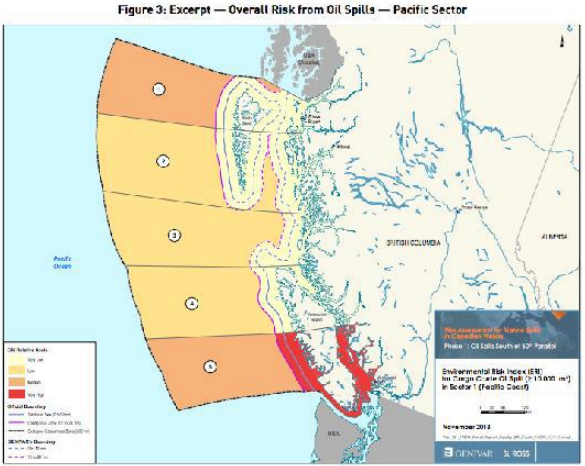
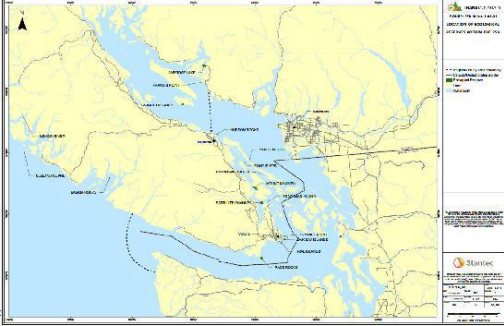
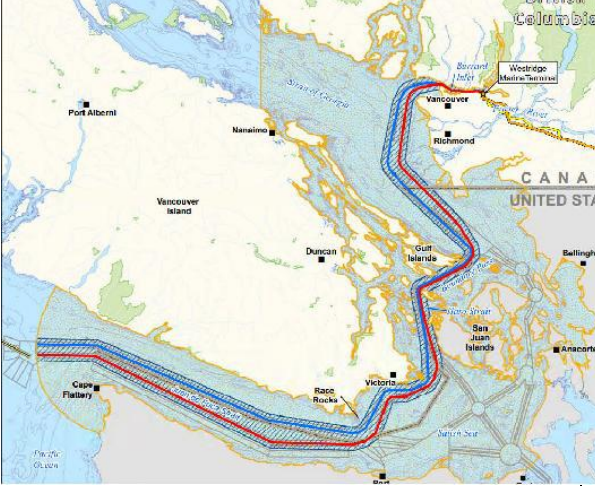




IR No.	IR Wording	Trans Mountain's response to IR	Intervenor's explanation for claiming IR response to be inadequate	Trans Mountain's response to motion
1.	Can KM identify, describe and make reference to all 17 marine ERs listed in Table 1 (currently only four ERs are referred and described in the report the report by Stantec [Reference B19 14_V8B_TR_8B7_01_OF_24_ERA_MAR_SP ILL_-_A3S4K7])	Please refer to the response to FER IR No. 1.01.01 – Attachment 1 that includes a figure showing the location of each of the referenced Ecological Reserves. This figure is included below	This is not an adequate response. We requested KM provide a description as well as a location. Below in IR2 it is stated that ER information is publically available through DataBC. This site has GIS information needed to make a map. Our question was to find out whether KM understood the resources being placed at risk by their project and specifically species and ecosystems within ERs. We expected KM to demonstrate they understand both where and what is in Ecological Reserves. This was a simple request as ER-specific information can be found at BC Parks http://www.env.gov.bc.ca/bcparks/eco_reserve/ as well as the website maintained by Friends of Ecological Reserves http://ecoreserves.bc.ca/ yet neither of these sources were referenced nor in any written information provided by KM to demonstrate understanding of ERs. We are anticipating an oil spill and expect identification of values as a KM responsibility. We included 17 ERs based on review of the oil spill simulations KM provided as well as	The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.

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	<p>⁴¹</p> <table border="1" data-bbox="279 305 857 1174"> <thead> <tr> <th>Ecological Reserve Name (with marine component)</th> <th>Upland Area (ha) to foreshore</th> <th>Foreshore Area tidal sub tidal (ha)</th> <th>Marine Regional Study Area</th> </tr> </thead> <tbody> <tr><td>1. Baerja Rocks</td><td>2</td><td>138</td><td>Outside</td></tr> <tr><td>2. Ballingall Islets</td><td>0.5</td><td>0</td><td></td></tr> <tr><td>3. Ambrose Lake</td><td>228</td><td>0</td><td>Outside</td></tr> <tr><td>4. Brackman Island *</td><td>5</td><td>25</td><td></td></tr> <tr><td>5. Canoe Islets</td><td>0.6</td><td>0</td><td></td></tr> <tr><td>6. Cleland Island</td><td>7.7</td><td>0</td><td>Outside</td></tr> <tr><td>7. Hudson Rocks</td><td>2</td><td>48</td><td></td></tr> <tr><td>8. Francis Point</td><td>9</td><td>8</td><td>Outside</td></tr> <tr><td>9. Lasquiti</td><td>201</td><td>0</td><td>Outside</td></tr> <tr><td>10. Megijn River</td><td>50</td><td>0</td><td>Outside</td></tr> <tr><td>11. Mount Maxwell</td><td>418</td><td>0</td><td></td></tr> <tr><td>12. Oak Bay Islets</td><td>11</td><td>121</td><td></td></tr> <tr><td>13. Race Rocks</td><td>2</td><td>225</td><td></td></tr> <tr><td>14. Rose Islets</td><td>1</td><td>0</td><td></td></tr> <tr><td>15. Satellite Channel</td><td>0</td><td>340</td><td></td></tr> <tr><td>16. Ten Mile Point</td><td>1</td><td>14</td><td></td></tr> <tr><td>17. Trial Islands</td><td>23</td><td>0</td><td></td></tr> </tbody> </table> <p>*Was an ER with some baseline information pre-dating transfer to Gulf Island National Pa</p>	Ecological Reserve Name (with marine component)	Upland Area (ha) to foreshore	Foreshore Area tidal sub tidal (ha)	Marine Regional Study Area	1. Baerja Rocks	2	138	Outside	2. Ballingall Islets	0.5	0		3. Ambrose Lake	228	0	Outside	4. Brackman Island *	5	25		5. Canoe Islets	0.6	0		6. Cleland Island	7.7	0	Outside	7. Hudson Rocks	2	48		8. Francis Point	9	8	Outside	9. Lasquiti	201	0	Outside	10. Megijn River	50	0	Outside	11. Mount Maxwell	418	0		12. Oak Bay Islets	11	121		13. Race Rocks	2	225		14. Rose Islets	1	0		15. Satellite Channel	0	340		16. Ten Mile Point	1	14		17. Trial Islands	23	0			<p>the risk of an oil spill identified in the report recently finalized by the Tanker Safety Panel. Reference:</p> <p>WSP. 2014. Risk Assessment for Marine Spills in Canadian Water: Phase 1, Oil Spills South of the 60th Parallel. Report from WSP Canada Inc. to Transport Canada. 172p. And appendices. This report can be accessed at: http://wcel.org/sites/default/files/file-downloads/131-17593-00_ERA_Oil-Spill-South_150116_pp1-124.pdf.</p> <p>Information from this report specific to the Strait of Juan de Fuca can be found at http://wp.me/p4y4il-56b.</p> <p>The additional risk over current tanker traffic that this project brings is linked to the anticipated 4 fold or 400% increase in tanker traffic past Ecological Reserves.</p>	
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2	Can KM demonstrate that it knows the location of all 17 ERs by amending their project maps to include all potentially impacted ERs? Tanker	GIS data sources used to identify the biological resources and protected habitats within the Regional Study Area (RSA) are presented in Table 4.4 of Technical	<p>This is not an adequate response.</p> <p>Table 4.4 does represent biological data sources but this is only half the information</p>	The requested information has been provided and Trans Mountain's response is full and adequate. The response																																																																								

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	<p>Safety Panel Map of High Spill Risk</p>  <p>www.tc.gc.ca/eng/tankersafetyexpertpanel/men u.htm</p>	<p>Report 8B-7 of Volume 8B Ecological Risk Assessment of Marine Transportation Spills Technical Report (Stantec Consulting Ltd. December 2013). The data identifying Ecological Reserves is publically available, and was provided by DataBC (2011); the website for DataBC access is provided in the attachment to this request. A figure showing the location of each of the Ecological Reserves listed in Table 1 (DataBC 2011) is provided in the response to FER IR No. 1.01.01 (FER IR No. 1.01.01- Attachment 1).</p> <p>Reference: DataBC. 2011. BC Parks, Ecological Reserves, and Protected Areas. Website: http://www.data.gov.bc.ca/dbc/catalogue/detail.page?config=dbc&P110=recorduid:173844&recorduid=173844&title=BC Parks . Accessed May 2014</p>	<p>needed to define the Regional Study Area Boundary. The other half is based on risk to marine resources. The KM Marine consultant did identify risk from this project in Table 3.2 in their report but limited this to “vessel wake and underwater noise and omitted oil spills”. MARINE CONSULTANT V8B_TR_8B1_MAR_RESOURCE_-_A3S4J5.pdf .</p> <p>The Regional Study Area (RSA) is inadequate to address oil spill impacts, as it is too small. Compare the RSA chosen by KM against that high oil spill risk zone identified by the Tanker Safety Panel cite above. As noted, the oil spill simulations also expand beyond the RSA boundaries.</p>	<p>provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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			 <p data-bbox="1473 800 2037 870"> www.tc.gc.ca/eng/tankersafetyexpertpanel/menu.htm </p> <p data-bbox="1473 906 2053 1377"> More work is needed to address the resources at risk from the anticipated 400% increase in tanker traffic linked to this project and the much larger area that is affected. Though there is a new map including all ERs in the high risk zone, these ERs remain outside the KM Regional Study Area. We support and hope the NEB will compel an expansion of a Regional Study Area to include all shore zones identified in the oil spill simulations and at high risk from oil spill identified by the Tanker Safety Panel. </p>	

