Northern Gateway Pipelines Limited Partnership ("Northern Gateway")
Section 52 of the *National Energy Board Act*
Application for Enbridge Northern Gateway Project
NEB File No.: OF-Fac-Oil-N304-2010-01 01

Northern Gateway Information Request No. 1
To: Raincoast Conservation Foundation

Composition		
1.1	**Reference:**	Written Evidence of Raincoast Conservation Foundation (A37896).
	Preamble:	Northern Gateway requires additional background information on the Raincoast Conservation Foundation
	Request:	(a) Please provide a description of the Raincoast Conservation Foundation. (b) Does the Raincoast Conservation Foundation prepare Annual Reports? If so, please provide the most recently published Annual report available. (c) If the Raincoast Conservation Foundation is a collection of like-minded individuals, please list its members. (d) Did the Raincoast Conservation Foundation apply for and receive participant funding in this proceeding? If so, how much was received?

Risk Report		
1.2	**Reference:**	*Evaluating external risk to protected areas; the proposed Northern Gateway oil pipeline in British Columbia*, by Chris T. Darimont et al (A2K3H2).
	Preamble:	The Reference acknowledges that the proposed pipeline route directly avoids all protected areas in BC (adobe page 5). The Reference concludes that "identifying areas where risk might be greatest, for example, provides managers the opportunity to plan how resources for spill responses might be distributed over space."
	Request:	(a) Please advise as to whether the term "managers" includes Northern Gateway, or simply park managers and policy makers. (b) The highest risk rankings assigned to a protected area include Monkman Park and Guillim Lake Park, which are 45.73 km and 205.43 km from the proposed pipeline, respectively. Please describe in detail how managers of these two parks, or others, should distribute spill response resources in light of these findings. (c) Please advise as to whether these two parks are downstream from the location of the Year 2000 rupture on the Pembina Plateau pipeline which entered the Pine River. (d) Please advise as to whether the Pembina rupture had any noticeable effect on either the Monkman Park or the Guillim Lake Park. If so, provide specific evidence of such effect. (e) Among the second-ranked parks listed is the Edge Hills Park, in the Fraser River watershed, which is 503.81 km from the proposed right of way. Given the mitigation measures proposed by Northern Gateway, please describe the specific steps that managers of the Edge Hills Park should take if the Project is approved. (f) Please describe the specific measures currently employed by managers of the Edge Hills Park to respond to potential spill events from pipelines, trains, or other liquids transporters within 500km upstream of the park. (g) Do these include measures to protect earthworms in the Edge Hills Park, as per the discussion of potential effects of spills at page 15 of the Report? (h) The Acknowledgements portion of the study thanks Patagonia, Wilburforce Foundation and Morisla Foundation and acknowledges support from NSERC USRA, and NSERC IRDF awards. Please explain who each of these organizations are, and where they are based.

1.3	**Reference:**	What's at Stake? The Cost of Oil on British Columbia's Priceless Coast (A2K3H9).
	Preamble:	
	Request:	(a) Please confirm that the "What's at Stake? study" was prepared for use as a public relations tool, to advocate against approval of the Northern Gateway. (b) Please confirm that nowhere in the report is there any mention of safety or environmental mitigation measures proposed by Northern Gateway. If not confirmed, provide specific examples of where such measures are described. (c) Please confirm that chronic oiling is most often associated with small recreational vessels. (d) Please provide specific evidence to support the insinuation, at adobe page 43 of the report, that chronic oiling off the coast of Newfoundland and Labrador is associated with oil tanker operations rather than commercial fishing and other small vessels. (e) Please confirm that there is no active exploration for oil and gas offshore of Vancouver Island.

