

**Hearing Order OH-001-2014**  
**Trans Mountain Pipeline ULC (Trans Mountain)**  
**Application for the Trans Mountain Expansion Project**  
**Motions to compel full and adequate responses by intervenors to information requests (IRs) from intervenors and Trans Mountain**  
**Organizational chart for comments on inadequacy of IR responses**

**NOTE:** To add additional rows to the table, place your cursor in the last cell/box (i.e., at the bottom right) of the table, and press the “Tab” button on your keyboard.

Government of Canada (GoC) Information Requests from the Board of the Friends of Ecological reserves directed to the following Departments of the Government of Canada: NR Canada, Environment Canada, Transport Canada, DFO,		Board of Friends of Ecological Reserves (FER)			
IR #	IR wording <sup>1</sup>	Responding intervenor’s response to IR <sup>2</sup>	Motion author’s explanation for claiming IR response to be inadequate <sup>3</sup>	Responding intervenor’s response to motion <sup>4</sup>	Motion author’s reply <sup>5</sup>
1	<p><b>Preamble.</b> For Transport Canada (TC).</p> <p>Information Requests from the Board of the Friends of Ecological reserves directed to the following Departments of the Government of Canada: NR Canada, Environment Canada, Transport Canada, DFO,</p> <p>The Ocean’s Act pre-amble states “<i>WHEREAS Canada promotes the wide application of the precautionary approach to the conservation, management and exploitation of marine resources in order to protect these resources and preserve the marine environment</i> “. This signals the need for government departments to take a precautionary approach to protection of the marine environments to be consistent with the legislated intentions. The Board of FER is seeking information on improving marine safety and reducing risk of groundings due to tanker and cargo ship malfunctions through a change in the existing marine tanker route along the Victoria water front away from Oak Bay Island and Trial Islands Ecological Reserves. We do not understand the status quo and why a realignment of shipping routes requiring ALL cargo ships and tankers to enter and exit further off shore would not be better, in keeping with the Ocean’s Act precautionary and safest option. We seek information on why a change in the route related to point F, referred to as the Brotchie Pilot Boarding area, is needed as it appears to force large ships to make 3 course corrections for both incoming and outgoing ships. We presume this is for the convenience of the Government of Canada Coast Guard to facilitate “dropping of pilots” at Brotchie Ledge (Location F in the maps below) nearer (Ogden Point). If two course corrections were adopted then ALL tankers would remain further off shore. It is our understanding that in reading TMX reports on rudder malfunctions, even with escort tugs, there are less than a dozen minutes to avoid a grounding when within a kilometer of shore or avoid a collision if near another ship. The further off shore a tanker or other cargo ships is routed, the greater the time afforded to take corrective action in the event of malfunctions or human error. Finally if the shipping routes were straightened out, it is possible to provide greater separation within Canadian waters between incoming and outgoing.</p> <p>See maps below.</p>				

<sup>1</sup> In this column, insert the relevant text of the IR that was asked. If the entire question is relevant to your submission, insert the full text. The references and preambles can be omitted (removed), unless they are essential to your submission.

<sup>2</sup> In this column, insert the relevant text of the responding intervenor’s response to the IR. If the entire response is relevant to your submission, insert the full text.

<sup>3</sup> In this column, explain why you consider the IR response to be inadequate.

<sup>4</sup> In this column, include the responding intervenor’s response to your motion.

<sup>5</sup> In this column, you may only reply if the responding intervenor has filed a response to your motion, and your reply may only deal with matters raised by the responding intervenor in its response.

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PROJECT: Fraser River and Burrard Inlet Ferry Crossing  
 DRAWING: FERRIES - PROPOSED FERRY CROSSING  
 SHEET: 1 OF 1  
 DATE: 2013.08.01  
 SCALE: 1:50,000  
 PROJECT NO: 13000000

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A 2015 image of an Oil Tanker and Escort Tug off Oak Bay Islands Ecological Reserves is included to show the proximity of the route to the Ecological Reserve.

**Information request 1. A request to Transport Canada**

- 1.1. Are the longer tanker routes for incoming and outgoing shipping (routes that more closely parallel the Victoria water front and bring all shipping closer to Trial, Oak Bay and Race Rocks Ecological Reserves) principally for the convenience of pilot drop off at Brotchie Ledge?
- 1.2. How and when will the current tanker route be reassessed from a safety and risk of groundings perspective? If there is a strong rationale that supports improved safety and it is found that there is lower risk afforded by moving shipping routes further off shore, when can the safer and further off shore and shorter tanker route be implemented?
- 1.3 How is the current shipping route consistent with the Ocean Act “precautionary approach” to the marine environment since there are three course corrections needed by all cargo ships and tankers and this brings all shipping nearer to the Trial Island, Oak Bay Islands and Race Rocks Ecological Reserves as well as the Victoria waterfront?