IR No.	IR Wording	Trans Mountain’s response to IR	Intervenor’s explanation for claiming IR response to be inadequate	Trans Mountain’s response to motion
3	<p>Will KM identify the 14 shore zone habitats as indicators and revise its indicator assessments to include descriptions of specific habitat classes such as mud flat, estuary, sand beach etc.? If KM does not agree with more specificity for habitat indicators, can KM provide the rationale for use of a single shore zone as being sufficient for impact assessment?</p>	<p>The 14 shore zone types found within the Marine regional study area (RSA) are described in Section 4.3.1 of Volume 8B, Biophysical Technical Report 8B1, Marine Resources –Marine Transportation Technical Report (Stantec Consulting Ltd. December 2013) and Section 4.2.6.5.1 of Volume 8A.</p> <p>Potential effects of increased Project-related vessel traffic are assessed for all 14 shore zone types under the intertidal habitat marine fish and fish habitat indicator (see Section 4.3.6.6.1 of Volume 8A)</p>	<p>This is not an adequate response.</p> <p>There is a serious flaw in logic identified in IR 2 response which is the absence of any clarification of differences in habitat classes due to oil spill impact on shore zone habitat. The analysis of shore zones as summarized at the habitat class level is exactly as stated in the IR response. The impact assessment and report then focuses on wave heights from increased tanker traffic and marine noise as the key issues identified through the public consultation sessions. We find this a convenient under playing of concerns about oil spills, and not an accurate reflection of the KM public session that we attended.</p> <p>Table 4.5 shows the 14 habitat types and relative % in the RSA. However, the summary focused on wave height where all types respond the same, as tanker waves are “<i>expected to have a negligible effect on marine fish and fish habitat</i>”. The question of interest is what is the impact of an oil spill and in terms of habitat types, clean up and recovery and what is the recovery time? We did find data on oil penetration into various substrates. We believe KM needs to be compelled to address oil in various habitats and the importance of habitat to</p>	<p>The requested information is for new additional information that was not the subject of the initial IR or the request is for a follow-up question. Trans Mountain has already provided a full and adequate answer to the round 1 IR. The Intervenor is seeking information that was not requested in the original IR. As stated in the Hearing Order, the second round of IRs may be used for asking questions to clarify or supplement the answers received in the first round of IRs, and to question additional evidence that Trans Mountain may file. Accordingly, the Intervenor will have the opportunity in the second round of IRs to request new additional information and answers to any follow-up questions pertaining to responses provided in the first round of IRs.</p>

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			<p>species at risk.</p> <p>Friends of Ecological Reserves did attend the KM public information sessions in Victoria and oil spills were the major focus for the public attending, as concern over readiness needed to deal with an oil spill. There was no confidence in safeguards so there was strong opposition to taking on risk along waterfronts of Vancouver Island.</p>	
4	Why treat all salmon the same?	We were studying wave height and when salmon use near shore habitat waves affect them all in the same way.	<p>This is not an adequate response.</p> <p>This answer sidesteps oil spill impacts on five species of salmon all of which would be affected differently depending on the size of an oil spill, the season and location. KM has not demonstrated it knows the oil spill impacts. It is reasonable to address salmon species individually and seasonally. The term Environmental Impact Assessment implies that this is in scope. This is confirmed by the recent NEB comments.</p>	<p>Trans Mountain submits that the entire response to IR 4 is relevant in considering whether the response is adequate and has inserted it below for ease of review:</p> <p>Request:</p> <p>Will KM identify each of the five salmon species Pink, Chum, Sockeye, Coho, and Chinook as an indicator rather than the single generic indicator "salmon" now identified? Can KM provide a scientific rationale as to why grouping of all into a generic salmon species indicator is</p>

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				<p>suitable?</p> <p>Response:</p> <p>Baseline information on the five species of Pacific salmon is provided in Section 4.3.3 of Volume 8C, Biophysical Technical Report 8B1, Marine Resources – Marine Transportation Technical Report (Stantec Consulting Ltd. December 2013) and Section 4.2.6.5.3 of Volume 8A. All five species are known to use shoreline habitats throughout the Marine regional study area (RSA) and all were considered in the assessment of potential effects of wake waves produced by Project-related vessels. A species-specific assessment of this potential effect was not considered necessary because juvenile salmon migrating along shoreline habitats would be affected in a similar manner (e.g., stranding due to wave run-up), regardless of species. Also, there is no species-</p>

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				<p>specific information on the effects of vessel wake on Pacific salmon in the marine environment. Studies that have investigated juvenile salmon strandings have focused on the lower reaches of large river systems, suggesting that this effect is a greater concern in the sheltered environments of rivers than it is in the marine environment. Given the small size of wake waves generated by Project-related vessels and the dominance of rocky habitats along the shipping route, the assessment concluded that effects of vessel wake on juvenile salmon will be of negligible magnitude (see Section 4.3.6.6.3 of Volume 8A).</p>
5	<p>FER requests KM supply information to support exclusion of marine bird colonies listed in Table 3 and why shorebirds are not suitable for long term monitoring? Will KM include all sea bird colonies in the High Risk Oil zone shown in Figure 3 as indicator species for long term monitoring and impact assessment?</p>	<p>The assessment of environmental effects of the increase in Project-related marine vessel traffic on marine birds focused on behavioural alteration or sensory disturbance, and risk of injury or mortality (Section 4.3.8 of Volume 8A). The selection of marine bird indicators took into consideration the input of regulators,</p>	<p>This is not an adequate response.</p> <p>We did not ask about the effect of tanker noise on marine bird populations although that is an important consideration. The fact that the Stantec report focused only on behavioural alteration or sensory disturbance, and risk of injury or mortality</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required</p>

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	<p>Table 3. Marine Bird Breeding colonies with the MRSA.</p> <ol style="list-style-type: none"> 1. Pigeon Guillemot Colonies 2. Pelagic Cormorant Colonies 3. Glaucous-winged Gull Colonies 4. Black Oystercatcher Breeding Areas 5. Double -crested Cormorant Colonies 6. Cassin's Auklet Colonies 7. Brandt's Cormorant Colonies 8. Rhinoceros Auklet Colonies 9. Tufted Puff in Colonies 10. Fork-tailed and Leach 's 11. Storm -petrels Colonies 	<p>Aboriginal communities, and other stakeholders, as well as the professional judgment of the assessment team. It concentrated on species regularly occurring in the Marine Birds local study area (LSA) and Marine regional study area (RSA), and potentially susceptible to effects from Project related shipping. Many of the species present in the Marine Birds LSA and Marine RSA share ecological or behavioural tendencies that result in them being similarly vulnerable to potential Project-related effects. Therefore, while not all species occurring in the Marine Birds LSA and Marine RSA have been directly assessed, they are represented by the five indicator species that were selected. Shorebirds are unlikely to be affected by routine Project operations as they are restricted to coastal habitat, which is within 2 km of the shoreline for less than 5% of the shipping route. The influence of the Project on such species would be limited to wake effect, which is well within the range of natural wave conditions and is therefore not expected to result in adverse effects to marine birds. Trans Mountain does not commit to monitoring all seabird colonies listed in Table 3 (see the Preamble). However, Trans Mountain recognizes the</p>	<p>from noise, lights etc., shows the inadequacy of the report. We are pointing out this inadequacy because of our close connection with the sensitive areas and yes we do expect Kinder Morgan to take on the responsibility of protection of these areas into the future, otherwise what is the reason for setting aside these areas and affording them the highest level of protection in our provincial parks system. That designation does nothing to protect them from the effects of human decisions which lead to greater risk because of increased tanker traffic. TMX-delivered oil spilled at sea in the Strait of Georgia or Strait of Juan de Fuca will certainly make it to shore. The oil spill simulation maps produced by TMX clearly show the risk to shorelines, so it is ignoring the fact in the answer and insisting that shorebirds will not be affected. This is very misleading. We would like the NEB to direct TMX to do proper assessments which include the effect of oil spills coming ashore, and the effect on shorebirds.</p> <p>Population estimates of species and locations of colonies and critical habitats are essential elements in planning oil spill mitigation and preparedness. We will not accept the assumption that KM seems to favor that an oil spill won't happen. We</p>	<p>and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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		<p>importance of monitoring marine birds in relation to routine Project operations as well as accidents and malfunctions. Given the existing volume of vessel traffic within the Marine RSA, and the fact that vessels associated with the Project will represent only a portion of total traffic, Trans Mountain is supportive of a collaborative approach to long-term monitoring for marine birds. As committed in EC P-IR No. 1.19 (provided in GoC EC IR No. 1.001), Trans Mountain will endeavour to meet with Environment Canada to discuss the potential for development of a long-term monitoring program as a partnership with others.</p>	<p>accept the Federal Assessment for oil spills in Canadian waters which indicates very high risk for ecosystems on the southern half of Vancouver Island in comparison to the rest of the coast.</p> <p>We do expected to see maps showing the colonies listed in Table 3 for all areas that can be effected by oil. We also expect to see a formal structure with KM present, to contribute to and work with residents to maintain monitoring of these colonies over the life this project. We believe that KM needs to begin to see this as a business expense and long term obligation which is due to the enormous environmental risk. They need to accept they have a greater responsibility than the absence of any commitment.</p> <p>The migrating or resident nesters in the Strait of Juan de Fuca in the last 25 years is well represented by the species list recording with images of the 80 avian species on the Race Rocks species list: (http://wp.me/P1ZUU6-ST)</p> <p>Class Aves: Birds Order Anseriformes: geese and ducks: Branta canadensis (Canada Goose): Branta hutchinsii (Cackling Goose):</p>	

