

Oil pipelines and food sovereignty: threat to health equity for Indigenous communities

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Science translation by Cindy Elliser, PhD 2022

Abstract

Energy projects may profoundly impact Indigenous peoples. Here we consider effects of Canada's proposed Trans Mountain oil pipeline expansion on the health and food sovereignty of the Indigenous Tseil-Waututh Nation through contamination and blocked access to uncontaminated traditional foods. Food sovereignty means that people have a right to food that is healthy and traditional and that they have control over how they grow or get their food. Federal monitoring and Tseil-Waututh documentation show elevated biotoxin (poisonous chemical made by a living organism) levels in shellfish in Tseil-Waututh traditional territory near the end of the pipeline where crude oil is piped. Climate change from increased fossil fuel use also increases toxic algae blooms through higher temperatures and nutrients being washed to the shellfish beds. The environmental impact assessment process failed to consider these local health concerns. A new assessment is needed that looks at issues of equity, sustainability, and Indigenous food sovereignty.

Introduction

Despite concerns about global health impacts, the Canadian government intends to export more oil from the oil sands in Alberta, Canada through the Trans Mountain Pipeline Expansion (TMX) project (Figure 1, a 987 km pipeline from the inner part of Canada to the west coast). Transporting more oil exposes people to chemicals known to cause respiratory problems, increase risk of pipeline fire, and greater greenhouse gas emissions with climate change-related health impacts (IPCC 2018). It will also cause seven times the amount of shipping traffic in Burrard Inlet, which is unceded (never relinquished to Canadian government) Tseil-Waututh Nation historical territory.

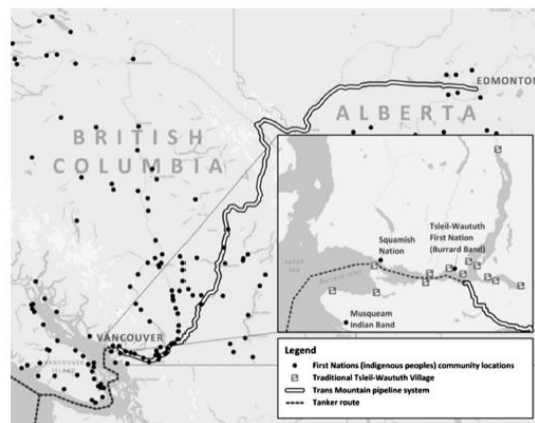


Fig. 1 Trans Mountain Pipeline System and nearby Indigenous communities. Aboriginal Affairs and Northern Development Canada (AANDC) provided the locations of the main Indigenous communities (https://www.aandc-nandc.gc.ca/DAM/DAM-INTER-AB/STAGING/texte-text/finamarch1_1315587933961_eng.pdf, Accessed 2 July 2019) and Province of BC (<https://catalogue.data.gov.bc.ca/dataset/first-nation-community-locations>, Accessed 28 June 2019); the Wilderness Committee, Vancouver Office spatial provided data on the Trans Mountain pipeline and tanker route (<https://www.wildernesscommittee.org/news/kinder-morgan-pipeline-watch-map>, Accessed 28 June 2019); we derived the locations of traditional Tseil-Waututh villages from material published by the Tseil-Waututh Nation without prejudice (<https://twnsacredtrust.ca/assessment-report-download/>, Accessed 5 May 2019).

The Tsleil-Waututh Nation are known as “People of the Inlet” and have lived close to Burrard Inlet for thousands of years. The sea and shorelines provide a large part of the diet and culture of the Tsleil-Waututh Nation. Ninety percent of the protein in the Tsleil-Waututh Nation’s diet is from marine resources, including traditional foods of salmon, herring, and shellfish, their subsistence economy depended on fishing, that also played a central role in religious and ceremonial practices. They historically collected shellfish in intertidal zones in Burrard Inlet that also contributed to their subsistence economy (Morin 2015). Traditional foods are important for good nutrition and a healthy body, but also the lack of traditional foods and loss of cultural practices have been linked to negative mental health outcomes. Access to traditional foods is important for Indigenous spiritual, mental and physical health.

Protecting the land and gathering of traditional foods are important parts of Tsleil-Waututh culture and for passing on cultural knowledge to future generations. This traditional knowledge also provides important information that can be used by non-Native governments and environmental management organizations to help protect the land. Models have shown that a major oil spill could spread quickly across the inlet with a large amount landing on beaches. The high density oil products in the TMX pipeline are more likely to sink if spilled in water and remain in the environment for a long time. Shipping the oil risks people being exposed to polycyclic aromatic hydrocarbons (PAHs) which can cause cancer and other negative health effects.

