the recommendation could be prudent. As the conditions for a visually pleasing industrial facility is a subjective designation, TC could implement an informal measure with the VFPA to encourage work with the Association of Canadian Port Authorities – and other necessary parties they see fit - to develop guidelines to address the visual impacts of port development. Through this approach, the VFPA and local stakeholders could find the right balance between operational and safety issues with broader aesthetic concerns relative to that community. *Develop and implement with Indigenous groups and other stakeholders, ways to promote port areas as an asset for tourism and/or the promotion of existing heritage elements* The Government of Canada agrees with the intent of the Panel's recommendation that measures be taken to develop and implement with Indigenous groups and other stakeholders, ways to promote port areas as an asset for tourism and/or the promotion of existing heritage in relation to RBT2. However, similar to the previous answer above, the promotion of areas for tourism and heritage elements would benefit more from a regionally based approach rather than the establishment of a national guideline. CPAs currently compete for cruise ship traffic that supports and develops tourism as it is a means of generating economic activity. Ongoing collaboration between local stakeholders, allows for each community to cater to the unique characteristics of that area to not only encourage tourism but also mitigate any negative impacts from this industry. In summary, TC's position on this recommendation is to support CPAs to continue to work collaboratively with associations and other entities to develop activities to ensure practices that benefit all stakeholders. Additionally, there could be some alignment with other initiatives: for example, the Port Modernization Review is currently considering measures to improve CPA governance to ensure they are as responsive to communities' interests while advancing their core trade facilitation mandate. Therefore, rather than TC mandating national guidelines through a charter, the VFPA will be encouraged to work with local stakeholders and users of the port to determine how their development caters to the specific concerns of all regional stakeholders while also exploring additional initiative to achieve this outcome.
55	The Panel recommends that Fisheries and Oceans Canada develop a mechanism to engage with recreational seafood harvesters regarding the expansion of the navigational closure areas during construction and operations of the Project and to identify appropriate mitigation measures to facilitate the continuation of recreational seafood harvesting.	**The Government of Canada agrees with the intent of the Recommendation whereby, the implementation of this recommendation will focus on the ongoing communication of closure areas.** **Fisheries and Oceans Canada (DFO)** Recreational licenses allow for coast-wide access to fishing areas, excluding the closed or restricted areas. The Sport Fishing Advisory Board (SFAB) is an existing body is a mechanism for DFO to communicate the proposed navigational closure areas to recreational harvesters.
59	The Panel recommends that the Government of Canada initiate a well-designed and appropriately funded study on food security, to be implemented in collaboration with Indigenous groups and responsible health authorities. The objective of the study would be to examine the effects of food insecurity on the health of Indigenous groups harvesting in the Project area, such as the Tsawwassen First Nation and the Musqueam Indian Band. The study should target preferred traditional marine resources, consumption rates, and effects on consumption of real or perceived contamination.	**The Government of Canada agrees with the intent of the Recommendation.** Panel Recommendation 59 was directed at the Government of Canada, and states that a food security study should be implemented in response to concerns received by the Review Panel. The Crown has reviewed this recommendation and, while it supports the intent and need for more information to be gathered on food security, believes the Proponent should implement this initiative given the Panel concluded that the Project would have an adverse effect on food security. A new federal Project condition is under development whereby the Proponent would need to conduct a follow-up program to support better understanding of, and mitigate potential Project effects on, consumption patterns of marine traditional foods in relation to the Project.
65	The Panel recommends that Transport Canada and its federal partners, in partnership with the	**Government accepts the Recommendation, and proposes to take the actions described below in implementing the Recommendation.** **Transport Canada (TC)**

Recommendation Number	Recommendation	Government Response or Consideration
	Western Canada Marine Response Corporation: • Revise mandatory response times in the marine shipping area to reflect improved capacities since the response times were mandated by the *Canada Shipping Act, 2001*, and further, to improve response times based on the results from consultation with relevant parties as part of Oceans Protection Plan initiatives; • Renew collaborative activities with the British Columbia Ministry of Environment and Climate Change Strategy to improve coordination and alignment of legislation, policy and programs related to spill response and environmental management of oil spills among different levels of government; and • Continue to support and invest in oil spill research and modelling initiatives, such as near-shore modelling, to support the advancement of evidence-based Geographic Response Strategies.	