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			<p>Branta bernicla (Black Brant Goose): Anser albifrons (Greater white-fronted Goose): Chen caerulescens (Lesser Snow goose) Histrionicus histrionicus (Harlequin duck): Mergus merganser (Common merganser): Anas platyrhynchos (Mallard): Anas carolinensis (Green-winged Teal): Bucephala albeola (Bufflehead) Order Charadriiformes: gulls: Larus glaucescens (Glaucous-winged gull): Larus hyperbolicus (Glaucous gull): Larus occidentalis (Western gull): Larus canis (Mew gull): Larus philadelphia (Bonapartes gull): Larus hybrid? (Hybrid Gull): Larus heermanni (Heermann's Gull): Larus californicus (California Gull): Larus thayeri (Thayer's gull): Haematopus bachmani (Black oystercatcher): Cepphus columba (Pigeon Guillemot): Cepphus grylle (Black Guillemot): Hydroprogne caspia (Caspian Tern): Actitis macularius (Spotted Sandpiper): Arenaria melanocephala (Black turnstone): Arenaria interpres (Ruddy turnstone): Tringa melanoleuca (Greater Yellowlegs): Aphriza virgata (Surfbird): Uria aalge (Common Murre): Cerorhinca monocerata (Rhinoceros</p>	

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			<p>Auklet): Numenius phaeopus (Whimbrel): Limnodromus griseus (Short-billed Dowitcher): Charadrius vociferus (Kildeer): Pluvialis squatarola (Black-bellied Plover): Pluvialis dominica (American Golden Plover): Phalaropus lobatus (Red-necked Phalarope): Phalaropus fulicarius(Red Phalarope): Calidris alpina (Dunlin): Calidris alba (Sanderling): Calidris canutus (Red Knot): Calidris ptilocnemis (Rock sandpiper): Calidris minutillam (Least sandpiper): Calidris mauri (Western sandpiper): Tringa incana (Wandering Tattler): Order Ciconiformes: herons,vultures: Ardea herodia(Great Blue Heron): Cathartes aura (Turkey Vulture): Order Falconiformes: falcons: Falco peregrinus (Peregrine falcon): Pandion haliaetus Osprey): Order Acciptriformes: hawks and eagles: Buteo jamaicensis (Red-tailed Hawk): Haliaeetus leucocephalus (Bald eagle): Order Strigiformes: owls: Bubo virginianus (Great Horned Owl): website link Bubo scandiacus (Snowy Owl):</p>	

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			<p>Strix varia (Barred Owl):</p> <p>Order Passeriformes: songbirds:</p> <p>Corvus caurinus (North Western Crow):</p> <p>Corvus corax (Common Raven):</p> <p>Hirundo rustica (Barn Swallow):</p> <p>Melospiza melodia (Song Sparrow):</p> <p>Calcarius lapponicus (Lapland Longspur):</p> <p>Passer domesticus (House Sparrow):</p> <p>Zonotricha atricapilla (Golden-crowned sparrow):</p> <p>Junco hyemalis (Oregon Junco):</p> <p>Troglodytes pacificus (Pacific wren):</p> <p>Plectrophenax nivalis (Snow Bunting):</p> <p>Eremophila alpestris (Horned lark):</p> <p>Passerculus sandwichensis (Savannah sparrow):</p> <p>Passerella iliaca (Fox Sparrow):</p> <p>Turdus migratorius (American Robin):</p> <p>Molothrus ater (Brown-headed cowbird):</p> <p>Dendroica coronata (Audubon's yellow-rumped warbler):</p> <p>Regulus satrapa (Golden-crowned kinglet):</p> <p>Sturnus vulgaris (European Starling):</p> <p>Order Columbiformes: doves:</p> <p>Columba livia (Rock Dove):</p> <p>Order Pelecaniformes: cormorants, pelicans:</p> <p>Phalacrocorax penicillatus (Brandt's Cormorant):</p> <p>Phalacrocorax pelagicus (Pelagic Cormorant):</p>	

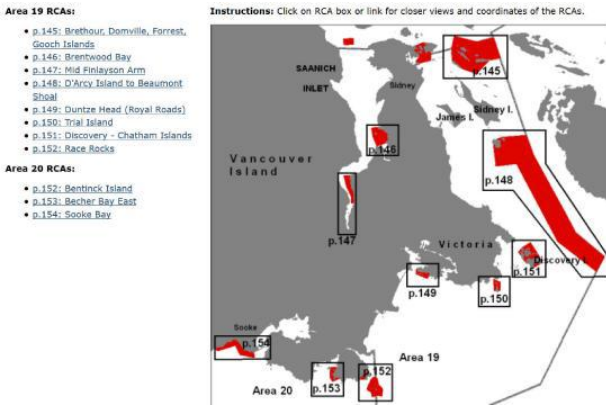
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			<p>Phalacrocorax auritas (Double Crested Cormorant): Pelecanus occidentalis (Brown pelican): Order Podicipediformes: grebes: Aechmophorus occidentalis (Western Grebe): Order Procellariiformes: albatrosses, shearwaters: Phoebastria mutabilis (Laysan Albatross): Puffinus greseus (Sooty Shearwater):</p> <p>We will not accept the assumption that KM seems to favor that an oil spill won't happen and that detailed information is not considered necessary. We accept the Federal Assessment for double the risk of oil spills in Canadian waters.</p> <p>"The Fork-tailed Storm-Petrel (<i>Oceanodroma furcata</i>) is not well monitored by any survey in Canada; there are insufficient data to determine any change in population status relative to 1970. Christmas Bird Count (CBC) data suggest a large increase in the population. However, because the CBC covers a small portion of the species' wintering range and very few birds occur within Canada's Pacificcoast waters during the winter, CBC trend data are not considered sufficiently reliable for</p>	

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			<p>this species.”</p> <p>http://www.ec.gc.ca/soc-sbc/tendance-trend-eng.aspx?sL=e&sY=2011&sB=FTSP&sM=p1&sT=c8e88c40-1251-42fa-aba9-da628f6889ea</p> <p>This begs the question why it was even shown as an indicator species.</p> <p>The response statement, “Given the existing volume of vessel traffic within the Marine RSA, and the fact that vessels associated with the Project will represent only a portion of total traffic” does not take into account that it is a five-fold increase, to 400 per year. The response indicates only a portion, but that portion is 80 % of the tanker traffic over current levels.</p> <p>The concern for chronic oil-spills that will happen as the result of any increase in vessel traffic is never addressed. Given that the KM proposal is one of many which will result in increased vessel traffic, the cumulative effects of chronic oil in the marine shoreline environment of shorebirds cannot be ignored. (See #26 below)</p>	
6	Will KM supply information that supports	The assessment of environmental effects	This is not an adequate response..	The requested information has

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	<p>exclusion of shorebirds as a guild and why shorebirds such as Black Oyster Catchers are not suitable for inclusion as an indicator? Will KM include Black Oyster Catchers as an indicator species for monitoring and reporting?</p>	<p>of the increase in Project-related marine vessel traffic on marine birds focused on behavioural alteration or sensory disturbance, and risk of injury or mortality (Section 4.3.8 of Volume 8A). The potential for effects on coastal species such as great blue heron (<i>Ardea herodias</i>) and black oystercatcher (<i>Haematopus bachmani</i>) was discussed in Section 4.3.8.4.1 of Volume 8A. A decision was made to not carry these species forward for assessment as indicators because they are limited to coastal habitat, which is within 2 km of the shipping lanes for less than 5% of the route. Effects to such species would be limited to wake effect, which is predicted to be well within the range of natural wave conditions.</p> <p>Please refer to the response to NEB IR No. 1.58b</p>	<p>Exclusion of oil spill impacts has been noted above. These are legitimate inclusion of an Environmental Impact Assessment.</p> <p>NEB must consider whether it will end the TMX process with no accurate assessment of impact of an oil spill on environmental values in Salish Sea. Without additional work, KM has not to date been explicit about oil spill impacts. It is within the mandate of NEB to require the proponent to disclose impacts to a robust set of environmental indicators. FER expects that the NEB too wants to end the process with transparent disclosure of the worst case scenarios and reasonable disclosure of mitigating strategies and what world class standards may look like.</p>	<p>been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>
7	<p>Will KM supply information to support exclusion of a resident fish species such as rockfish from the list of indicators? If there are no compelling reasons to omit rockfish, will KM include rockfish as an indicator of resident fish species?</p>	<p>Please refer to the response to NEB IR No. 1.58a which discusses marine fish indicator selection rationale and includes an assessment of potential effects of increased marine vessel traffic on inshore rockfish.</p>	<p>This is not an adequate response.</p> <p>Several Rockfish Conservation Areas which give what little protection is available to the recovery of these species are located along the route of tanker traffic. This answer focuses on changes in marine traffic, but not in terms of the impending threat from oil spills. This answer sidesteps our question and hinges on how KM chooses to interpret</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any</p>