1.4	**Reference:**	*What's at Stake? The Cost of Oil on British Columbia's Priceless Coast*, adobe page 44-46 (A2K3H9).
	Preamble:	At adobe page 44, ship strikes are discussed. More detail is required.
	Request:	(a) Please describe the typical speed of cruise ship vessels transiting the Inner and Outer Passage of British Columbia. (b) Please describe the measures taken by cruise ships and other commercial vessels to avoid marine mammal strikes. (c) Please provide statistics of the number of marine mammal strikes within the study area of the report, for the years 2009-2011. (d) Please provide specific evidence to support the contention that the EVOS event had measureable effects on bear and wolf populations, as insinuated at adobe pages 45 and 46 of the study. (e) Please comment on the opportunity for use of the data collected by the Raincoast Conservation Foundation in informing future environmental effects monitoring and operational spill response planning, should the Project be approved. (f) Please confirm that the "bottom line" of the study is that "the 35 year-old 'now-you-see-it-now-you-don't' moratorium" on oil tanker traffic must be legislated and codified into law. (g) Please provide the specific wording used in conducting the public opinion poll reference at page 36 of the report (i.e. the Synovate July 2008 poll commissioned by the Dogwood Initiative with funding assistance from Raincoast and other ENGO's). Please include any information provided to the interviewee prior to the survey questions being asked. (h) Please list the other ENGO's referred to in Endnote 100 of the report.

Marine Mammals – Underwater Noise		
1.5	**Reference:**	Written Evidence of Raincoast Conservation Foundation, Part 2: Marine Impacts – Marine Mammals Attachment E: *Submission of the Natural Resources Defense Council to the Enbridge Northern Gateway Project Joint Review Panel: Regarding Underwater Noise Impacts from Northern Gateway Tanker Traffic* Section I: Introduction to Underwater Noise, adobe page 2 (A2K3I0).
	Preamble:	The Reference states: "Impacts from shipping include habitat avoidance and abandonment..."
	Request:	Please provide references to scientific studies that have demonstrated that underwater noise *associated with shipping* has led to habitat abandonment.

Marine Birds		
1.6	**Reference:**	Written Evidence of Raincoast Conservation Foundation, Part 3: Marine Impacts – Marine Birds, paragraph 44, adobe pages 20-21 (A2K3I1).
	Preamble:	The Reference indicates that Raincoast Conservation Foundation conducted systematic surveys of marine birds from 2005 to 2008. The reference given for on-line supporting materials (www.raincoast.org) does not include a report, the survey design/methods, or other information with regard to baseline data collection, apart from observation maps. It appears that from the materials available online that the observations were incidental or designed to align with structured marine mammal surveys. It is important, in evaluating the information provided within the evidence submission, to have a good understanding of how marine bird data was collected, under what conditions and if there are any potential biases, especially when the data is used to build and present oil spill / risk assessment models.
	Request:	(a) Please provide a detailed summary of the methods used by Raincoast Conservation Foundation to conduct the systematic marine bird surveys, criteria for survey design, level of scientific rigor, methods used to analyze data to develop abundance and distribution, assumptions and limitations of the data, survey dates, weather conditions, and robustness of resulting reported baseline. (b) Please indicate whether Key Indicator species have been considered to assess environmental effects or risk to marine birds and, if so, what are those species and why?

Marine Fish and Fish Habitat - Salmon		
1.7	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraph 20, adobe pages 13-14 (A2K3I3).
	Preamble:	The Reference suggests that nomadic coho salmon would be a more suitable indicator species than chum salmon for assessing potential effects of the Northern Gateway Project on Pacific salmon. The following information on nomadic coho is provided: "Nomadic coho fry rely on the stream estuary ecotone for more than a year. As fry, nomadic coho acclimate to brackish water, survive, and grown in the stream-estuary ecotone. Instead of migrating farther to the ocean, they return upstream into freshwater to overwinter before migrating to sea as smolts the following year. This unique use of overwintering and estuarine habitats has enabled Coho to develop a life history strategy that promotes their resilience. The loss or decline of these nomads affects adversely the diversity and abundance of Coho populations. Healthy estuarine habitats are essential for the persistence and recovery of depressed Coho populations, such as those found in the Kitimat River and in other watersheds in Kitimat Arm."
	Request:	Please provide a justification as to why the unique nomadic Coho life history is more representative of Pacific salmon than chum salmon. Please also provide references that document the presence of nomadic Coho in the Kitimat River and/or Kitimat Arm watershed.