TC is supportive of this recommendation and is currently updating the certification requirements for all response organizations, including Western Canada Marine Response Corporation. This process includes reviewing mandatory response times, working to identify other enhancements to improve oil spill preparedness and response, and engaging with Indigenous groups and stakeholders on potential legislation and regulations to strengthen marine safety and environmental protection. It also includes renewed collaborative activities with the BC Ministry of Environment & Climate Change Strategy to improve coordination and alignment of legislation, policy and programs related to spill response and environmental management of oil spills among different levels of government. **Environment and Climate Change Canada (ECCC)** *Revise mandatory response times in the marine shipping area to reflect improved capacities since the response times were mandated by the Canada Shipping Act, 2001, and further, to improve response times based on the results from consultation with relevant parties as part of Oceans Protection Plan initiatives* ECCC is committed to ongoing collaboration with BC Ministry of Environment and Climate Change Strategy (BC ENV) to improve the coordination of spill response and environmental management of oil spills, including: • Integrated Response Planning for the BC Coast: ECCC is engaged with BC ENV, along with federal partners and Indigenous peoples, on integrated marine oil spill planning for the BC Coast. Under Canada's Ocean Protection Plan, the Government of Canada is collaborating on Area Response Plans with Indigenous communities, provincial departments (including BC ENV), industry, response organizations, and other coastal partners. This includes an updated Integrated Response Plan for the Greater Vancouver area, where proposed Project is situated. Scheduled updates to the Integrated Response Plan will continue as part of the ongoing operations of ECCC's Environmental Emergencies program. • Canada-BC Environmental Occurrence Notification Agreement: Canada and BC are both signatories to the agreement, which provides mutual information sharing for environmental occurrences such as oil spills. • Spill responses exercises: ECCC's National Environmental Emergency Centre (NEEC) participates regularly in spill exercises with federal and provincial partners, Indigenous peoples, response organizations and industry. Exercises allow responders to effectively test their abilities and coordination in preparation for real emergencies. ECCC and BC ENV work closely to coordinate their scientific, technical and regulatory expertise. In fiscal year 2019-2020, NEEC participated in eight spill responses exercises with BC ENV. • Regulatory and policy alignment with British Columbia: ECCC provided input to BC's Policy Intentions Paper for Engagement: Phase Two Enhancements to Spill Management to BC in 2018 and 2019, and engaged in provincial policy discussions on: 1. Prescribing response times to ensure timely responses following a spill; 2. Developing geographic response plans (GRPs) to ensure resources are available to support an immediate response that takes into account the unique characteristics of specific or particularly sensitive areas; 3. Addressing loss of public and cultural use from spills including economic, cultural, and recreational impacts and community response costs to ensure communities are compensated for negative impacts from spills (e.g., compensation to a community and/or Indigenous community when food gathering access is limited following a spill); and 4. Maximizing the marine application of the Province's environmental emergency regulatory powers within B.C.'s jurisdiction. The intent is to ensure a consistent and high standard of protection in both marine and terrestrial settings. In response to this Panel Recommendation, ECCC NEEC and BC ENV Emergencies have agreed to meet quarterly to identify areas where operational coordination between our emergency response agencies can be enhanced, and developing strategies to improve how we work together. Issues with policy and regulatory coordination will be noted and raised in an annual or as-required Director-level discussion. *Renew collaborative activities with the BC Ministry of Environment and Climate Change Strategy to improve coordination and alignment of legislation, policy and programs related to spill response and environmental management of oil spills among different levels of government* ECCC has had an oil spill research and development program for more than 40 years. In November 2016, the Government of Canada announced the national Oceans Protection Plan (OPP) to improve marine safety and responsible shipping, and protects Canada's marine environment. The Plan is being delivered through programs implemented by ECCC and other Federal Departments. Within the overall $1.5 billion OPP investment, approximately $80 million is to enhance research and development that will advance the collective knowledge of oil spill science including trajectory modelling. A key feature of ECCC's ongoing oil spill research initiative is to support the transfer of spill research knowledge to the response community, academia and the general public. Such technology transfer, coupled with oil response guidance documents developed by ECCC, serves to further enhance geographical oil spill response strategies. **Canadian Coast Guard (CCG)** CCG remains committed to working with its partners to improve marine oil spill and hazardous and noxious substance (HNS) response, as well as supporting initiatives that will enhance Canada's marine preparedness and response system, including improving coordination and alignment of legislation, policy and programs related to spill response and environmental management of oil spills among different levels of government. Under the Planning for Integrated Environmental Response project [PIER] (2019-2022), CCG has worked collaboratively with response partners, including Indigenous communities, federal, provincial (BC ENV), and local governments and authorities, as well as industry, health authorities, response organizations and port/harbour authorities in order to refine and update the Greater Vancouver Integrated Response Plan. The objectives are to improve transparency, cooperation and coordination in the event of a marine pollution incident. The Project and related collaborative approach have led to the co-development of additional integrated and evergreen response plans in BC (i.e., Juan de Fuca Integrated Response Plan for Marine Pollution Incidents; Georgia Strait

Recommendation Number	Recommendation	Government Response or Consideration