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			<p>“increased marine traffic” to deal only with noise and wave height issues and not with the issue of increase in oil spill risk. Will the NEB please require special consideration for plans for protecting the species of Rockfish, especially those included in Marine Ecological Reserves, as a prerequisite to conducting this project.</p>	<p>purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>
8	<p>Will KM provide population estimates by season for the 5 marine bird indicators identified by KM (Table 2) and the 11 bird species with colonies shown in Table 3? Will KM provide a population baseline and historic range of variability for each of the 16 bird species indicators in Table 2 and 3 as shown in Table 4?</p>	<p>Available data for marine birds have been summarized and presented in Technical Report 8B-2 in Volume 8B, Marine Birds – Marine Transportation Technical Report (Stantec Consulting Ltd. December 2013). Population estimates are not available for the 5 marine bird indicators, but this detailed information is not considered necessary for assessing the potential effects of the Project on marine birds.</p> <p>The assessment of effects</p>	<p>This is not an adequate response.</p> <p>How can TMX say that population estimates are not available for the 5 marine bird indicators, and therefore it is not considered necessary for assessing the potential effects of the Project on marine birds. If that is the information they get from their consultants reports, then could the NEB direct them to find out more about these issues as how can any plans for cleanup of oil or where to direct the resources in the event of an oil spill, be legitimate without accurate and continual updating of information on populations of seabirds?</p>	<p>Trans Mountain submits that the entire response to IR 1.06.08 is relevant in considering whether the response is adequate and has inserted it below for ease of review:</p> <p>Available data for marine birds have been summarized and presented in Technical Report 8B-2 in Volume 8B, Marine Birds – Marine Transportation Technical Report (Stantec Consulting Ltd. December 2013). Population estimates are not available for the 5 marine bird indicators, but this detailed information is not considered necessary for assessing the potential effects of the Project</p>

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				<p>on marine birds. The assessment of effects provided in Sections 4.3.8, 5.6, and 5.7 of Volume 8A was not contingent on such knowledge, as it assumed species to be present and considered their ecology and behaviour in relation to potential Project effects and spill scenarios.</p> <p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>
9	We request KM provide population estimate information for the rockfish species within the Rockfish Conservation Areas within the	Population estimates for rockfish (Sebastes spp.) occurring within Rockfish Conservation Areas (RCAs) are not	<p>This is not an adequate response.</p> <p>The information sought is not available but</p>	The requested information has been provided and Trans Mountain's response is full and

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	<p>MRSA to establish baseline information consistent with population variability as shown in Table 5</p>  <p>Area 19 RCAs:</p> <ul style="list-style-type: none"> • p.145: Brethour, Domville, Forrest, Gooch Islands • p.146: Brentwood Bay • p.147: Mid Finlayson Arm • p.148: D'Arcy Island to Beaumont Shoal • p.149: Duntze Head (Royal Roads) • p.150: Trial Island • p.151: Discovery - Chatham Islands • p.152: Race Rocks <p>Area 20 RCAs:</p> <ul style="list-style-type: none"> • p.152: Bentinck Island • p.153: Secher Bay East • p.154: Spoke Bay <p>Instructions: Click on RCA box or link for closer views and coordinates of the RCAs.</p>	<p>available. However, this detailed information is not considered necessary for assessing potential effects of the Project on marine fish and fish habitat (refer to the response to NEB IR No. 1.58a. Please see Section 4.3.6 of Volume 8A for the assessment of potential effects of increased Project-related marine vessel traffic on marine fish and fish habitat. Potential effects of an accidental tanker spill on marine fish and fish habitat are assessed in Section 5.6 of Volume 8A. These analyses demonstrate that the potential effects of a credible worst case spill could be substantial, but that recovery would occur, and the probability of such a spill is very low. In the event of a spill, clean up and remediation efforts would seek to restore habitat to baseline conditions. Regulatory consultation (e.g., Fisheries and Oceans Canada), site-specific information collected during the environmental field program, and various publically available sources (e.g., case studies, government records, third-party information) would be utilized to characterize baseline conditions in the area of the spill.</p>	<p>needs to be collected in advance of this project.</p> <p>It is curious that Rock Fish Conservation areas and species recovery in these designated areas is not necessary for assessing potential impacts of a 400% increase in tanker traffic and a potential dilbit spill into a Rockfish conservation area. KM has chosen to respond using information on wave height and tanker noise to what is an oil spill question.</p> <p>The concern FER raises with regard to a dilbit spill is not addressed with any science evidence. The report asserts “that a worse case spill could be substantial but the recovery would occur, and probability of such a spill is very low”.</p> <p>It is unsatisfactory to wait until post oil spill to construct a hypothetical baseline of impacted resources. The belief that the probability of a spill is very low is contrary to the Tanker Safety Report” cited earlier.</p> <p>A world class standard for tanker traffic must include baseline information of the resources being placed at risk and this must be maintained in a systematic and organized manner during the life of this project as due</p>	<p>adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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			diligence requires that baseline resources are known prior to an oil spill.	
10 a)	We request that KM show on maps where forage fish, Pacific Sand Lance and Surf smelt spawning habitat is located within the MRSA.	As discussed in Section 3.2 of Volume 8B, Biophysical Technical Report 8B-1, Marine Resources – Marine Transportation Technical Report (Stantec Consulting Ltd. [Stantec] December 2013), Pacific herring (<i>Clupea pallasii</i>) were selected as the marine fish and fish habitat indicator representative of forage fish. Herring spawning locations in the Marine regional study area (RSA) are shown in Figure 4.3 of Technical Report 8B-1. While there are acknowledged differences in life history and habitat utilization for Pacific herring, Pacific sand lance (<i>Ammodytes hexapterus</i>) and surf smelt (<i>Hypomesus pretiosus</i>), the assessment of potential effects of an accidental tanker spill conservatively assumes that all marine habitats less than 10 metres depth have a high biological sensitivity ranking (BSF3; see Section 5.6.2 of Volume 8A). Therefore, the primary spawning habitats for these three forage fish species (intertidal to shallow subtidal) are appropriately considered in the assessment.	<p>This is not an adequate response.</p> <p>The representation of all forage fish by one species, Pacific herring (<i>Clupea pallasii</i>) is definitely inadequate. The spawning times, locations and behaviors of these fish vary immensely with the species. It is just not good enough to generalize. An oil spill with wind driven surge would highly impact the upper areas of sand and cobble beaches where the Pacific Smelt have spawned. Oil coming ashore at lower tidal levels would most certainly impact on sand lance spawning habitat. Pacific herring attach eggs to vegetation subtidally. So there are three distinct regimes of potential impact and therefore plans for mitigation have to address these three separately. We submit that the NEB require proper identification of spawning beaches both within Ecological reserves and outside of them and a thorough environmental impact assessment on forage fish representative of different habitats.</p>	The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.

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10	b) Will KM show how much of forage fish habitat could be impacted by a worst case and smaller spill impact?	Please refer to the response to FER IR No. 1.10.19. Additional analysis of the potential environmental effects of a hypothetical CWC and smaller crude oil spill at Arachne Reef can be found in the Detailed Quantitative Ecological Risk Assessment for Loading Accidents and Marine Spills Technical Report (refer to the response to NEB IR No. 1.62d – Attachment 1, released May 14, 2014) (Stantec Consulting Ltd. May 2014).	This is not an adequate response. The habitat of forage fish has already been severely compromised with development on this coast. Any incremental addition of impacts is serious to the functioning of marine food webs up to the highest trophic levels. There are groups who have done extensive research on this although recognition by DFO has been slow. Will the NEB direct KMC to consider the importance of forage fish and not accept the possibility of any impact on their habitat?	The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.
11	We request a map showing the marine mammal breeding areas and haul-outs and seasonal census for these sites within the high spill as shown in Figure 1, including the Elephant seal and harbour seal birthing colony at Race Rocks Ecological Reserve.	Race Rocks Ecological Reserve is 4.7 km from the outbound shipping lane, which is one of the smallest separations between the designated shipping lanes and shore within the Marine RSA. However, while the zone of sensory disturbance from underwater noise is predicted to extend 7.1 km (in both directions) from the shipping lane at this location, elephant seals and harbour seals breed and pup onshore, and therefore are not expected to be disturbed by underwater noise while breeding. Current	This is not an adequate response. Again the response has dealt with sensory disturbance. If the disturbance by noise is expected to extend 7.1 km from the shipping lane, where does KM think that the marine mammals of Race Rocks are feeding? Yes that 7.1 km covers much of their feeding areas. We also want to know where the buck stops when collisions and resultant oil spills occur, and who would be responsible for the impending death at Race Rocks alone, of 30 elephant seals if it happens in May; and 300 Northern Sea	The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest

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		<p>levels of vessel traffic along the shipping lanes in the Marine RSA do not appear to have affected pinniped use of haulouts or breeding sites. Important marine mammal areas, including Race Rocks Ecological Reserve, are described and mapped based on readily available information in Sections 4.3.4, 4.3.5 and 4.3.6 of Technical Report 8B-1, Volume 8B, Marine Resources Technical Report (Stantec Consulting Ltd. December 2013). A description of marine mammal habitat considered in the marine spill ecological risk assessment is provided in Section 4.7.6 of Technical Report 8B-7, Volume 8B, Ecological Risk Assessment of Marine Transportation Spills Technical Report (Stantec Consulting Ltd. December 2013). All publicly available information sources were used for the Application.</p>	<p>lions and 350 California sea lions if it happens in September to December? Harbour seals occupy the islands of Race Rocks for much of the year, with populations in the several hundreds. Pupping occurs in the spring to summer months. In research done on the mammals of the Exxon Valdez Spill the following was noted:</p> <p><i>“Seals did not avoid oil and continued to use oiled haulouts, including for birth and nursing of pups and summer moulting. There was an estimated 25% decrease in pups recruited in 1989 and evidence of oil ingestion while nursing. Noticeable eye damage was recorded among oiled seals. Oiled seals behaved lethargically, this was attributed to brain damage from inhalation of volatile fumes as they breath just above the water surface. This was suggested as being especially threatening with less weathered oil on the calm waters and on haulouts early in the spill. Tissue work revealed that oiled seals commonly had brain lesions. Although seals efficiently metabolize hydrocarbons and most tissue levels are low, high concentrations of aromatic compounds were found in bile over a year after EVOS.”</i></p>	<p>the information through evidence or final argument.</p>

