

To: Honourable Catherine McKenna, Minister of Environment and Climate Change

From: Scientists

cc: Honourable Prime Minister Justin Trudeau
Honourable Hunter Tootoo, Minister of Fisheries, Oceans, and Canadian Coastguard
Honourable Jim Carr, Minister of Natural Resources
Honourable Jody Wilson-Raybould, Minister of Justice and Attorney General of Canada
Canadian Environmental Assessment Agency

Date: March 9, 2016

Re: **Scientific flaws in assessment of environmental risks from the proposed Pacific NorthWest Liquified Natural Gas facility at Lelu Island, Skeena River estuary**

We, the undersigned scientists, conclude that the Canadian Environmental Assessment Agency's (CEAA) draft report of the environmental risks of the Pacific NorthWest Liquid Natural Gas (PNW LNG) project, proposed for the Skeena River estuary at Lelu Island, is scientifically flawed and represents an insufficient base for decision-making. We urge you to reject the CEAA draft report.

Given that the PNW LNG project is proposed for the Flora Bank area of the Skeena River estuary, an area with economically- and culturally-important fishes, such as salmon, eulachon, and herring, we primarily focus our analyses on risks posed to these species. We have identified five primary scientific flaws in the CEAA draft report:

1. **Misrepresentation of the importance of the project area to fish populations, especially salmon.** The CEAA draft report has not accurately characterized the importance of the project area, the Flora Bank region, for fish. The draft CEAA report¹ states that the "*...marine habitats around Lelu Island are representative of marine ecosystems throughout the north coast of B.C.*". In contrast, five decades of science has repeatedly documented that this habitat is NOT representative of other areas along the north coast or in the greater Skeena River estuary, but rather that it is exceptional nursery habitat for salmon²⁻⁶ that support commercial, recreational, and First Nation fisheries from throughout the Skeena River watershed and beyond⁷. A worse location is unlikely to be found for PNW LNG with regards to potential risks to fish and fisheries. Proponents of previous industrial projects and decision makers have historically avoided development in the Flora Bank region because of its known enormous value to fish. Thus, the draft CEAA report has failed to adequately characterize the potential risks of the project to fish and fisheries.
2. **Assuming lack of information equates to lack of risks.** CEAA's draft report concluded that the project is not likely to cause adverse effects on fish in the estuarine environment, even when their only evidence for some species was an absence of information. For example, eulachon, a fish of paramount importance to First Nations and a Species of Special Concern⁸, likely use the Skeena River estuary and project area during their larval, juvenile, and adult life-stages. There has been no systematic study of eulachon in the project area. Yet CEAA concluded that the project posed minimal risks to this fish. It is scientifically indefensible to conclude that a species will not be negatively impacted when it is unknown how it relies on habitat that would be destroyed. Indeed, there are many aspects of this ecosystem and the proposed PNW LNG project for which there is little scientific understanding⁹. Lack of knowledge does not mean lack of risks.
3. **Disregard for science that was not funded by the proponent.** CEAA's draft report is not a balanced consideration of the best-available science. On the contrary, CEAA relied upon conclusions presented in proponent-funded studies which have not been subjected to independent peer-review and disregarded a large and growing body of relevant independent scientific research, much of it peer-reviewed and published. For example, CEAA marginalized a published peer-reviewed study¹⁰ that revealed risks of widespread erosion of Flora Bank, a unique marine coastal landform and eelgrass habitat, due to disruption of water

currents by the proposed trestle and suspension bridge. Instead, CEAA adopted the conclusions of a proponent-funded model that claimed “*no harmful effects*” of the PNW LNG project, even though external and professional analyses identified several critical errors in their methods¹¹. Similarly, CEAA did not adequately consider decades of scientific research on salmon in the Skeena River estuary²⁻⁷, and instead relied on proponent-funded studies that were substantially more limited in scope and duration and that reached different conclusions compared to the larger body of available science. In these and similar cases, the CEAA draft assessment of the PNW LNG project presents an unbalanced assessment of the project’s environmental risks through the disregard of the larger body of independent science.

4. **Inadequate consideration of multiple project impacts and their cumulative effects.** The CEAA draft report did not adequately consider the multiple potential impacts of the project and their cumulative effects and thereby provided an unbalanced assessment of risks. The PNW LNG project presents many different potential risks to the Skeena River estuary and its fish, including, but not limited to, destruction of shoreline habitat, acid rain, accidental spills of fuel and other contaminants, dispersal of contaminated sediments, chronic and acute sound, seafloor destruction by dredging the gas pipeline into the ocean floor, and the erosion and food-web disruption from the trestle structure. Fisheries and Oceans Canada (DFO) and Natural Resources Canada provided detailed reviews¹² on only one risk pathway – habitat erosion – while no such detailed reviews were conducted on other potential impacts or their cumulative effects.
5. **Unsubstantiated reliance on mitigation.** CEAA’s draft report concluded that the project posed moderate risks to marine fish but that these risks could be mitigated. However, the proponent has not fully developed their mitigation plans and the plans that they have outlined are scientifically dubious. For example, the draft assessment states that destroyed salmon habitat will be mitigated; the “*proponent identified 90 000 m² of lower productivity habitats within five potential offsetting sites that could be modified to increase the productivity of fisheries*”, when in fact, the proponent did not present data on productivity of Skeena Estuary habitats for fish at any point in the CEAA process. Without understanding relationships between fish and habitat, the proposed mitigation could actually cause additional damage to fishes of the Skeena River estuary. Independent scientific analyses indicate that mitigation frequently fails to recover original levels of ecosystem function¹³.

For these stated reasons the CEAA draft report represents a flawed assessment of the environmental risks of the PNW LNG proposal. While we are not decision-makers, we can assess when decisions would be made based on false premises. This is one of those instances. We urge you to reject this draft report.

The CEAA draft report for the Pacific Northwest LNG project is a symbol of what is wrong with environmental decision-making in Canada. An obvious risk of a flawed assessment is that it will arrive at an incorrect conclusion. Indeed, scientific research from other estuaries has found industrial development, such as that proposed by the PNW LNG project, is associated with lasting damage to salmon populations^{14,15}.

While our assessment finds that the CEAA draft report is scientifically flawed, the greater body of science also demonstrates that protection of the Lelu Island/Flora Bank area would benefit the second-largest salmon-producing watershed in Canada. Protection of the Flora Bank area would demonstrate the Liberal Government’s commitment to protection of marine ecosystems, rights of indigenous people, and scientific integrity.

Sincerely,

Signed,

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