		Integrated Response Plan for Marine Pollution Incidents; West Coast Vancouver Island Integrated Response Plan for Marine Pollution Incidents). The plans developed under this initiative are subject to a regular planning cycle through engagement with all response participants, and will continue to be validated through training and exercising. Additionally, as part of the next phase of the Oceans Protection Plan (OPP) and building on lessons learned from PIER and other previous marine spill response planning initiatives and activities, CCG – supported by DFO, ECCC, TC and Health Canada – will advance the Integrated Marine Response Planning (IMRP) program. IMRP will develop and implement a consistent and risk-based national marine pollution response planning program through collaboration with spill response partners, including Indigenous and coastal communities, other federal departments, provinces (including BC Ministry of Environment and Climate Change Strategy) and territories, and municipal governments. The initiative will stabilize existing response planning and science capacity on the west coast, while building capacity across Canada to develop a network of integrated area-specific marine pollution response plans (informed by science, Indigenous knowledge, and operational experience) covering marine sensitive and high-risk areas of Canada's coastlines and shorelines. Each plan will support consistent and effective responses to marine pollution incidents. IMRP will also strengthen federal scientific capacity to protect coastal communities and marine species and ecosystems, including species listed under the *Species at Risk Act* and their habitats, as well as support implementation of critical fisheries management measures to safeguard consumers during a marine pollution incident. In response to the third bullet in the Panel's recommendation, CCG will continue to support the development of projects and initiatives to further spill response technology, such as DFO's Multi-Partner Research Initiative and NRCan's Oil Spill Response Challenge. **Natural Resources Canada (NRCan)** NRCan's Canmet ENERGY research facilities are Canadian leaders for clean energy research, development, and demonstration. Canmet ENERGY Devon lab has developed expertise over the last 25 years in the compositional analyses of petroleum products, including heavy crude oils like diluted bitumen, and is using this information to understand oil spill fate and behaviour in water environments. Canmet ENERGY Devon hosts in-house pilot-scale spill tank tests and supporting analytical facilities that link oil behaviour information to weathering processes, while monitoring how these influence water toxicity with time. In addition to Canmet ENERGY activities, the NRCan Office of Energy Research and Development continues to fund development of improved spill response technology options. **BC Ministry of Environment and Climate Change Strategy** In absence of reviewing the Proponent's spill contingency plan and environmental management plan (EMP), the Environmental Emergency Program (EEP) believes that the current version of Recommendations 60, 61 and 65 generally align with best practices for handling of hazardous materials and spill management in the terrestrial environment. EEP noted that some clarifying details may need to be added in the future relating to spill notification procedures and overlapping response plans. However, multiple stipulations in the Recommendations state that the Proponent must interact with EEP's emergency response partners: CCG, TC and Western Canada Marine Response Corporation. These agencies have a clear understanding of proper notification procedures and the appropriate emergency response plans - the Greater Vancouver Integrated Response Plan, CCG Pacific Regional Contingency Plan and the Canada - U.S. Joint Marine Pollution Contingency Plan - that the Proponent must incorporate into their EMP to address a cross-boundary, marine spill in the Salish Sea. It should be noted that BC ENV is currently exploring the option of developing additional spill response requirements under Division 2.1 Spill Preparedness, Response and Recovery of the *BC Environmental Management Act*. If enacted, EEP may need to update specific project Recommendations or Conditions.
66	The Panel recommends that Transport Canada and the Canadian Coast Guard: • Evaluate measures to improve and broaden the Ship-source Oil Pollution Fund for justifiable costs and damages that are not currently included, especially to compensate for effects on cultural heritage of Indigenous groups; and • Examine measures to improve oil spill response and to co-develop proposals,	**<u>The Government of Canada accepts the Recommendation, and proposes to take the actions described below in implementing the Recommendation.</u>** **Transport Canada (TC)** In June 2019, the Government of Canada announced a review of the *Marine Liability Act* in response to a recommendation from the Canadian Energy Regulator's reconsideration of Trans Mountain Expansion Project to consider compensation for non-economic losses under the Act. This review considered the scope of losses eligible under the *Marine Liability Act.* Additional information about the marine liability and compensation regime is available online at: https://tc.canada.ca/en/marine-transportation/marine-safety/marine-liability-compensation-oil-spills. Engagement with Indigenous and non-Indigenous communities along Canada's coasts, Great Lakes and St Lawrence River, including those being consulted for RBT2, started in January 2020. Engagement timelines were extended to March 31, 2021, to allow more opportunities for participation in the review. During the engagement period, Transport Canada participated in over 50 meetings across Canada, and by the time the engagement closed, TC received a total of 14 written submissions from Indigenous and non-Indigenous communities. **Canadian Coast Guard (CCG)** CCG remains committed to working with its partners to improve marine oil spill response in Canada. Work is underway to establish a multi-purpose marine response facility in Port Renfrew in collaboration with Pacheedaht First Nation. This facility will strengthen marine search and rescue as well as marine environmental response within Juan de Fuca Strait.