Animals with PAH’s and other toxins in their bodies are dangerous to eat. Some Indigenous people still eat these foods, despite government health warnings, because they see them as part of their cultural values and they don’t have other good healthy food options. On the other hand, some Indigenous people eat less of these foods because of this danger, but it then means they eat more foods common to an American or Canadian diet with high fat, salt, and carbohydrates (especially sugar) that can cause other negative health problems. Through government decisions and laws, Indigenous peoples in Canada were forced to live on reserves. This limits their ability to hunt, fish, gather, and sell their local produce and reduces their *food sovereignty*: the right to healthy food that are part of their cultural traditions and to control over how they grow or get their food.

Despite these dangers and negative impacts, the Canadian government agency responsible for looking at the impacts of this project on the environment and local people did not look at how the pipeline would affect the health of First Nations along the route. We now examine how the proposed TMX pipeline will further impact the food sovereignty and health of the Tsleil-Waututh Nation.

Food sovereignty for the Tsleil-Waututh Nation: chemical toxicity and biotoxin levels

Oil spills are a particularly serious risk because shellfish can take in toxic chemicals like PAHs found in oil, gather them in their tissues (called bioaccumulation) and transfer them to people who eat them. The oil can also be trapped under shellfish beds for weeks or months, meaning the chemicals can still be present and enter the food chain long after the actual oil spill event. This type of chemical contamination poses a direct health risk to people who eat shellfish.

Oil spills can also cause another type of dangerous chemical to be released – biotoxins made by algae. Some algae species can produce these biotoxins (toxic chemicals produced by living thing) that can cause serious health issues such as nerve damage, paralysis, short-term memory loss, and possibly cancer. Research shows that harmful algae blooms (large amounts of algae sometimes called red tides) have been reported following oil spills. Transporting and using more oil may increase the effects of

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climate change. These effects include warming waters and increasing rain events that wash nutrients into the water. These events can create ideal conditions for the growth of algae, increasing how often these harmful algal blooms occur. Oil spills can directly impact access to uncontaminated, healthy marine resources for Indigenous peoples.

These effects have already been seen in the Burrard Inlet as shellfish there have shown consistently high levels of PAHs. Marine biotoxin levels in Burrard Inlet continue to be higher than levels safe for humans to eat. There is evidence that there may be higher rates of cancer in Tsleil-Waututh Nation families that harvest shellfish than those families that do not. The TMX pipeline expansion would increase the amount of oil being transported, with increased risk of oil spills, and increased exposure of Tsleil-Waututh Nation peoples to harmful chemicals and biotoxins.

Environmental Impact assessment and the importance of health equity

Different Environmental Impact Assessments (EIA) were completed for the TMX project but these focused on how the environment would be impacted, but did not look at how the health of the local human population would be affected. The reports recommended approval for the project, despite objections from the Tsleil-Waututh Nation. They said that the benefits to Canada outweigh the negative impacts to local marine life like the Southern resident killer whales. It did not recognize the human health risks and further loss of Indigenous food sovereignty.

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EIAs are important tools to protect the environment, but they are limited in that they do not look at social or community impacts. Health impact assessments (HIA) look at the human health impacts of a program. A HIA for the TMX project was completed, but not in the correct manner to look at the impacts on Indigenous peoples. Tsleil-Waututh Chief Leah George Wilson stated, "The health and well-being of Burrard Inlet is integral to the health and well-being of our people, our economy and indeed, who we are as people." The Federal Government approved the project again, with no mention of the health concerns or food sovereignty issues. The fact that the EIA and HIA did not seriously investigate the impact of the TMX project on the health (physical, mental and spiritual) of the Tsleil-Waututh Nation, supports the growing concern that the EIA process does not adequately pay attention to these important issues. These risks to the Tsleil-Waututh Nation must be considered.

Conclusion

Healthy and nutritious foods are important for good community health. Canada's EIA process for the TMX project did not consider the health impacts and risks that will affect local populations. It ignored health concerns of Indigenous communities, including the Tsleil-Waututh Nation's physical, mental and spiritual wellbeing. The current assessment of this project is unacceptable and further assessments need to include a proper HIA assessment that will evaluate the human health impacts of both Indigenous and non-Indigenous populations.

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