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			<p>http://publications.gc.ca/collections/Collection/R61-2-8-11E.pdf</p> <p>The acceptance of any level of risk for harbor seal birthing areas in Ecological Reserves in the Strait of Georgia and the Strait of Juan de Fuca is unacceptable.</p> <p>Race Rocks is the only location for breeding Elephant seals in Canada. Does it not concern TMX that there is the least bit of a risk of wiping out this colony in its entirety? We made those kind of dumb errors in the early 20th century, do we have to wait another century to build up another first colony in Canada?</p> <p>Elephant seals feed at great depth and range many kilometres well within the shipping lanes. In the Biological Sensitivity Map https://docs.nebone.gc.ca/leng/lisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2451003/2393244/B19-30_-_V8B_TR_8B7_17_OF_24_ERA_MAR_S_PILL_-_A3S4Q3.pdf?nodeid=2393544&vernum=2</p> <p>Several of our Ecological Reserves have a "high" biological risk factor. Why has this information been ignored in the answer?</p>	

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			<p>The public expects KM to know just what high stakes it is playing with in respect to our marine mammal populations. Would the NEB please direct KM to do a proper environmental impact assessment on our marine mammal haulout and breeding colonies that is applicable in the event of both chronic and catastrophic oil spills?</p>	
12	<p>We request baseline information on each of the marine mammals shown in Table 6 and including baseline indicators shown in Table 7.</p> <ol style="list-style-type: none"> 1. Southern resident Killer Whale 2. Humpback whale 3. Stellar Sea Lion 4. Elephant Seal 5. Harbour Sea. 	<p>Baseline information on marine mammals is provided in Technical Report 8B-1, Volume 8B, Marine Resources – Marine Transportation Technical Report (Stantec Consulting Ltd. December 2013). For further details on the Pacific harbour seal, see Technical Report 5C-13, Volume 5B, Marine Resources -Westridge Marine Terminal Technical Report (Stantec Consulting Ltd. December 2013). Trans Mountain recognizes the importance of Race Rocks Ecological Reserve to a diversity of marine species, including marine mammals, and its use as a haul-out and birthing location for both Pacific harbour seals and, more recently, northern elephant seals. Many species of marine mammal are migratory and wide-ranging, and specific occurrence within the Marine Regional Study Area (RSA) at any given time fluctuates. As a result, historic high and low abundance estimates specific to</p>	<p>This is not an adequate response.</p> <p>The reason we are concerned about elephant seals comes from a recent EPA conference [http://www.epa.gov/osweroe1/docs/oil/edu/oilspill_book/chap4.pdf] which found; <i>“Animals, such as elephant seals, which depend on the marine environment for breeding and pupping, can lose their ability to stay warm in cold water when their skin comes into contact with oil.”</i> Unless the haulout and birthing location of Elephant seals and other pinnipeds are known, there is little chance of the intervention of these areas in the case of oil spills.</p> <p>In the Marine Resources Marine Transportation Technical report from the Trans Mountain Pipeline ULC Project the following observation is made.</p> <p><i>“Uncommon. Recent sightings of small</i></p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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		<p>this particular area are unknown for a number of species. The potential exception to this is the southern resident killer whale population, for which there is an annual census of uniquely-identifiable individuals, all of whom may occur within the Marine RSA at the same time. This population increased from 70 whales in 1973 to 96 whales by 1996, before declining again by 4.4 per cent between 1997 and 2006 (COSEWIC 2008). According to the Center for Whale Research, the current population size as of December 2013 is</p> <p>80 individuals. Population estimates for other marine mammals specific to the Marine RSA, the boundaries of which are Project- not population-based, are not available. However, this detailed information is not considered necessary for assessing potential effects of the Project on marine mammals (refer to the response to Raincoast IR No. 1.21b.) Please see Section 4.3.7 of Volume 8A for the assessment of potential effects of increased Project-related marine vessel traffic on marine mammals. Potential effects of an accidental tanker spill on marine mammals are assessed in Section 5.6 of Volume 8A.</p>	<p><i>numbers at Race Rocks and other locations in the Marine RSA. Foraging occurs offshore in northern waters – individuals may be seen hauled out within Marine RSA during migration. Winter breeding rookeries and moulting sites in Mexico and California”.</i></p> <p>This is totally outdated and misleading information. The facts of occurrence of the marine mammal species at Race Rocks have been well documented over the past 25 years on the Racerocks.ca website: Specifically information for Harbour Seal, Sea lion and Otter Observations at Race Rocks see http://wp.me/P1ZUU6-UZ</p> <p>For elephant seals see: http://wp.me/P1ZUU6-IM</p> <p>For whale species see: http://www.racerocks.ca/wp/whalesobserve-d-from-race-rocks/</p> <p>Although KM seems to have an overriding belief that they do not need inventories of the most vulnerable animals in the likely event of an oil spill, we believe that given the importance of the British Columbia Ecological Reserve system, this belief is untenable. Therefore we would request the</p>	

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		<p>These analyses demonstrate that the potential effects of a credible worst case spill could be substantial, but that recovery would occur, and the probability of such a spill is very low. In the event of a spill, clean up and remediation efforts would seek to restore habitat to baseline conditions. Regulatory consultation (e.g., Fisheries and Oceans Canada), site specific information collected during the environmental field program, and various publically available sources (e.g., case studies, government records, third-party information) would be utilized to characterize baseline conditions in the area of the spill. Reference Committee on the Status of Endangered Wildlife in Canada.</p> <p>2008. COSEWIC Assessment and Update Status Report on the Killer Whale Orcinus orca, Southern Resident population, Northern Resident population, West Coast Transient population, Offshore population, Northwest Atlantic/Eastern Arctic population, in Canada. Ottawa, ON. 73 pp</p>	<p>NEB to require a comprehensive assessment of these animals in the 17 mentioned Ecological Reserves.</p> <p>Further, given recent research on the masking effects of tanker traffic noise in the Georgia Strait and the Strait of Juan de Fuca on killer whale communications, we request that the NEB follows the recommendation of several reports and require the limiting of the speed of tankers in the MRSA to 10 knots.</p> <p><i>“Most importantly, limiting the speed of the ships to 10 kn created a 100% reduction in masking, reducing the maximum source level produced to 132.998 dB.</i></p> <p>https://circle.ubc.ca/bitstream/handle/2429/34597/Commercial Noise Impacts Critical Habitat Southern Resident Killer Whale ENVR 400 2011.pdf?sequence=1</p>	
13	That KM provide additional information on the percentage of middle term survival and recovery of oiled marine mammals and birds to help guide Environmental Non-Government	Survival and recovery of oiled birds following rescue efforts has been variable (e.g., Goldsworthy et al. 2000; Sharp 1996), but to have any chance of success,	<p>This is not an adequate response.</p> <p>Since the reference provided by KM is dated 2000, KM should be aware of</p>	The requested information has been provided and Trans Mountain's response is full and adequate. The response

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	<p>Organizations and the public on wildlife rescue efforts linked to oiled sea life</p>	<p>wildlife rehabilitation after a large oil spill requires immediate action by prepared, experienced personnel. Please refer to the response to Hackett A IR No. 1.4f for a discussion of wildlife rehabilitation procedures</p>	<p>information posted on Spiegel Online . In May of 2010, Silvia Gaus, a biologist at the Wattenmeer National Park along the North Sea in the German state of Schleswig-Holstein said <i>“efforts to clean oil-drenched birds in the Gulf of Mexico are in vain. For the birds’ sake, it would be faster and less painful if animal-rescue workers put them under”</i>. Studies and other experts back her up. She indicated that <i>“Despite the short-term success in cleaning the birds and releasing them back into the wild, few, if any, have a chance of surviving, according to serious studies, the middle-term survival rate of oil-soaked birds is under 1 percent, - -We, therefore, oppose cleaning birds.”</i></p> <p>At the time of the 2002 <i>Prestige</i> oil spill off the coast of Spain, a spokesman from World Wildlife Fund said: <i>“Birds, those that have been covered in oil and can still be caught, can no longer be helped. ... Therefore, the World Wildlife Fund is very reluctant to recommend cleaning.”</i> The <i>Prestige</i> spill off the coast of Spain killed 250,000 birds. Of the thousands that were cleaned, most died within a few days, and only 600 lived and were able to be released into the wild. According to a British study of the spill, the median lifespan of a bird that was cleaned and released was only seven days. Another</p>	<p>provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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			<p>reference states :</p> <p><i>“After the Exxon Valdez oil spill in 1989, around 1,600 sea birds were captured, de-oiled, and rehabilitated. Half of them were returned to the sea at a cost of nearly \$32,000 per bird. After assessing that effort, the Pacific Seabird Group of Stinson Beach, California, concluded that wildlife rehabilitation following oil spills is generally laborintensive, costly, and has a low probability of success.”</i></p> <p>http://www.spiegel.de/international/world/gulf-of-mexicospill-expert-recommends-killing-oil-soaked-birds-a-693359.html</p> <p>Will the NEB require that KM make realistic information on risks such as this, available to the public and not continue to perpetuate the myth that oil-soaked birds can be rehabilitated?</p>	
14	<p>What does KM plan for euthanizing and disposal of oiled marine animals? Removal of contaminated birds from Ecological Reserves may be needed. We are concerned that if they remain in the marine ecosystem they will continue to pass their toxicity through the food web. These contaminated animals will need to be removed and we are unsure of training and</p>	<p>The Responsible Party (RP) will work through the Incident Command System (ICS) to manage an oil spill; this includes procurement of wildlife rehabilitation organizations through the Logistics Section and demobilization of those resources through the Demobilization Unit. Within the ICS, wildlife</p>	<p>This is not an adequate response.</p> <p>We maintain that KM is a responsible party with regard to the transport vessel, as they have provided the facility and promoted the conditions for massive oil transport in the Salish Sea which logically increases the risk of chronic and catastrophic oil spills. They</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required</p>