Recommendation Number	Recommendation	Government Response or Consideration
	such as for an emergency spill response base at Port Renfrew	Moreover, as part of the next phase of the Oceans Protection Plan (OPP), CCG will work with Indigenous partners and coastal communities to establish Coastal Marine Response Teams (CMRTs). This initiative will collaboratively co-develop response capacity in Indigenous and coastal communities to enhance coordination and integration of first responders in all hazard marine incident management. CMRT will increase the capacity of Indigenous and coastal communities to respond to marine incidents and protect culturally important sites and the local marine environment from marine pollution, while also connecting these communities to the national marine response regime. Through CMRT, dedicated CCG personnel will work with Indigenous and coastal communities to provide support and funding for training, equipment and tools to help develop a community's marine response capacity. CMRT will also provide funding for participating communities to hire a Marine Liaison Officer to support development and coordination of local preparedness and response activities. Furthermore, CCG will also continue to develop the Communication Portal for Integrated Incident Response (CPIIR), as part of the next phase of the Oceans Protection Plan (OPP). CPIIR is building upon investments made under the Trans-Mountain Expansion (TMX) project. The objective of CPIIR is to implement a national communications tool that will facilitate integrated preparedness and incident response, and enhance collaboration during on-water emergencies, events and exercises with Indigenous and coastal communities across Canada. Further, CPIIR will enable the sharing of information and collaboration between CCG, Indigenous partners, and other response partners, related to marine incident response activities.
67	The Panel recommends that the Government of Canada, in collaboration with the British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development, communicate the locations of known physical and cultural heritage sites to oil spill response authorities in order to enhance the protection of these sites in the event of an oil spill. The locations should be shared under a confidentiality agreement to be signed before Project operations begin.	**<u>Government accepts the Recommendation, and proposes to take the actions described below in implementing the Recommendation.</u>** In any implementation of this recommendation, it is important that consideration be given to the principles of OCAP (ownership, control, access, possession) in the collection and sharing of any data regarding locations of physical or cultural heritage sites, as only Indigenous communities can decide how and when to share this knowledge. **BC Ministry of Forests, Lands, Natural Resource Operations & Rural Development** BC Ministry of Forests, Lands, Natural Resource Operations & Rural Development - Archaeology Branch maintains the Remote Access to Archaeological Data (RAAD) system, which provides the locations of all the recorded archaeological sites within the province of BC. The Branch also accepts and enters records for archaeological sites located within lands under federal jurisdiction. Access to this system is provided to anyone who would have a valid reason to access the data, including First Nations, archaeologists, property owners, municipal planners, and governmental agencies. Access requires applicants to sign a data sharing agreement. The Branch is able to share this information with any emergency response authority in short order, and will provide it in advance if requested. For any alterations to an archaeological site within Provincial jurisdiction, a site alteration permit is required. Typically, in the event of an emergent situation such as an oil spill, the Branch will expedite the issuance of any such permit. The Branch is happy to receive records for archaeological sites located within federal jurisdiction. **Western Canada Marine Response Corporation (WCMRC)** WCMRC collaborates with First Nations in several ways to ensure sensitive areas are protected if a spill should occur. Joint initiatives include tabletop and field exercises as well as Incident Command System (ICS), Shoreline Clean-up Assessment Technique (SCAT) and shoreline worker training. In addition, several First Nations are currently contracted to assist if a spill occurs in their areas. WCMRC has also been working closely with First Nations to document traditional knowledge and ensure information gaps around shoreline sensitivities — such as critical habitats and archeological and cultural sites — are identified and closed. To ensure sensitive areas are protected from the threat of an oil spill, WCMRC meets with coastal First Nations to map their part of the coast, and create site-specific response plans. Each response strategy is field tested to ensure effectiveness. More than 750 Geographic Response Strategies have been created since the program launched in 2013. Through WCMRC's work with First Nations and other coastal communities, the goal has been to create strategies for all 27,000 km of B.C.'s coastline. **Canadian Coast Guard (CCG)** CCG would be prepared to facilitate the sharing of information related to sensitive cultural, historical sites amongst participating first responders with a need to know as part of its legislated mandate to ensure an effective response to marine pollution spills. The release of the subject information would be on a case-by-case basis as the response to a specific incident unfolds and may be subject to a confidentiality agreement as required by a First Nation's desire to protect a sensitive site(s). **Environment and Climate Change Canada (ECCC)** ECCC's National Environmental Emergencies Centre (NEEC) manages 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. NEEC's maps give an overview of the environmental (e.g., bird colonies and fish spawning locations), socioeconomic (e.g., aquaculture facilities and fishing zones) and cultural (e.g., historical and archeological sites) resources in a given region that could be at risk during an environmental emergency. Environmental Emergency Responders can

Recommendation Number	Recommendation	Government Response or Consideration
		then use this information to help guide their decisions when responding to an emergency. Through the Oceans Protection Plan, ECCC has invested in additional data collection to produce better maps of environments and resources at risk; ECCC has also invested in technology such as web map viewers to rapidly share information with responders. Indigenous knowledge of local environmental resources is also of great value to responders to guide and prioritize spill mitigation measures. ECCC will continue to develop strategies that will help make Indigenous knowledge available to responders to plan for and respond to environmental emergencies.