2	<p><b>Preamble:</b> (A request to Natural Resources Canada (NRCan) Natural Resources Canada in their IR1 identified in an appendix a Cabinet Directive. (<a href="https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2451199/2786712/C249-9-2_-_NRCan_Written_Evidence_ANNEX_A-K_27May15_-_A4Q0V3.pdf?nodeid=2786907&amp;vernum=-2">https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2451199/2786712/C249-9-2_-_NRCan_Written_Evidence_ANNEX_A-K_27May15_-_A4Q0V3.pdf?nodeid=2786907&amp;vernum=-2</a>). This directive includes direction on monitoring and states on page 6 “On going monitoring, including the establishment of baseline monitoring for the regulatory system.”</p> <p>It is also noted that NRCan states that under the Major Projects Management Office. “The Minister of Natural Resources has established a Major Projects Management Office within the</p>				
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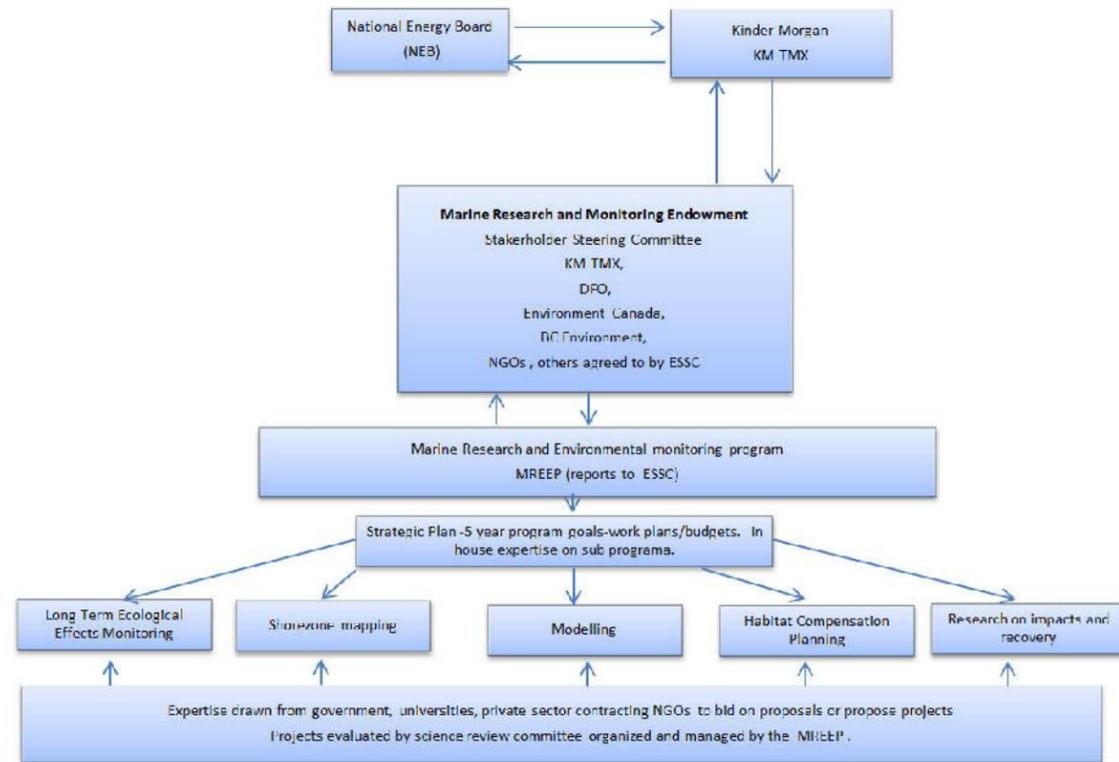
Responding intervenor's response to IR <sup>2</sup>	Motion author's explanation for claiming IR response to be inadequate <sup>3</sup>	Responding intervenor's response to motion <sup>4</sup>	Motion author's reply <sup>5</sup>
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*Department of Natural Resources. The objectives of the Office are to improve public oversight of the regulatory system for major resource projects by enhancing transparency and monitoring: and its public accountability through the use of timelines and other service standards.”*

It is encouraging that baseline monitoring for the regulatory system is identified as needs as is transparency and that this is Cabinet direction to NRCan. NRCan in the IR to KM- TMX also identified the need for baseline monitoring. Our interpretation of this direction to NRCan is that NEB can, in good faith, place conditions on KM-TMX that require longer term monitoring as a permit condition as was done for the Northern Gateway permit and this is consistent with these directives.