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	resources for this. We are concerned with public safety around possible contact with toxically contaminated wildlife	rehabilitation efforts are organized under the Wildlife Branch Director; those activities are permitted and supervised by the resource trustee agencies. It is common practice worldwide to remove oiled wildlife mortalities from the environment.	<p>will also stand to profit from this enterprise.</p> <p>Will the NEB require Kinder Morgan to take more responsibility in the contingency plans, and financial resources for such events? We have no confidence with passing off, what we see as a KM responsibility, to ICS. We did look at some of the procedures in the ICS material at the KM open house and concluded this was more focused on process and covering liability than getting results. Without local involvement of concerned citizens this approach does not instill confidence.</p> <p>Does it mean, for instance, that KMC is prepared to fund for the life of the project, the increased costs of operations of the ICS in proportion to the added burden that this project places on such infrastructure and organization.?</p>	and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.
15	What are the plans for public education to avoid hazard to human health? We are concerned that information regarding chemical make-up of products transported at sea is not known to the public and that there will be insufficient time and resources on hand to address a worst case spill toxic spill	Information about the products that are shipped on Trans Mountain Pipeline is publicly available and can be found as per the response to City Burnaby IR No. 1.25.05b. Section 5.7 of Volume 8 discusses a hypothetical oil spill scenario in the marine environment. Included in this section is an analysis and summary of effects on marine shoreline habitats,	<p>This is not an adequate response.</p> <p>Have the documents provided on June 16 been made available? If so please provide a hyperlink.</p> <p>This scenario mentioned does not deal with those who live along the coast of the Strait of Georgia and Juan de Fuca Strait, let</p>	The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original

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		<p>marine birds, marine fish and marine mammals. Please refer to Section 8.8.2 of Volume 5B of the Application for a summary of the anticipated human health effects assessment resulting from spills at Burnaby or Westridge Terminals. A detailed Human Health Risk Assessment (HHRA) will be completed and submitted to the NEB on June 16, 2014 to corroborate these conclusions and inform mitigation and emergency response plans. Also refer to Section 6.3.2 of Volume 7 which highlights the HHRA completed for past incidents of oil spills.</p>	<p>alone in Victoria. A storm driven event could make most of the land adjacent to the seashore uninhabitable.</p>	<p>response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>
17	<p>What plans do you have to provide this information to emergency responders and the public?</p>	<p>Please refer to the response to FER IR No. 1.09.15. Information about the products shipped on the Trans Mountain pipeline is currently available. KMC undertakes training and public education of safety and emergency response program for on-shore pipelines and facilities as described in Sections 4.6 and 4.7 of Volume 7. Marine emergency response and related training for ship source spills is managed by Western Canada Marine Response Corporation (WCMRC)</p>	<p>This is not an adequate response.</p> <p>Seems similar rationales have been previously provided. An example, provided by the Deepwater Horizon Oil Spill: Coastal Wetland and Wildlife Impacts and Response, Corm and Coupland, 2010</p> <p>http://fas.org/sgp/crs/misc/R41311.pdf provides a sober follow-up to this disaster that only happened four years ago.</p> <p>The following paragraph gives us warning that if this could happen in the US given greater resources to deal with it, one shouldn't place more hope on any Canadian</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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			<p>response.</p> <p><i>“Among other issues is a seemingly simple question: who decides what to do? But the answer is complex. The organizational structure for deciding how to respond to oil spills is specified in the National Contingency Plan (NCP), which was created administratively and has been broadened by the Clean Water Act, the Superfund law, and the Oil Pollution Act. Under the NCP structure, the Coast Guard is the lead federal agency for overseeing response and cleanup. Oil has reached more than 10% of Gulf shoreline, but until oil from the well stopped flowing, very little cleanup of wetlands was occurring, because of both the ongoing risk of greater harm from cleanup and the potential for re-oiling. As cleanup proceeds, a number of questions arise. To cite only two, what factors will determine cleanup strategies, and how are needs to improve scientific understanding of the spill’s impacts being considered?”</i></p> <p>FER believes there needs to be a number of scenarios on how to respond and that these need to be in place and agreed to prior to an oil spill. We see protection of environmental resources as central to this. We believe you need to know what to</p>	

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			<p>protect in the event of what kind of spill and what kind of condition and season. Let's be prepared.</p> <p>Can the NEB and KMC provide the citizens of British Columbia any guarantee of a more hopeful outcome than this? Let's get prepared.</p>	
18	<p>What personnel and resources will be made available to remove these contaminated animals from Ecological Reserves?</p>	<p>Please refer to the response to FER IR No. 1.09.14</p>	<p>This is not an adequate response.</p> <p>We believe the answer provided means that there will be no KM resources made available and that the Ministry of Environment will need to deal contaminated oil birds and mammals this under the Wildlife Act. We do not support this cost if transferred to BC.</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>
19	<p>Probable mortality rates for indicator species linked to the oil spill simulations and measured against all baselines. Probable recovery rates for each indicator.</p>	<p>The stochastic approach to modeling the fate and transport of spilled oil, as well as ecological consequences of spilled oil, was adopted in consideration of evidence provided by Environment Canada (2011)</p>	<p>This is not an adequate response.</p> <p>Even if the probability is remote, it is not nil and so we have a reasonable expectation that what will be impacted must be</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all</p>

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		<p>during the Enbridge Northern Gateway Hearings process. Environment Canada recommended at that time that previous and ongoing spill modelling and risk assessment studies for similar project types be considered, naming the example of the Aleutian Islands Risk Assessment Project (AIRA 2010 in Environment Canada 2011). Trans Mountain's concluded that this approach provides a conservative and broadly-based ecosystems approach to evaluating the potential environmental effects of crude oil spills on marine habitat and associated biota, that is suitable for the purposes of the Application. As noted in Section 5.6 of Volume 8A, a structured risk assessment approach patterned on the AIRA process was adopted for the Application. Representatives of the ERA team met with regulators on April 16, 2013 to discuss the selection of ecological indicators to be considered in the ESA, and on May 25, 2013 to discuss specific ecological receptors and modelling methods to be considered in the marine ERA. In addition, Trans Mountain and its consultants conducted a number of engagement activities to inform Aboriginal communities, stakeholders, the public and regulatory authorities about the</p>	<p>clarified. There were numerous excellent spill scenarios that took into account currents and location of major and minor spills, however none of these are linked to habitat and species that would be impacted. It was stated that there would be significant impact but not to what. The numerous simulations show where oil would be after 15 days.</p> <p>To be prepared for an oil spill and make strategic decisions on priorities at the time of an oil spill, we need to know the environmental values in terms of habitat, species populations and a world class system would have response plans linked to spill scenarios. This rudimentary level of strategic thinking and preparation is absent. It is reasonable that in advance of project approval, KM needs to supply information to complete a realistic oil spill response plan. The spill simulations provided are a start but not the end of preparedness.</p> <p>The current strategy is to wait for a spill and make up a plan at that time. This is unacceptable. We are so totally unprepared for an oil spill event, that at a minimum, we need to do a realistic number of plans before an event to marshal an appropriate response. We believe this is a KM</p>	<p>necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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		<p>approach to assessing potential environmental and socioeconomic effects of the Project, and to seek input throughout the Project planning process. Section 3.0 of Volume 5B summarizes the consultation and engagement activities that have focused on identifying and assessing potential issues and concerns related to accidental spills from loading accidents which may be affected by the construction and operation of the Project. The ERA team participated in stakeholder engagement/ consultation workshops in May 2013 (Vancouver and Victoria), which were related to the marine aspects of the Environmental and Socio-economic Assessment (ESA). During these meetings the scope and proposed methodology of the marine ecological risk assessment studies was presented and discussed in various breakout sessions. Stochastic oil spill fate and transport modeling was subsequently completed following an approach patterned on the AIRA, so that probability contours for oiling of the water surface and shorelines could be superimposed onto biological resource layers. However, the AIRA did not attempt to overlay oil spill probability contours onto quantitative estimates of the abundance, distribution or mortality of</p>	<p>responsibility and the NEB is in a position to request meaningful strategic planning in advance of an oil spill.</p> <p>We ask that NEB have KM first clarify environmental resources at risk in the event of oil spills at various locations and seasons along the tanker route. Then it is possible to address the adequacy or resources at hand. This strategic planning is needed before an oil spill response. The current approach is to wait until after a spill occurs and then respond. This is not acceptable.</p> <p>What resources are in place to respond to a number of oil spill scenarios? Based on an oil spill where does a response team place priorities?</p>	

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		<p>individual species, and neither did the Technical Report 8B-7 of Volume 8B, Ecological Risk Assessment for Marine Transportation Spills Technical Report (Stantec Consulting Ltd. December 2013). The rationale supporting recovery time estimates can be found in Section 9 of Technical Report 8B-7 of Volume 8B.</p> <p>Reference: Environment Canada. 2011. Written Evidence Submission of Environment Canada to the Joint Review Panel, December 2011. NEB Hearing Order OH-4-2011 for the Northern Gateway Pipelines Inc. Enbridge Northern Gateway Project</p>		
20	Do you value the contributions of NGO monitoring such as FER Ecological Reserve wardens and their contribution to monitoring over the life of your project?	The information request is not relevant to one or more of the issues identified in the National Energy Board's List of Issues for the Trans Mountain Expansion Project.	<p>This is not an adequate response.</p> <p>We specifically placed this question before KM to find out if they believe information compiled by non-government groups such as FER, is of value and use to KM. We do collect science-based natural ecosystem information and that is relevant to NEB. KM continues to demonstrate it is totally unfamiliar with the wealth of science information linked to Ecological Reserves and quality work done by volunteers so we were of the opinion they find this science based information of no value.</p>	The requested information goes beyond what is relevant, given the scope of the defined Project and the Board's List of Issues. Requests should be limited to matters relevant to the application. Where an IR seeks information that extends beyond the scope of the Project, and the response from the Intervenor is limited to matters relevant to the application, Trans Mountain notes that the Board has previously held that the