68	The Panel recommends that the Government of Canada develop and implement intergovernmental management programs for the improvement and long-term environmental management of the Fraser River estuary and the Salish Sea. The programs should include: a governance body made up of public and private sector stakeholders and representatives of Indigenous groups to oversee the programs, funding commitments, monitoring requirements, a decision-making framework around possible future resource development and management, environmental conservation programs, community sustainable and subsistence activities and a public reporting system. The Intergovernmental Management Programs should be developed to align with the result of a regional environmental assessment (See Recommendation 70)	**<u>The Government of Canada agrees with the intent of this Recommendation, for the reasons detailed below. There are a number of policies, programs and initiatives underway and in development to satisfy the intent of this Recommendation, including some that have been announced since the release of the Review Panel Report.</u>** The Government of Canada recognizes the objectives behind Recommendations 68 and the desire for intergovernmental management of both the Salish Sea and the Fraser River estuary. There are a number of initiatives underway, and in development, that can help facilitate or support intergovernmental management approaches to the improvement and long-term environmental management of the Fraser River estuary and the Salish Sea. These include the various policies, programs and other initiatives summarized below and in the response to Recommendation 70. The outcomes of these programs will support and contribute to our understanding of the environmental baseline, as well environmental and cumulative effects in the Salish Sea and the Fraser River estuary. These include: • the implementation of the Coastal Environmental Baseline Program (led by Fisheries and Oceans Canada [DFO]); • the Salish Sea Initiative (SSI) (led by DFO); • the Southern BC Marine Spatial Planning (MSP) process (led by DFO); • advancing knowledge in support of managing cumulative effects in the Salish Sea (TMX Recommendation 1, led by ECCC and DFO); • implementing a Marine Bird Monitoring and Conservation Program (TMX Recommendation 3, led by ECCC) • assessing current annual reporting on existing programs and initiatives related to cumulative effects and the health of the Salish Sea (TMX Recommendation 2, led by ECCC, DFO and TC); • Pacific Salmon Strategy Initiative (PSSI; led by DFO); and • the Cumulative Effects of Marine Shipping (CEMS) initiative (led by Transport Canada [TC]). Although it is recognized that existing initiatives are largely focused on the Salish Sea rather than the Fraser River estuary, it should be noted that the data collection and analysis in these programs will support and advance knowledge on overlapping key issues relevant to both the Salish Sea and Fraser River estuary, such as salmon and eulachon migration, and climate change. These programs are undertaking important work to address key issues in this region In recognition of the large number and diverse range of existing programs and initiatives in these areas, the Government of Canada (in response to TMX Recommendation 1), carried out an inventory and evaluation of existing initiatives under DFO, TC and ECCC mandates in 2021. This analysis will inform the development of an intergovernmental environmental management program for the Fraser River estuary and Salish Sea. The program would be a joint effort between federal, provincial and Indigenous governments, Indigenous and non-Indigenous organizations, and stakeholders. The Impact Assessment Agency heard through consultation with Indigenous groups that all the initiatives happening in the region require a high level of participation and resources and that large-scale initiatives such as the development of intergovernmental management programs that would assemble together multiple initiatives will require extensive engagement, which must focus on clearly laying out the purpose of, and link between, the various initiatives. ***Summary of Existing Initiatives relevant to this Recommendation*** *Coastal Environmental Baseline Program* The Coastal Environmental Baseline Program is part of the national Oceans Protection Plan (OPP), launched in 2016. The program includes funding to collect comprehensive data on the current state of six marine ecosystems in Canada, including the Port of Vancouver. DFO scientists have worked closely with Indigenous communities in the Vancouver area to develop, fund, and implement data collection activities focused on physical, chemical, and biological aspects of the ecosystem. Data collected through CEBP will be publicly accessible at the Saint Lawrence Global Observatory web portal. By gathering comprehensive baseline data, we can better detect changes in the environment over time. *Salish Sea Initiative* Led by DFO in collaboration with ECCC, Canadian Coast Guard, Transport Canada, Parks Canada, and Natural Resources Canada, the Salish Sea Initiative (SSI) was established as a result of previous engagement and consultations with First Nations in the Salish Sea concerning the Trans-Mountain Pipeline Expansion Project (TMX). The consultations focused around the need to co-develop integrated monitoring, evaluation and reporting processes on cumulative effects that is inclusive and responsive to these Nations. The Initiative is building capacity within First Nations communities near the marine shipping corridor by enabling the collection and reporting of data on baseline environmental conditions, tracking of environmental impacts and changes, assessment of cumulative environmental effects from human activities and determination of Valued Ecosystem Components (VECs) within the marine area of the Salish Sea. The SSI is providing scientific support to the Nations through regular co-planned engagement sessions. The SSI is also co-developing the SSI Interactive Map (SSIM) of VECs and related information for use by these Indigenous

Recommendation Number	Recommendation	Government Response or Consideration