Marine Fish and Fish Habitat – Salmon		
1.8	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraph 27, adobe page 15 (A2K3I3).
	Preamble:	The Reference states that the "sediment and circulation model is mostly data deficient, based on simple and often broad assumptions, and was designed to give a very general picture of sediment dispersal at a time when dredging and disposal might not actually occur'. The Reference further states that the 'oversimplification or neglect of often key considerations, data inputs, and assumptions is embedded in a narrative that gives extensive model detail. Although implying technical merit, the fundamental flaws of the report are evident."
	Request:	(a) Please describe which key considerations, data inputs and assumptions have been oversimplified or neglected. (b) Please indicate what type of sediment transport/circulation model would be considered more appropriate.

Marine Fish and Fish Habitat – Salmon		
1.9	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraph 29, adobe pages 16-17 (A2K3I3).
	Preamble:	The Reference states that the 'consultant's findings of existing PAH concentrations are inconsistent with previously collected data.' The following discussion is provided: 'Table D1-5 of the Marine Risk Assessment TDR shows polycyclic aromatic hydrocarbon (PAH) concentrations of less than 1.0 mg/kg (Enbridge 2010). However, previous work in this area (Simpson et al. 1998) found concentrations of individual PAHs up to 450 mg/kg and 350 mg/kg dry weight.'
	Request:	(a) Please confirm that the samples collected by Simpson et al. (1998) were in the same locations as those collected by Northern Gateway (2010). (b) Please provide a rationale as to why it is appropriate to compare samples that were collected >10 years apart.

Marine Fish and Fish Habitat – Salmon		
1.10	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraph 31, adobe page 18 (A2K3I3).
	Preamble:	Raincoast suggests that using only two marine invertebrates for sediment toxicity tests was insufficient to characterize potential effects of sediment re-suspension on marine organisms. The Reference states: "Without proper surveys to determine the presence, distribution, and use of the area by juvenile salmonids, and the use of only two marine invertebrates for toxicity tests, this exercise is of little utility, raising more concerns than it actually addresses."
	Request:	Please indicate the number of and type of species that would be considered appropriate for toxicity tests.

Marine Fish and Fish Habitat – Salmon		
1.11	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0; Figure # 9, 10, 11, 12, 13 and 14, pages 32-35 (adobe pages 1-4) (A2K3I4).
	Preamble:	Raincoast presents data on historical trends in catch and escapement for Pacific salmon in the PEAA and CCAA.
	Request:	Please provide references for the data presented in Figure # 9, 10, 11, 12, 13 and 14.

Marine Fish and Fish Habitat – Salmon		
1.12	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraph 55, page 39 (adobe page 8) (A2K3I4).
	Preamble:	Raincoast suggests that tanker wake poses a threat to juvenile salmon. The Reference states: "Wakes and subsequent beach run-up from large ships in confined channels have also been shown to strand (i.e. kill) juvenile salmon in the near shore environment…"
	Request:	Please discuss how applicable the results of the Pearson and Skalski (2011) study are to the potential effects of vessel wake on juvenile salmonids in the PEAA and CCAA.

Marine Fish and Fish Habitat – Salmon		
1.13	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraph 57, page 39 (adobe page 8) (A2K3I4).
	Preamble:	Raincoast suggests that tanker wake poses a threat to eelgrass habitats. The Reference states: "Because eelgrass grows in low energy (i.e. low wave) shore zones."
	Request:	Please provide a map showing the locations of eelgrass beds that may be damaged by tanker wake.

Marine Fish and Fish Habitat – Salmon		
1.14	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraph 61, page 41 (adobe page 10) (A2K3I4).
	Preamble:	Raincoast states that returning adult spawners are at risk of physical injury (gills) "from increased suspended sediment in holding areas of the PEAA."
	Request:	(a) Please provide a figure showing the holding areas that are being referred to. (b) Please provide empirical data that clearly demonstrate the use of these areas by adult salmon.