The Board of Friends of Ecological Reserves (FER) has been seeking pre-spill baseline monitoring for the marine ecosystems along the tanker route as a permit condition for KM-TMX. The need for pre-spill baseline information was informed by the Exxon Valdez spill and the post spill monitoring programs and regret over the lack of pre-spill data. The Board of FER has proposed to the NEB a pre-spill fund (Endowment) supported by KM-TMX with a Trustee Council to guide longer term monitoring. This industry-government-stakeholder Trustee Council would provide oversight to ensure there is sufficient baseline data consistently collected over the life of the KM-TMX project. Such a structure appears to be consistent with the NRCan mandate, Cabinet Directive and enhancing transparency and consistency for monitoring information and afford public accountability.

The structure and outline of the Endowment and multi-agency oversight Trustees is included in the Board of FER Final Evidence report and the flowchart for reporting is included here. ([https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1\\_-\\_Friends\\_of\\_Ecological\\_Reserves\\_Evidence\\_KM\\_TMX\\_for\\_NEB\\_Report-\\_A4Q2T7.pdf?nodeid=2786371&vernum=-2](https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1_-_Friends_of_Ecological_Reserves_Evidence_KM_TMX_for_NEB_Report-_A4Q2T7.pdf?nodeid=2786371&vernum=-2) ).



**Information request 2 for Natural Resources Canada.**

2.1 What baseline environmental monitoring and inventory does NRCan currently conduct in the marine ecosystems of Pacific Coast along the tanker route that would inform pre-spill environmental conditions?

2.2 If NRCan does collect marine monitoring information, what type of data is the data collected and where and how can it be accessed by Canadians? For NRCan maintained marine

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	<p>monitoring data, please provide links to data custodians, protocols and standards and the data warehouse where data can be accessed.</p> <p>2.3 Does NRCan support a multi-agency-stakeholder approach to governance of major projects as a means to meet Cabinet Directives for monitoring and transparency along the lines proposed by Board of Friends of Ecological Reserves to the NEB?</p>				
3	<p><b>Preamble:</b> Information request for Environment Canada (EC) Environment Canada (EC) in an information request to KM-TMX sought from KM-TMX all records of past consultation activities with Environment Canada (i.e. meeting minutes). Here is that request. Environment Canada 2.023 Page 58. SPECIES AT RISK, MIGRATORY BIRDS AND WETLANDS</p> <p><b>Environment Canada Request:</b> <i>EC requests that the Proponent file all records of past consultation activities with Environment Canada (i.e. meeting minutes).</i></p> <p><b>KM TMX Response:</b> <i>Please find attached seven sets of meeting notes; six attachments related to the list requested in this IR and one attachment providing the meeting minutes for a conference call between Trans Mountain Pipeline ULC (Trans Mountain) and Environment Canada on December 16, 2014 about Trans Mountain providing support to Environment Canada's collection of baseline data on marine birds.