		communities. The interactive map also includes co-developed features such as a data portal for data upload and download; and plans for a mobile marine survey app with survey methodologies and electronic data forms. In addition to $91M in core funding available to eligible First Nations since 2019, the Government of Canada and First Nations are co-developing an additional investment of $50M to be held at arm's length from DFO. The objective of this investment is to provide a long-term, self-sustaining source of funding to enable First Nations to continue monitoring cumulative effects within the Salish Sea beyond the life of the core program. Government of Canada and First Nations will work together to develop an Indigenous-led long-term investment fund to support this work. *Advancing Knowledge in Support of Managing Cumulative Effects in the Salish Sea* 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. 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 (e.g. Murray et al., 2019, 2021)[6]. 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. This work is also linked to Government of Canada efforts to address the Canadian Energy Regulator's Recommendations 1 and 2 for the Trans-mountain Expansion Project. Fisheries and Oceans Canada, Environment and Climate Change Canada and Transport Canada are working to build some of the foundational pieces necessary to develop management plans for cumulative effects in the Salish Sea, and reporting on progress on related initiatives. These pieces include developing inventories of our state of knowledge of cumulative effects, management, and reporting, analysing critical gaps in that inventory, and developing tools, such as the ECCC Open Data Portal, Marine Emissions Tool, and the SSI GIS-based Interactive Map. *Marine Spatial Planning* Marine Spatial Planning (MSP) in Southern BC is a process led by DFO that brings together relevant authorities to achieve ecological, economic, cultural, and social objectives. The interim geographic boundary (planning area) for this process broadly includes the marine waters within the Strait of Georgia and Southern Shelf Marine Bioregions. Southern BC MSP is currently in the early planning phase; core elements include a marine atlas, and an MSP Framework which includes governance interests and considerations. Moving forward, federal departments, the Province of British Columbia, First Nations, Indigenous organizations, and stakeholders will continue to be engaged in the planning process. *Annual Reporting on the Health of the Salish Sea* 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 in the South Coast of British Columbia. *Pacific Salmon Strategy Initiative* Announced in 2021, DFO's Pacific Salmon Strategy Initiative (PSSI) aims to stem the historic declines in key Pacific salmon stocks and rebuild these species to a sustainable level through four key pillars: conservation and stewardship; enhanced hatchery production; harvest transformation; and integrated management and collaboration. The four pillars of the PSSI are designed to support a strategic and coordinated long term response, rooted in collaborative action. They represent stronger science and habitat restoration, stabilizing and growing the salmon populations, sustainable and reliable fisheries, and deeper communication and coordination between partners. New policies, programs, and actions under each pillar of the strategy will move ahead in collaboration with the wide range of Indigenous partners, harvesters, recreational fishers, stakeholders, and communities who depend on Pacific salmon, and who have the knowledge to contribute to Canada's effort to sustain and rebuild Pacific salmon stocks. *OPP Salish Sea Strategy* As part of the next phase of the Oceans Protection Plan, the Government of Canada will launch the Salish Sea Strategy that will help to facilitate discussions on marine transportation issues and link to existing work that is taking place within the Salish Sea region. The Strategy will also seek the involvement of Indigenous, industry, and stakeholder partners to collaboratively plan for a series of Salish Sea Summits, which will help to build awareness of existing work and identify connections to regional concerns. *Cumulative Effects of Marine Shipping* Through the Cumulative Effects of Marine Shipping (CEMS) Initiative under the OPP, TC is working with Indigenous peoples, local stakeholders and coastal communities to better understand the cumulative effects of marine shipping activities on coastal environments. This initiative relies on regional engagement and collaboration with many coastal communities and Indigenous peoples to improve our understanding of cumulative effects from marine shipping at each of our identified pilot sites, including South Coast of BC. Integration of Indigenous knowledge will occur throughout

[6] References: Murray, C.C., Hannah, L.C., Doniol-Valcroze, T., Wright, B., Stredulinsky, E., Locke, A., Lacy, R. (2019). Cumulative Effects Assessment for Northern and Southern Resident Killer Whale Populations in the Northeast Pacific. DFO Can. Sci. Advis. Sec. Res. Doc. 2019/056. x. + 88 p
Murray, C.C., Hannah, L.C., Doniol-Valcroze, T., Wright, B., Stredulinsky, E., Nelson, J.C., Locke, A., Lacy, R. (2021). A cumulative effects model for population trajectories of resident killer whales in the Northeast Pacific. Bio Cons 257: 109124

Recommendation Number	Recommendation	Government Response or Consideration
		the course of the Initiative, including through the identification of priority shipping issues and valued components of concern, assessment of cumulative effects and identification of options to mitigate those effects. *Other Considerations* Natural Resources Canada (NRCan) is compiling marine geoscience data, developing maps, and analyzing seafloor geology and processes for the Salish Sea region to contribute to this process. NRCan also undertakes research in sea-level rise, sediment transport, earthquakes, and coastal hazards in the Salish Sea region. In the past, ECCC was heavily involved in multi-jurisdictional programs focused on regional environmental management in the Fraser River estuary, including the Fraser River Environmental Management Program (1985-2013) and the Georgia Basin Action Plan (2003-2009). Lessons learned from past programs indicate that these types of initiatives benefit from stable funding, clear governance structures and decision-making frameworks, well defined priorities and timelines, a rigorous and systematic performance management system, and a focus on collaboration between government, Indigenous groups, and public and private stakeholders.