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			<p>(See list of bird species confirmed at Race Rocks and provided in IR 5 discussion above.) KM has, by dismissing our question, confirmed that the science-based information available to them is of no use. In our review of KM application documents, we were not able to find any reference to the well-developed credible and easy to access data housed at www.racerocks.com.</p>	<p>proponent is not obligated to provide a response beyond what has been submitted.¹ Therefore, this information would not assist the Board with the determinations it must make in this proceeding.</p>
21	<p>Do you plan to maintain formal liaisons with Environment Non-government Organizations over the life of the project?</p>	<p>Yes. Please refer to the response to City of Port Moody IR No. 1.3.17</p> <p>For the ease of understanding this response follows Trans Mountain has a long standing record of contribution to ecological enhancements along the pipeline, but these efforts are not considered to be spill mitigation measures. Examples of Trans Mountain's commitment to preserving and protecting the environment with investment in local environmental initiatives is referenced in the Application, Volume 2A, Section 1.2.1.7 Environmental Stewardship, and Section 1.2.1.8 Award-winning Projects the Anchor Loop Expansion. Further to the examples cited in the Application,</p>	<p>This is not an adequate response.</p> <p>Our request is not whether KM can arbitrarily choose to support local initiatives for public relations purposes over the life of the project. Formal relations means a structured and transparent forum in which KM listens to concerns of Non-Government Organizations and agrees to be held to account on concerns raised by such groups, including making changes in practices and investments to show they are responsible corporate citizens willing to work with knowledgeable and concerned local citizens.</p> <p>We believe that KM needs to be compelled to enter into formal structured and</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

¹ Joint Review Panel, Application for the Enbridge Northern Gateway Project, Ruling No. 13.

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		<p>Trans Mountain has been regularly involved in initiatives aiming to enhance the fish and wildlife habitat within areas that the company operates. As part of a long standing program beginning in 1992 students from Westridge Elementary School have released thousands of young Chinook salmon into Burrard Inlet from our Westridge Marine Terminal as part of the federal Salmonid Enhancement Program, with the goal of increasing the number of salmon in Burrard Inlet. The DFO transports Coho and Chinook salmon from local hatcheries to the Trans Mountain Westridge Marine Terminal in Burnaby, where the fish are placed in a pen to become acclimatized to the salt water conditions of Burrard Inlet. The salmon smolts are fed by Trans Mountain employees for seven to ten days, before the fish are released.</p>	<p>facilitated liaisons with Non- Government Organization as a condition for project approval.</p>	
22	<p>Do you plan to support financially the on-going costs of marine ecological monitoring in ERs and other contiguous sensitive areas?</p>	<p>Trans Mountain is responsible for ensuring the safety of the terminal operations but does not own or operate the vessels calling at the Westridge Marine Terminal and therefore has no plans to fund on-going monitoring in marine ecological reserves along the existing shipping route.</p>	<p>This is not an adequate response..</p> <p>We question this response for two reasons.</p> <p>First. Though KM does not own tankers, its responsibility should not end at their terminal. This transfer of risk to tanker operators with no further involvement from KM or responsibility is not justifiable. As stated earlier KM brings a 400% increase in</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original</p>

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			<p>tanker traffic into a high oil spill risk zone. We do not support KM in its answer when it chooses to absolve itself entirely from marine traffic responsibilities. There is a great deal that KM can do with regard to contracts for oil transport from its terminal if it chooses to do so. KM does have a role and in light of the risk of their business venture, this involvement needs to be substantial, formal, transparent and binding with "contracted tankers". KM does have influence in who it hires and whether they perform to standards that can be set and audited by KM.</p> <p>Our second reason to question the rationale that KM proposes to not support marine monitoring is that KM appears to already be doing just that – monitoring marine systems. After the 2012 spill into Burrard Inlet a long term monitoring program was begun. See https://docs.nebone.gc.ca/leng/lisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2451003/2393783/B18-2 - V7 5.2.8.3 F5.2.5 TO 10.0 RISK ASSESS MGMT SPILLS - A3S4V6.pdf?nodeid=2393785&vernum=2</p>	<p>response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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			<p>Section 6.2.4 Page 7-85 which states</p> <p><i>“as a result of the third-party damage to the existing Trans Mountain pipeline, approximately 100m³ of heavy crude oil reached Burrard Inlet, of which approximately 5.6 m³ was not recovered. The spill affected 15 km of shoreline east of Second Narrows,”</i></p> <p>Not sure if this spill which is described as heavy crude behaves the same way in a marine environment as dilbit. KM summarizes what they learned with regard to mortality as a result of the oil release and remediation as follows,</p> <p><i>“this area experienced habitat loss and death or removal of marine plants (primarily Fucus) as well as a likely loss of intertidal fauna such as starfish, barnacles and limpets. An analysis of mussels collected throughout the eastern part of the inlet indicated that only in the Westridge Marine Terminal area was there an amount and distribution pattern (fingerprint) of PAHs that could be associated with the release.</i></p> <p><i>Subtidal organisms may also have been affected by the release, but these effects</i></p>	

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			<p><i>appear to have been limited and localized. Red rock crabs from the Westridge area showed elevated PAH levels and a similar pattern of PAH to the released oil. However, none of the Dungeness crabs sampled at Westridge or crabs of either species from Barnet Marine Park and Berry Point and elsewhere in the Inlet (Indian Arm and Port Moody Arm) showed evidence of having taken up oil from the release. There was no evidence for direct effects on fin-fish species, including resident and juvenile salmon. PAH were not detected in starry flounder collected from Westridge and Barnet Marine Park.</i></p> <p><i>PAH were not detected in starry flounder collected from Westridge and Barnet Marine Park. Following clean up, recovery endpoints were established and a long-term monitoring program was initiated. As of 2012, recovery endpoints for water quality, intertidal sediment, intertidal vegetation and crab tissue PAH concentrations were achieved. Monitoring of mussel tissue PAH concentrations continues in the Westridge area, as results are confounded by additional PAH sources in this area. Potential acute and chronic ecological effects of a hypothetical spill to Burrard Inlet during tanker loading at the Westridge</i></p>	

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			<p><i>Marine Terminal are discussed in Section 8.3.”</i></p> <p>We conclude that KM acknowledges the benefits of learning from oil spills and are willing to monitor to do this. This is exactly FER's point on marine shore zone and indicator monitoring. What does not make sense in the KM response is that they will wait until after a spill has occurred before beginning any marine monitoring. This means that this type of monitoring will be inconclusive with regard to impacts as they have already occurred. What FER is seeking is support from the NEB to compel KM to help organizations like FER establish pre-spill conditions. The current post-spill approach is not defensible with regard to learning anything about big or small spills into the marine environment. Since KM is proud of their monitoring strategy, it is of interest to the public that they supply what is being monitored in this new program and what their financial contributions are towards this and who the principal researchers are that are leading this initiative. We commend this initiative but know setting up monitoring after a spill has occurred, is inadequate as there is no baseline information. Apparently recovery targets are part of this new monitoring</p>	

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			<p>program. KM needs to share this information. We hope in the long term that NEB will compel KM to take responsibility for the risk they bring and enable a formal arrangement to allow organizations like FER to work with KM to establish world class environmental standards grounded in environmental baselines established before, not after a spill occurs. We believe that it is defensible scientifically and socially to be pro-active with regard to monitoring baselines rather than re-active on monitoring. We know that organizations like FER can and should play a major role once afforded the infrastructure to do so. This infrastructure and formal arrangements are in the public interest and can be facilitated by NEB. We look forward to the day when this will be the new business model.</p>	
23	<p>Can you provide an estimate for thorough ecological monitoring of ERs through a recovery period?</p>	<p>Trans Mountain assumes FER is referring to recovery period after an oil spill in a marine environment. Long-term remediation of spill impacts is linked to monitoring plans agreed upon within the spill Incident Command structure and between participating entities in the response, including government authorities, Aboriginal communities, and scientific advisors. Those situation-</p>	<p>This is an inadequate answer.</p> <p>This approach to an oil spill is reactive. It should not be acceptable to the NEB to allow an oil spill response to wait until after an oil spill incident. This wait and see may be expedient for KM but inadequate. Societally we do not approach fighting house fires in this manner, if we did we would wait for the fire to start and then</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any</p>