</i></p> <ul style="list-style-type: none"> <li>• GoC EC IR No. 2.023 - Attachment 1 (EC TMEP Meeting Notes April 17 2013)</li> <li>• GoC EC IR No. 2.023 - Attachment 2 (EC TMEP Meeting Notes May 24 2013)</li> <li>• GoC EC IR No. 2.023 - Attachment 3 (EC TMEP Meeting Notes July 3 2014)</li> <li>• GoC EC IR No. 2.023 - Attachment 4 (EC TMEP Meeting Notes Oct 10 2014)</li> <li>• GoC EC IR No. 2.023 - Attachment 5 (EC TMEP Meeting Notes Oct 22 2013)</li> <li>• GoC EC IR No. 2.023 - Attachment 6 (EC TMEP Meeting Notes Oct 23 2014)</li> <li>• GoC EC IR No. 2.023 - Attachment 7 (EC TMEP Meeting Notes Dec 16 2014)</li> </ul> <p>These attachments could not be found on the KM-TMX web site. Board of FER believes these meeting notes are important to the process and should be available to all intervenors.</p> <p>IR 3. Please provide to the Board of FER, minutes of meetings between Environment Canada and KM-TMX. Ideally these should be made available on the NEB web site for other intervenors.</p>				
4	<p><b>Preamble:</b> Information request for Environment Canada (EC) The above meetings (IR-3) focused on terrestrial wetland systems and species at risk and not on species listed in marine environments listed by COSEWIC or under the SARA. We do note there was considerable dialogue between EC and KM-TMX on other terrestrial species too. The Board of FER listed all species at risk for marine Ecological Reserves but we are unclear about the EC activities on these species and their recovery plans. For an ER-specific listed species, see the Board of FER final written evidence filing <a href="https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1 - Friends of Ecological Reserves Evidence KM TMX for NEB Report-_A4Q2T7.pdf?nodeid=2786371&amp;vernum=-2">https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1 - Friends of Ecological Reserves Evidence KM TMX for NEB Report-_A4Q2T7.pdf?nodeid=2786371&amp;vernum=-2</a></p> <p><b>A request to Environment Canada</b></p> <p>4.1 What baseline environmental monitoring and inventory does EC currently conduct in the marine ecosystems of Pacific Coast along the tanker route that would inform pre-spill environmental condition?</p> <p>4.2 If EC does collect marine monitoring information, what type of data is collected and where and how can it be accessed by Canadians? For EC-maintained monitoring data please provide links to data custodians, protocols and standards and where data can be accessed.</p> <p>4.3 Does EC have responsibility for COSEWIC and SARA listed species and recovery plans being implemented in the marine environments along the tanker route and for species that may be impacted by an oil spill?</p> <p>4.4 We request summaries of meetings between EC-Canada and KM-TMX on marine species recovery plans for SARA and any decisions on monitoring, practices and research that have been made by either party or/and KM-TMX of EC that resulted from such meeting?</p>				
5	<p><b>Preamble.</b> Information Request for Environment Canada (EC)</p>				