69	The Panel recommends that the Cumulative Effects of Marine Shipping initiative of the Oceans Protection Plan be pursued with appropriate budgets.	**The Government of Canada agrees with the intent of the Recommendation, for the reasons detailed below. Existing policies, programs and initiatives in place are working to satisfy the intent of this Recommendation.** **Transport Canada (TC)** The Cumulative Effects of Marine Shipping (CEMS) Initiative (Oceans Protection Plan) is undertaking an assessment of the cumulative effects of marine shipping with Indigenous communities in the South Coast of British Columbia. To respond to the preferences of Indigenous groups in this assessment area, the Cumulative Effects of Marine Shipping assessment is being delivered through a multi-tiered assessment approach with both a regional assessment and sub-regional assessments being undertaken within collaborative governance arrangements with various Indigenous groups. Following over two years of engagement to understand the issues of concern and Indigenous preferences for undertaking this type of assessment, this multi-tiered assessment approach has been co-developed with South Coast First Nations. At a regional level in the South Coast of British Columbia, TC has partnered with the First Nations Fisheries Council (a partnership under the Commitment to Action and Results Accord) and established the Vessel Management Coordinating Committee (including ~16 different South Coast BC First Nations). Sub-regionally in the South Coast of British Columbia, TC has co-developed or is in the process of co-developing collaborative governance arrangements (Terms of Reference and Living Workplans) with ten individual or collective groups of First Nations (representing 31 First Nations). The Cumulative Effects of Marine Shipping assessments at both the regional level and the subregional level are collaborative in nature and as such, the planned scope (in terms of priority areas and timelines) for the completion of specific activities and results are not defined. The geographic scope of the assessment at the regional level is inclusive of BC First Nation's territories from Smith's Inlet to the USA border and includes both East and West Coast Vancouver Island and the lower mainland coastal area within Canadian jurisdiction. The scope of the sub-regional assessment areas vary in size depending on what component has been prioritized and being assessed. For a full summary of the activities that have occurred on the South Coast CEMS project, please see Appendix 1 (pages 41-47) in TC's newly published National Framework for Assessing the Cumulative Effects of Marine Shipping.
70	The Panel recommends the Government of Canada undertake two regional environmental assessments for the Fraser River estuary and the Salish Sea to establish an environmental baseline, identify environmental and cumulative effects of the areas, and mitigation and follow-up requirements. The regional assessment should be used to develop and implement Intergovernmental Management Programs of the Fraser River estuary and the Salish Sea (See Recommendation 68).	**The Government of Canada will not be implementing this recommendation at this time, for the reasons detailed below.** The Government of Canada recognizes the objectives behind Recommendation 70 to establish an environmental baseline, identify environmental and cumulative effects, and help define mitigation and follow-up requirements for both the Salish Sea and the Fraser River estuary. The Government of Canada also acknowledges the importance of having appropriate programming in place to gather and provide this information and analysis to help inform future planning and decision-making in these areas. Under the *Impact Assessment Act*, the federal Minister of Environment and Climate Change may authorize the Agency, or appoint a Committee, to undertake a regional assessment of the effects of existing and future development in a region, and may enter into agreements or arrangements with other jurisdictions to work cooperatively in conducting regional assessments that are not located entirely on federal lands. A key objective of such regional assessments is to inform and improve subsequent impact assessments of designated projects under the *Impact Assessment Act*, by providing regional scale information, analysis and knowledge to subsequent project-specific assessments, and in doing so, help them better address overarching regional issues that may be challenging to deal with through project assessments alone. The Agency has reviewed Recommendation 70 in this context, and against the various factors and considerations outlined in its *Operational Guide: Requesting a Regional or Strategic Assessment under the Impact Assessment Act - Canada.ca*, and does not believe a regional assessment to be an appropriate tool to address these issues at this time. This is the case because there are a limited number of new, and reasonably foreseeable designated projects being contemplated at this time. Moreover, there are a range of existing and planned programs and initiatives in

Recommendation Number	Recommendation	Government Response or Consideration
		these regions that are well placed to address the issues raised in this recommendation, including those related to establishing environmental baseline and identifying environmental and cumulative effects in these areas. Relevant initiatives in the Fraser River estuary and Salish Sea include the *Coastal Environmental Baseline Program, Salish Sea Initiative, Marine Spatial Planning, Advancing Knowledge to Support of Managing Cumulative Effects in the Salish Sea, Reporting on the Health of the Salish Sea,* and *Cumulative Effects of Marine Shipping.