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		<p>specific plans are developed after emergency actions have been completed and take into account the actual post-emergency conditions, documented clean-up effectiveness, remaining areas affected, environmental and seasonal sensitivities, net environmental benefit analysis of remediation efforts, and numerous other considerations. As the emergency phase concludes, the net environmental benefit analysis could specify the need for remediation, followed by long-term monitoring. Each spill situation will be unique in this respect. Given the many variables and uncertainties surrounding any particular incident, there is no credible way of defining an expected monitoring time frame or cost at this time.</p>	<p>begin to plan to assemble resources to fight the fire. Why is it acceptable to begin to plan to address an oil spill after it happens? This is not reassuring to safeguarding public resources. It be will be cost effective to have a strategic plan in place to address a number of oil spill scenarios. KM does bear responsibility for formulating much of this oil response plans together with government agencies. KM appears to hold the belief that once their oil is on the tanker they are no longer involved.</p> <p>FER also knows that there is a need to identify resource values in order to deploy oil spill response to most effectively address values and mitigate impacts.</p> <p>The oil spill that occurred into Burrard Inlet in 2012 and mentioned in IR 22 does include long term monitoring but the approach is to establish the baseline after the spill has occurred. This reactive approach of making up the environmental baseline after the fact cannot be supported. Situation-specific plans are fundamental inputs needed to pre-determined where oil spill resources are needed and how to prioritize where to deploy resources. Any oil spill is really an adaptive management experiment form which we can learn if we</p>	<p>purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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			<p>are sufficiently prepared. We do not see any learning and any outcomes that will boost public knowledge coming from what is being proposed.</p>	
24	<p>Do you plan to support a forum to periodically receive public input and address public concerns and adapt your practices during the life of this project?</p>	<p>Trans Mountain Pipeline ULC (Trans Mountain) is committed to respectful, transparent and collaborative interactions with Aboriginal groups, landowners, and communities to build on relationships developed over the last six decades throughout the life of the Trans Mountain Pipeline system. These groups play an important role in how Trans Mountain conducts its business, developing business practices based on the trust, respect and cooperation of community members.</p> <p>As stated in Section 1.2.1.4 of Volume 2, Kinder Morgan is committed to continually improving pipeline and facility integrity to protect the safety of the public, the environment, and company employees. To honour this commitment, Trans Mountain regularly participates in communities by hosting facility open houses, providing newsletters and project updates, making safety and public awareness presentations and participating in community events. In 2012 when formal engagement began to kick off for</p>	<p>This is not an adequate response.</p> <p>This answer is worrisome as KM has stated it will not take responsibility for any portion of the marine transportation system beyond their terminal. As stated earlier this is not consistent with the risk they bring to marine ecosystems and communities along the marine section of their project. Trans Mountain cites trust, respect and cooperation but this does not extend to a role for themselves in tanker traffic.</p> <p>FER attended the Victoria KM sessions and indeed there was very high attendance related to a high concern over oil spills along the waterfront and the risk to the environment and natural ecosystems that afford islands an extremely high quality of life experience living adjacent to the Salish Sea. The KM response is however the opposite of building trust and respect by choosing to end their involvement at their facility.</p> <p>We are looking in the end to a structured</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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		<p>the Project, the public information sessions with the highest attendance were on Vancouver Island. Engagement on marine issues has been a great opportunity for Trans Mountain to become more involved in the shipping industry and appreciate the broad range of communities' interests along the marine shipping corridor. Opportunities to continue the dialogue on the Pacific coast and build on new relationships within BC's marine shipping sector will be pursued in partnership with the marine shipping industry. With respect to continued monitoring of marine transportation activities, please refer to the response to Cowichan Tribes IR No. 1.10a</p>	<p>forum which brings KM and organizations like FER to the same table to exchange concerns and solutions in a transparent manner. NEB does have the ability to impose such as forum in which to build trust and cooperation as KM indicates, but this formal structure is not currently in place. FER believes that NEB needs to create a formal forum to force KM to hear and respond to local concerns specific to the marine environment and beyond their terminal. We seek support from the NEB to compel KM into a formal forum and we have input and influence on the Terms of Reference needed to hold KM accountable and responsive to the local public concerns and a forum to allow NGOs like FER an avenue to shape management of environmental resources potentially impacted by KM. We expect KM to be accountable to local citizens as well as their share holders. We see forming a meaningful working relationship and making local investment as part of doing business for companies such as KM who are in a high risk business. We do not believe that Federal agencies like DFO and CWS alone should be solely responsible. We also hold expectations that the NEB sees the benefit of building a long term workable relationship at the local level and their role</p>	

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			to facilitate this outcome through permit conditions.	
25	Will you financially support a public advisory committee, on-going costs of marine ecological monitoring in ERs and other contiguous sensitive areas?	<p>Please refer to the responses to FER IR No. 1.11.24 and Cowichan Tribes IR No. 1.10a.</p> <p>This can be viewed at https://docs.neb-one.gc.ca/leng/lisapi.dll/fetch/2000/90464/90552/548311/956726/2392873/2451003/2481723/B121-1 - Trans Mountain Response to Cowichan Tribes IR No. 1 - A3Y2I8.pdf?nodeid=2482208&vernum=-2</p> <p>1.10a states.</p> <p>The quote related to Reference i) is from Trans Mountain Pipeline ULC's (Trans Mountain) submission to the Federal Tanker Safety Panel review in June 2013 and reads "We believe the concept of citizen input on the performance and adequacy of response capability is part of a world-class regime and that this function as embodied by the RAC [regional advisory committee] should be maintained or enhanced in any future regime. In addition to the role currently provided by the RAC, we believe that the centre of excellence concept proposed by Port</p>	<p>This is not an adequate response.</p> <p>We specifically requested that KM provide insight on financial support of public advisory body. While KM does appear to support to such a body to discuss and define "best management practices".</p> <p>We believe that the NEB needs to compel a more meaningful commitment from KM for financial support for and adherence to best management practices and an audit of performance regime.</p> <p>FER see two short comings of the KM response to a similar concern raised by the Cowichan Tribes response. First the broadly suggested terms of reference to enter into Best Management Practices forum are non-binding on KM without consequence if BMP are not followed. We found no obligation in a time frame to develop BMPs and no mention of non-compliance consequences. This level of soft commitment and weak engagement needs to be strengthened. Secondly, though we have not had time to review the PMV suggestion so we are uncertain that BMPs would</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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		<p>Metro Vancouver offers a means to enhance public and Aboriginal involvement on the West Coast. "Trans Mountain remains supportive of Port Metro Vancouver's (PMV) efforts to establish a not-for-profit collaborative body with the objective of being the leading source of information on best management practices for marine transportation of liquid bulk commodities on Canada's Pacific Coast. Trans Mountain understands the mandate of this organization would be to promote and facilitate research related to marine spill prevention, response and recovery, and to deliver the highest standards related to the safe and sustainable shipment of Canada's bulk liquid commodities. Trans Mountain further understands that his body would be multi-stakeholder and its Board would include representation from government, industry, Aboriginal communities, and nongovernmental organizations.</p> <p>Lastly, Trans Mountain understands that PMV is currently in the process of securing funding commitments to support the start-up and operation of this collaborative body. Trans Mountain will support PMV's efforts to establish this body and is not proposing to unilaterally</p>	<p>extend to the environment, baseline monitoring or they would extend outside of Port of Metro Vancouver shoreline. The scope may be adequate for PMV and a provide tankers and facility operators with checklists and training but as stated it is uncertain that it would address our concerns.</p> <p>It may be necessary to have an advisory group to address Environmental and Monitoring Issues if the PMV forum focuses solely on tanker, tug and facility workers. FER expects to be included in this emerging advisory group and that for any non-government group to join there will need to be binding wording on the part of KM to their level of commitment to contribute to the function of such a group and a binding obligation to follow direction agreed to by such a body.</p>	

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		<p>establish another multi -stakeholder forum that would serve the same purpose.</p>		
26	<p>What is the estimate of the chronic oil pollution associated with current shipping? What increase in chronic oil pollution will be added by tanker traffic from the KM project?</p> <p>What are your plans to mitigate your chronic oil impacts?</p>	<p>Accurately estimating current or future oil pollution resulting from chronic spills would require an extensive historical database of these spills and such data does not exist. Stringent legislation (Canadian Shipping Act Pollution Vessel Pollution and Dangerous Chemicals Regulations and MARPOL [International Convention for the Prevention of Pollution from Ships]) is in place to prevent chronic spills and it is the responsibility of Transport Canada to ensure compliance.</p> <p>Release of treated oily bilge water is allowed if hydrocarbon content is less than 15 mg/L and if the vessel is underway. Local operators such as Smit and Seaspn have confirmed that their tugs offload their bilge waters ashore, with nothing released to the marine environment. As a result, there are no further mitigations planned to address chronic oil effects.</p> <p>The release of contaminated bilge water (i.e., of greater than 15mg/L hydrocarbon) is an illegal activity under the Canada Shipping Act Vessel Pollution and Dangerous Chemicals Regulations and</p>	<p>This is not an adequate response.</p> <p>KM has indicated this will be left as solely a Federal responsibility. There are no plans to mitigate chronic oil impacts yet there are opportunities to do. We believe KM does have an obligation for chronic oil spill management. This could be managed as Seaspn does by providing in the design of the terminal, an on shore pump out station. Currently KM is content to take no action so that a 400% increase in chronic oil is permitted on the BC coast as a result of their activities. We are not confident that the Federal government will take on an increased enforcement workload on KM's behalf. We more confident in a good environmental outcome if there was a treatment approach over at sea disposal and adding more chronic oil. FER believes KM needs to be compelled to mitigate for chronic oil resulting from this project.</p>	<p>The requested information has been provided and Trans Mountain's response is full and adequate. The response provides the Board with all necessary information pertaining to this matter. There is no further response required and supplementing the original response will not serve any purpose. Trans Mountain notes that if the Intervenor disagrees with the information contained in the response, it may contest the information through evidence or final argument.</p>

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		<p>MARPOL (International Convention for the Prevention of Pollution from Ships). The frequency and extent of contaminated bilge water releases is likely to be very low, as such releases would entail illegal activity in a heavily used public area. Infrequent, small releases (less than 15mg/L hydrocarbon) will disperse quickly and will not result in long-term degradation of marine water quality. Serra-Sogas et al. (2008) investigated spatial and temporal trends in illegal oilspills in British Columbia waters and effectiveness of the aerial surveillance conducted by Transport Canada. The authors concluded that the occurrence of chronic oil spills had declined in British Columbia's marine Exclusive Economic Zone over the ten year study period. While an average of 0.42 spills per hour of oil spill aerial monitoring patrol was recorded before 1997, this figure had declined to 0.05 spills per hour of patrol by 2007. As noted by Serra-Sogas et al. (2008), a new oil spill surveillance aircraft was scheduled for operation in British Columbia in 2008. This aircraft (introduced in January 2008) allowed for greater spatial coverage of surveys, improved spill observation and the ability to operate in a wider range of weather</p>		

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		conditions. The decline in oil spill observations indicates that chronic oil spills are becoming increasingly rare in British Columbia waters and the improved monitoring will act as a deterrent to noncompliant vessel operators		