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	<p>Page 230 GOC IR 1 request states from EC to KM-TMX. Emphasis added by Board of FER.</p> <p><i>While Environment Canada recognizes that some of the details of this plan may be determined post-environmental assessment, a detailed outline of the plan, including the main points highlighted below, should be provided as part of this environmental assessment review. The <b>stated objectives for the baseline monitoring</b> plan should describe and quantify the spatial and temporal abundance and distribution patterns (i.e. for four seasons) of marine and near-shore birds (including seabirds, waterbirds, waterfowl, and shorebirds, where relevant) within the project area, including Burrard Inlet and the Juan de Fuca Strait.</i></p> <p><i>Specifically, the activities and programs associated with the baseline to be collected as part of the monitoring plan should:</i></p> <p><i>Specifically, the activities and programs associated with the baseline to be collected as part of the monitoring plan should:</i></p> <p><i>a) Focus on marine bird community use of marine and nearshore (subtidal/intertidal) habitats throughout the project area and identify how those habitat types would be impacted should a spill occur.</i></p> <p><i>b) Ensure that key, sensitive habitats are sampled at such effort to allow an assessment of their use by marine birds. Specifically sampling efforts should include:</i></p> <p><i>i) Aerial and boat-based surveys;</i></p> <p><i>ii) Surveys conducted three years pre-expansion activities, three years post-expansion activities (throughout the annual cycle and consecutive), as well as ongoing monitoring after this period at a reduced intensity; and</i></p> <p><i>iii) Surveys conducted at such a frequency that information on distribution, abundance and habitat use of marine and near-shore species will be obtained during the breeding, wintering, and spring and fall migration seasons. In this respect, Environment Canada recommends a minimum of monthly surveys or a survey frequency that result in a coefficient of variation of ca. 20% for priority species or assemblages (Smith, 1995).</i></p> <p>Board of FER is pleased that EC has identify a longer term KM TMX obligation (permit condition) for increased monitoring.</p> <p><b>A request to Environment Canada</b></p> <p>5.1 Please supply the wording and commitments made by KM-TMX of other assurances EC will supply EC requested 3 years of pre-expansion monitoring.</p> <p>5.2. Are assurances consistent with the request that EC specified for a monitoring program?</p> <p>5.3. EC has recognized the need for KM-TMX to conduct pre-spill monitoring. Would EC support a sampling program that goes beyond the 6 year-program it has proposed be conducted by KM TMX? Would EC in the 7<sup>th</sup> year be continuing the program begun by KM-TMX?</p> <p>5.4 Does EC support a multi-agency-stakeholder approach for marine monitoring and transparency funded by an Endowment as outlined in IR 2 and as proposed to NEB as a condition?</p> <p>5.2. Would EC Canada agree to provide management direction toward managing funds and inputs to setting priorities for projects funded through a Marine Endowment Fund for Research and Long-term Monitoring?</p>				
6	<p><b>Preamble:</b> EC stated in its IR 1to KM-TMX the following:</p> <p><i>Use the most appropriate scale/resolution to inform effects and guide studies, in both confined marine and near shore areas;</i></p> <p><i>e) Include data sharing agreements that allow Environment Canada (and other departments and organizations, as deemed appropriate) to access the data collected to further build on:</i></p> <p><i>i) value-added predictive modeling activities already underway;</i></p> <p><i>ii) existing emergency response databases;</i></p> <p><i>iii) Area Response Planning (ARP) initiatives and products for the Southern BC ARP, as part of a set of federal measures designed to achieve a World Class Marine Tanker Safety System in Canada; and</i></p> <p><i>iv) Species at Risk recovery planning, where applicable.</i></p> <p>Further EC stated on data management:</p> <p>The Board of FER strongly supports the EC request for KM-TMX on data sharing and transparency. The Board of FER in our final written evidence report, does not support industry-only lead modeling as the basis for planning for marine oil spills, quantifying environmental impacts as there is a vested interest in understanding impacts and industry will not self impose on changes to any practices should these increase costs. The Board of FER therefore has proposed that a multi-stakeholder group including industry (such as the Western Marine Resources Corporation) will be needed for a more objective and transparent approach to pre-spill planning and monitoring. The Board of FER recommends that a financial obligation be placed on KM-TMX, as this project brings the highest known risk to the marine ecosystems. The Board of FER requests an Endowment provide funds for modeling, research and monitoring with a multi-stakeholder group of Trustees to set strategic direction. This is proposed so that KM-TMX is not the sole determiner of what is done for setting priorities or selecting modeling approaches for the marine environment over the life of the project. See IR 2 for disclosure on the Board Proposal to NEB. The structure and outline of the Endowment and multi-agency</p>				