* Please see the above response to Recommendation 68 for details of these initiatives. The Government of Canada is currently engaged in the several additional initiatives relevant in the regional consideration of cumulative effects in the Fraser River estuary and Salish Sea, as detailed below. *ECCC – US EPA Joint Statement of Cooperation (the SoC) on the Georgia Basin - Puget Sound (Salish Sea) Ecosystem* The SoC on the Georgia Basin - Puget Sound (Salish Sea) Ecosystem commits Canadian and US 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 Puget Sound. Some of the key activities under the Statement of Cooperation include: • Health of the Salish Sea Ecosystem Report: a collaboratively-developed report to the public on the health of our shared ecosystem. The report presents trends for ten environmental indicators of transboundary significance in the Salish Sea Basin,[7] • The Salish Sea Ecosystem 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* 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 & 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 to develop new policy, technical, and professional capacity to effectively engage in collaborative watershed governance activities. 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) Budge 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 Southern Resident Killer Whale (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. TC, 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 annual management measures since 2019 to protect Chinook salmon and to minimize disturbance from vessels to support SRKW recovery. *Pacific Salmon Strategy Initiative* Announced in 2021, DFO's Pacific Salmon Strategy Initiative (PSSI) aims to stem the historic declines in key Pacific salmon stocks and rebuild these species to a sustainable level through four key pillars: conservation and stewardship; enhanced hatchery production; harvest transformation; and integrated management and collaboration. The four pillars of the PSSI are designed to support a strategic and coordinated long-term response, rooted in collaborative action. They represent stronger science and habitat restoration, stabilizing and growing the salmon populations, sustainable and reliable fisheries, and deeper communication and coordination between partners. New policies, programs, and actions under each pillar of the strategy will move ahead in collaboration with the wide range of Indigenous partners, harvesters, recreational fishers, stakeholders, and communities who depend on Pacific salmon, and who have the knowledge to contribute to Canada's effort to sustain and rebuild Pacific salmon stocks. *Priority Places Initiative (PPI)* ECCC has adopted a conservation approach that focuses on multiple species and ecosystem-based conservation action; this can include species of cultural significance. This enables conservation

[7] Air Quality, Summer Stream Flows, Freshwater Quality, Marine Water Quality, Toxics in the Food Web, Shellfish Beaches, Species at Risk, Southern Resident Killer Whales, Chinook Salmon, and Swimming Beaches.

Recommendation Number	Recommendation	Government Response or Consideration
		partners to work together to achieve better outcomes for species at risk. In BC, the priority places include the south coast and the dry interior. These two 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. *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 Natural Resources Canada 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. *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, and 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. *Marine Bird Monitoring and Conservation Program (TMX Recommendation 3)* The Marine Bird Monitoring and Protection Program will generate 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. 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 (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 is now on the second phase, with priority on increasing the number of groups accessing project funding. *ECCC's Water Science and Technology programs* ECCC has a number of water research and technology programs that contribute to a broader understanding of the region. • The long-term Freshwater Quality Monitoring Program measures, tracks and communicates freshwater quality across a range of watersheds throughout Canada. t 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 are shared through the GoC 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 Open Data platform. • The 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 Open Data platform. The Geological Survey Canada produces knowledge products at a variety of scales including peer-reviewed maps of surficial geology, seabed sediment composition, seabed morphology, and seabed disturbance. For the Salish Sea, these products include: a) A regional-scale digital elevation model (https://open.canada.ca/data/en/dataset/e6e11b99-f0cc-44f7-f5eb-3b995fb1637e). b) A surficial geology map of the Salish Sea region to be released in late 2022.

Recommendation Number	Recommendation	Government Response or Consideration
		c) A targeted geological assessment of Burrard Inlet in progress. d) In collaboration with DFO, an investigation of the cumulative effects from commercial anchoring at British Columbia's coastal anchorages. e) A compilation of discrete seafloor sediment grainsize for the BC Coast. These knowledge products provide fundamental information about baseline marine geological conditions and processes. The Geological Survey Canada is also working with partners to carry out risk assessment modelling for sea level rise, storm surge and tsunamis with the Semiahmoo First Nation and the surrounding area. These results are intended to support coastal flood mitigation and adaptation strategies. There is no direct funding to communities in this initiative. This is the western case study of the initiative which will integrate local and scientific knowledge and inform the development of guidelines to support communities in reducing risks from coastal hazards The Geological Survey Canada is also working with partners and funding from the Canadian Safety and Security Program to monitor one site with multiple coastal protection structures in the Salish Sea to develop best practices to monitor these natural coastal protection structures. The initiative will develop a knowledge base on the performance of nature-based infrastructure in Canadian coastal settings for flood risk reduction; develop new tools to predict and assess the suitability of these types of infrastructure for coastal flood and erosion risk reduction; and develop guidelines for communities on their use. The Geological Survey Canada is working with Ocean Networks Canada to monitor the river plume, currents and sediment transport at the mouth of the Fraser River and undertaking groundwater monitoring at the Roberts Bank Port.