Marine Fish and Fish Habitat – Salmon		
1.15	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 4: Marine Impacts – Salmonids; Section 3.0, paragraphs 71-82, pages 45-52 (adobe pages 14-21) (A2K3I4).
	Preamble:	Raincoast's quantitative risk assessment for salmon generalizes the effects of oil on different salmonids species across a wide geographic area.
	Request:	Please provide a detailed discussion on the inherent uncertainties and weaknesses of this approach.

Marine Fish and Fish Habitat - Herring		
1.16	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 5: Marine Impacts – Herring; Section 3.0, paragraph 20, adobe pages 9-10 (A2K3I5).
	Preamble:	Raincoast suggests that juvenile and adult Pacific herring as well as herring eggs may be stranded by tanker wake in the CCAA. The Reference states: "Disturbance and stranding of Pacific herring juveniles and eggs as well as adults by tankers and associated vessels transiting confined inlet waters are also concerns. In the Columbia River, wakes and beach run-up generated from passing vessels have been shown to strand juvenile salmon and other fish." The cited reference (Pearson and Skalski 2011) describes the effects of vessel wake in the Lower Columbia River on juvenile salmonids. Juvenile salmonids and herring have different life histories and exhibit different behaviours. In addition, the physical and environmental characteristics of the Lower Columbia River (e.g., shoreline slope, shoreline substrate, water depth, average natural wave height, average natural wave period) are very different from marine habitats in the PEAA and CCAA.
	Request:	Please justify the use of Pearson and Skalski 2011.

Marine Fish and Fish Habitat - Herring		
1.17	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 5: Marine Impacts – Herring; Section 3.0, paragraph 20, adobe pages 9-10 (A2K3I5).
	Preamble:	Raincoast suggests that tanker traffic may disturb adult herring during spawning.
	Request:	Please provide a reference for the above statement.

Fish and Fish Habitat - Eulachon		
1.18	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 6: Marine Impacts – Eulachon; Section 3.0, paragraph 11, adobe page 6 (A2K3I6).
	Preamble:	Raincoast states that "the current condition of Kitimat Arm, Kitimat River, and estuary is not an accurate assessment of the baseline state. Productivity, species diversity, and abundance of fish species in Kitimat River have been greatly reduced below the historical baseline." The ESA defines 'baseline condition' as the existing state of the environment, prior to Project construction.
	Request:	Please indicate when Kitimat Arm, Kitimat River and estuary were at their "historical baseline".

Fish and Fish Habitat - Eulachon		
1.19	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 6: Marine Impacts – Eulachon; Section 3.0, paragraph 16, adobe page 8 (A2K3I6).
	Preamble:	Raincoast asserts that important studies done by the Kitamaat Village Council on the value of the Kitimat estuary and local eulachon runs [prior to its collapse] were omitted from the Marine Fish and Fish Habitat TDR and the ESA. These studies are not publicly available.
	Request:	Please provide copies of the following documents: (a) Kelson, John. Kitamaat River Oolichan (*Thaleicthys pacificus*) Study: 1994, 1995, 1996 and 1997. Unpublished reports to Science Council of BC. (b) Kelson, John. Kawesas River Oolichan (*Thaleicthys pacificus*) Study: 2000. Consultant's report to Na na kila Institute. (c) Kelson, John. 2002. Unpublished traditional knowledge interviews of the Haisla and Nisgaa. Prepared for Adam Lewis, Ecofish.

Fish and Fish Habitat - Eulachon		
1.20	**Reference:**	Written Evidence of Raincoast Conservation Foundation; Part 6: Marine Impacts – Eulachon; Section 3.0, paragraph 17, adobe page 8 (A2K3I6).
	Preamble:	Raincoast states that "the Marine Fish and Fish Habitat TDR considers eulachon only as a cultural fish, with no mention of the commercial harvest. Although they are not harvested at present because of their collapsed status, before 1972 eulachon were much more important than any other commercial or FSC harvested species."
	Request:	(a) Please describe why it is important to consider the historical commercial eulachon fishery when assessing potential effects of the Project on eulachon. (b) Aside from opposing the Project, does the Raincoast Conservation Foundation have any suggestions regarding mechanisms or programs that would assist in promoting recovery of the eulachon fishery?