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	<p>oversight Trustees is included in the Board of FER Final Evidence report and the flowchart for reporting is included here. (<a href="https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1 - Friends of Ecological Reserves Evidence KM TMX for NEB Report- A4Q2T7.pdf?nodeid=2786371&amp;vernum=-2">https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1 - Friends of Ecological Reserves Evidence KM TMX for NEB Report- A4Q2T7.pdf?nodeid=2786371&amp;vernum=-2</a>).</p> <p>6.1 Does EC support a modeling and monitoring forum guided by a multi-stakeholder Trustee Council such as that proposed by Board of FER?</p> <p>6.2 Would EC Canada provide expertise to participate as a Trustee over the governance and guide strategic directions for monitoring and modeling in the marine environment in the event that NEB establishes conditions for Endowment Funds as proposed by the Board of FER?</p>				
7	<p><b>Preamble:</b> IR for EC.</p> <p>In a response to EC during the IR-1 round and specific to monitoring, KM-TMX stated they had provided \$50,000 to the Pacific Salmon Foundation and \$27,000 to Bird Studies Canada for work in Burrard Inlet. Board of FER has interpreted this to show that KM-TMX identifies its obligations ending at the Westridge Terminal and before dilbit is loaded on tankers, hence the restrictions on monitoring to only sites adjacent to the Westridge Terminal. The Board of FER interprets the NEB mandate to mean that KM-TMX has long-term (life of the project) marine obligations. This is due to the issues listed by the NEB which are:</p> <ul style="list-style-type: none"> <li>➤ <i>Issue 4: cumulative environmental effects that are likely to result from the project;</i></li> <li>➤ <i>Issue 5: potential environmental and socio-economic effects of marine shipping activities including the potential effects of accidents or malfunctions that may occur;</i></li> <li>➤ <i>Issue 11: contingency planning for spills, accidents or malfunctions during operation of the project.</i></li> </ul> <p>The funds provided by KM-TMX are restricted by KM-TMX to projects strictly in Burrard Inlet within sight of the Westridge Terminal. Clearly direction for involvement in the marine ecosystem obligation go beyond the marine environment within sight of the Westridge Terminal. Further, on their response to G of C Page 232, KM-TMX states to EC that “<i>In addition to these initial commitments (\$77,500 ), Trans Mountain will continue to identify, select and evaluate potential environmental stewardship initiatives that align with priority areas of their Environmental Stewardship Program</i>”.</p> <p>This shows that KM-TMX sees environmental stewardship obligations as voluntary and discretionary where KM-TMX will pick what it wants to support in terms of Environmental Stewardship Programs and to what level they will provide funds. The Board of FER does not support the voluntary and discretionary approach by KM-TMX in light of Issues 4, 5 and 11. We maintain that KM-TMX has no discretion with longer term involvement along the tanker route and that only through a permit condition and inclusions of oversight by a multi-stakeholder Trustee Council and specified annual budget over the long term will these issues be adequately dealt with. See the Board of FER final written evidence filing for more detail on <a href="https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1 - Friends of Ecological Reserves Evidence KM TMX for NEB Report- A4Q2T7.pdf?nodeid=2786371&amp;vernum=-2">https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450919/2786560/C33-6-1 - Friends of Ecological Reserves Evidence KM TMX for NEB Report- A4Q2T7.pdf?nodeid=2786371&amp;vernum=-2</a></p> <p><b>A request to Environment Canada</b></p> <p>IR 7 - Does EC support the need for long term monitoring of marine ecosystems and species along the oil tanker route and a long term role for KM-TMX to provide the resources and guidance to consistently deal with Issues 4, 5 and 11? Does EC believe that there will be new information on which to make incremental improvements in practices, training and infrastructure that will occur over the next 30 years with regard to environmental understanding and option to mitigate environmental risk?</p>				
8	<p><b>Preamble:</b> IR 8 through 26 are for DFO</p> <p>In the Recovery strategy for the northern and southern resident killer whales (<i>Orcinus orca</i>) in Canada <a href="http://www.sararegistry.gc.ca/default.asp?lang=En&amp;n=A9748209-1&amp;offset=3&amp;toc=show">http://www.sararegistry.gc.ca/default.asp?lang=En&amp;n=A9748209-1&amp;offset=3&amp;toc=show</a> The following two quotes are made:</p> <p><b>2.2.3 Disturbance</b></p> <p><i>Shipping: Commercial shipping has increased dramatically in recent years. For example, between 1995 and 1999 the worldwide commercial shipping fleet increased 12% (NRC 2003). There are few studies that have measured changes in the background underwater noise levels over time, but those that do suggest that increased vessel traffic is responsible for the increase in ambient noise over the last 100 years (e.g. Andrew et al. 2002). In the northern hemisphere, shipping noise is the dominant source of ambient noise between 10 to 200 Hz (NRC 2003). While shipping energy is concentrated at low frequencies, ships produce significant amounts of high frequency noise as well. The consequences of these chronic sources of noise on killer whales have not been assessed.</i></p>				

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	<p><b>2.2.4 Oil spills</b></p> <p><i>While the probability of either northern or southern resident killer whales being exposed to an oil spill is low, the impact of such an event is potentially catastrophic. Both populations are at risk of an oil spill because of the large volume of tanker traffic that travels in and out of Puget Sound and the Strait of Georgia (Baird 2001, Grant and Ross 2002) and the proposed expansion of tanker traffic in the north and central coast of BC. In 2003, 746 tankers and barges transported over 55 billion litres of oil and fuel through the Puget Sound (WDOE 2004). If the moratorium on oil and gas exploration and development is lifted in British Columbia, the extraction and transport of oil may put northern resident killer whales at additional risk.</i></p> <p><i>Killer whales do not appear to avoid oil, as evidenced by the 1989 Exxon Valdez oil spill in Prince William Sound, Alaska. Less than a week after the spill, resident whales from one pod were observed surfacing directly in the slick (Matkin et al. 1999). Seven whales from the pod were missing at this time, and within a year, 13 of them were dead. This rate of mortality was unprecedented, and there was strong spatial and temporal correlation between the spill and the deaths (Dahlheim and Matkin 1994, Matkin et al. 1999). The whales probably died from the inhalation of petroleum vapours (Matkin et al. 1999). Exposure to hydrocarbons can be through inhalation or ingestion, and has been reported to cause behavioural changes, inflammation of mucous membranes, lung congestion, pneumonia, liver disorders, and neurological damage (Geraci and St. Aubin 1982).</i></p> <p>In the Fisheries and Oceans Canada report of the Science Response –Pacific Region 2015/007 of January 2015 titled: <b>SUFFICIENCY REVIEW OF THE INFORMATION ON EFFECTS OF UNDERWATER NOISE AND THE POTENTIAL FOR SHIP STRIKES FROM MARINE SHIPPING ON MARINE MAMMALS IN THE FACILITIES APPLICATION FOR THE TRANS MOUNTAIN EXPANSION PROJECT</b></p> <p>A number of criticisms of the Environmental Assessment done by the Project Application were clearly outlined:</p> <ul style="list-style-type: none"> <li>• <i>There are deficiencies in both the assessment of potential effects resulting from ships strikes and exposure to underwater noise in the Trans Mountain Expansion Project Application documents.</i></li> <li>• <i>There is insufficient information and analysis provided with which to assess ship strike risk in the Marine RSA from either existing or Project-related traffic. Ship strike is a threat of conservation concern, particularly for baleen whales such as Fin Whales, Humpback Whales and other baleen whales (Gregr et al. 2006). If shipping intensity increases as projected in Section 4.4 in the Marine RSA and the Strait of Georgia and Juan de Fuca Strait as a whole, the significance of this threat to cetacean populations that occupy the region will increase.</i></li> <li>• <i>The underwater noise environment in the Marine RSA is not adequately modelled in the Project Application; only Project-related ship noise is modeled, and not the additive and cumulative effects of existing ship source noise.</i></li> <li>• <i>The JASCO MONM model, as it has been applied by the Proponent, is not adequate to assess the overall impact of noise from increased Project-related traffic. Although state-of-the-art acoustic modelling has been used to model the noise propagation associated with a single Project-related tanker in the Marine RSA, only four locations were chosen to represent the Marine RSA; therefore, the assessment does not adequately represent the noise exposure for the entire time a marine mammal would be in the RSA. The assessment represents only Project-related tanker traffic and not the current noise environment or the potential increase due to Project-related traffic.</i></li> </ul> <p>In the written evidence of DFO:</p> <p><b>15-05-27 Fisheries and Oceans Canada and the Canadian Coast Guard - Written Evidence (A70242)—May 27 <a href="https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450436/2785182/C97-2-2 - Attachment_1">https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450436/2785182/C97-2-2 - Attachment_1</a></b></p> <p>on page 2: “ <i>Although the Proponent does not own or operate the vessels calling at the Westridge Marine Terminal, it does anticipate effects as a result of underwater noise from Project-related vessel traffic on the endangered Southern Resident Killer Whale. To address this concern, the Proponent has proposed actions as part of its Marine Mammal Protection Program to support recovery of this species, which includes participation in the Enhancing Cetacean Habitat and Observation (ECHO) Program led by Port Metro Vancouver and in the Green Marine Environmental Program. DFO is supportive of these multi-stakeholder partnerships and initiatives, which are necessary for ensuring recovery of this and other aquatic species at risk.</i>”</p> <p>IR 8: Have the concerns addressed by the “Sufficiency review “ been adequately addressed by TMX?</p>				
9	Has the limiting of vessel speeds throughout the whole of the RSA been proposed or even considered and if so what would be the speed limit placed on all tankers in the Strait of Juan de Fuca and throughout the RSA?				
10	How does DFO anticipate that it would enforce noise reduction regulations throughout the marine RSA??				
11	In the Recovery Strategy there is a statement “ <i>The consequences of these chronic sources of noise on killer whales have not been assessed.</i> ” Has it now been assessed and what are the				

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**Board of Friends of Ecological Reserves (FER)**

IR #	IR wording <sup>1</sup>	Responding intervenor's response to IR <sup>2</sup>	Motion author's explanation for claiming IR response to be inadequate <sup>3</sup>	Responding intervenor's response to motion <sup>4</sup>	Motion author's reply <sup>5</sup>
	implications for regulations that will come into effect for all vessels in the areas frequented by these whales?				
12	What is the current level of funding provided by DFO for enforcement of the terms of the Recovery Strategy?				
13	What additional expenditures by the taxpayer would be involved in enforcing regulations pertaining to this Recovery Strategy?				
14	Will any requirements for control of vessel speed be classified as a "guideline" or will they be subject to legal regulation?				
15	Another concern of the Sufficiency Report was the collision with large cetaceans. Concern for this has not been mentioned in the written evidence of DFO. Please explain why and what measures are being proposed to address this problem?				
16	In the written evidence provided by the Board of FER, updated information on population numbers of elephant seals and Cetacean whale sightings in the area of the Race Rocks Ecological reserve has been provided. <a href="#">C33-6</a> Since up-to-date information such as this was not included in the Consultants reports (Stantec) of TMX, has the DFO made any attempt to correct previous estimates of Cetacean residence in the Marine RSA?				
17	Given that the proposed outbound traffic lanes are very close to Race Rocks Ecological Reserve, and given that the largest colonies in the marine RSA of 4 species of marine mammals are present year-round in this Reserve, and since two species annually use this Ecological reserve as birthing colonies, and since DFO is responsible for the welfare of all marine mammals, what if any regulations has the DFO provided that ensure that this resource is protected from catastrophic and chronic oil spills?				
18	<a href="https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450436/2526178/C97-1-2_-_DFO_Resident_Killer_Whale_Action_Plan_-_A4C9X2.pdf?nodeid=2526375&amp;vernum=-2">https://docs.neb-one.gc.ca/ll-eng/llisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2449925/2450436/2526178/C97-1-2_-_DFO_Resident_Killer_Whale_Action_Plan_-_A4C9X2.pdf?nodeid=2526375&amp;vernum=-2</a> <b>High priority was assigned to a number of Actions such as .</b>  <i>1. Undertake an annual census to monitor and assess Resident Killer Whale population dynamics (multi-species ship surveys and dedicated vessel surveys). Has this data been made available to the NEB and TMX? And if not when will it be made available?</i>				
19	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as .</b>  <i>2. Identify year round Resident Killer Whale distribution and diet using acoustic monitoring and dedicated vessel surveys.</i>  IR Has this data been made available to the NEB and TMX? And if not when will it be made available?				
20	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as .</b>  <i>4. Examine the CANFIS/catch per unit effort (CPUE) records to assist in identifying areas of prey aggregation in order to anticipate Resident Killer Whale foraging grounds.</i>  IR-Please provide the results of this annual census for 2014 so that TMX has the most up-to-date information?				
21	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as.</b>  <i>35 -Work with other government departments, non-governmental organizations, and industry to promote best practices, mitigation protocols and outreach efforts for the protection of Resident Killer Whales and their habitat from pollution (e.g., spill response protocols)</i>  IR-Please provide a list of what best practices, mitigation protocols and outreach efforts for the protection of Killer whales have been identified and agreed upon by those departments and agencies since the release of this report in 2013.				
22	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as.</b>  <i>46 Utilize Automatic Identification System (AIS) data in conjunction with hydrophone networks to identify vessel tracks and types and correlate sound signatures.</i>				

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	IR-Please provide your findings so far on this High priority Action.				
23	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as.</b> <i>48. Determine acoustic profiles of vessel type and speed to noise output, and utilize sound propagation models to yield source patterns. .</i> IR-Please provide your findings so far on this High priority Action.				
24	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as.</b> <i>54. Develop an acoustic model that incorporates effects of increasing ambient noise levels on communication signals of Killer Whales</i> IRPlease provide your findings so far on this High priority Action?				
25	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as.</b> <i>72. Continue efforts outlined in Broad Strategy 3 to ensure disturbance from human activities does not prevent access of Resident Killer Whales to their critical habitat.</i> IR- Please provide a summary of your efforts so far on this High priority Action.				
26	In the 2013 issued Draft Action Plan: <b>High priority was assigned to a number of Actions such as.</b> <i>26. Identify and monitor contaminants of concern, and conduct a risk-based assessment of different chemicals of concern in Killer Whales, their prey, and their habitat .</i> IR-If this has been done, please provide information gleaned through this exercise on the chemical components of Dilbit, and indicate how Killer whales fare in the Risk-based Assessment? If it has not been done yet, does DFO anticipate that this information will be available prior to any government approval of the TMX project.?				
27	In the March 2015 paper prepared for DFO : <a href="http://www.dfo-mpo.gc.ca/csas-sccs/publications/resdocs-docrech/2015/2015_007-eng.html">http://www.dfo-mpo.gc.ca/csas-sccs/publications/resdocs-docrech/2015/2015_007-eng.html</a> . <b>A literature review on the aquatic toxicology of petroleum oil: An overview of oil properties and effects to aquatic biota</b> Alain Dupuis <sup>1</sup> and Francisco Ucan-Marin <sup>2</sup> Fisheries and Oceans Canada Ecosystems and Oceans Science Sector National Contaminants Advisory Group 501 University Crescent Winnipeg, Manitoba R3T 2N6 A number of serious concerns related to the toxicity of dilbit in the marine environment were raised how does DFO plans to respond to these concerns .Since DFO scientists have identified concerns of about <b>toxicology</b> what measures will DFO seek through the NEB process for KM TMX project application?				