



COASTAL FIRST NATIONS

March 2012

Oil spill in Great Bear Sea would have devastating impacts, says Coastal First Nations report

An oil tanker spill would have catastrophic impacts on the Coastal First Nation communities, says Art Sterritt.

Sterritt, the executive director of Coastal First Nations, said a report commissioned by the Coastal First Nations confirms that a tanker spill would cause irreparable harm to the economy and the environment. "All the work we are doing to create a sustainable economy would be wiped out by an oil spill," said Sterritt. "A spill would devastate fishing, tourism, and traditional subsistence harvesting, which are the backbones of the economy in the North and Central Coast and Haida Gwaii."

The Coastal First Nations (CFN) has spent the past eight years studying the potential impacts of tanker oil spills in the Great Bear Sea, he said.

A report, *A Review of Potential Impacts to Coastal First Nations from an Oil Tanker Spill Associated with the Northern Gateway Project*, commissioned by the Coastal First Nations, confirms our concerns and strengthens our resolve to keep oil tankers out of the Great Bear Sea, he said. "Oil tanker traffic is a threat to the very existence of our communities, our culture and our way of life so we will fight to ensure the health of our lands, waters and communities."

The report, by Dr. Thomas Gunton and Sean Broadbent of Simon Fraser University's School of Resource and Environmental Management, provides an assessment of potential impacts to our communities from an oil tanker spill associated with the proposed Enbridge Northern Gateway Project (ENGP).

This newsletter provides a summary of the findings of *A Review of Potential Impacts to Coastal First Nations from an Oil Tanker Spill Associated with the Northern Gateway Project*. "It's important that our community members understand the full impact an oil tanker spill would have on our culture, economy, and environment," Sterritt said.

For the full report go to: www.coastalfirstnations.ca

Northern Gateway Project

The \$ 5.5 billion Enbridge project consists of an oil export pipeline, condensate import pipeline, and a marine terminal near Kitimat, BC where oil would be transferred



'Oil goo' from the BP Oil Spill, Grand Isle, Louisiana.
Photo courtesy of: Lars Gange

into tankers to be shipped to Asia and condensate will be transferred out of tankers to be shipped to Alberta. The most significant environmental risks of Enbridge's Northern Gateway Project are oil tanker spills in the Great Bear Sea. The Northern Gateway Project would result in an average of 220 large tanker trips per year passing in and out of the Great Bear Sea.

Pacific North Coast Integrated Management Area

The report examined the marine area surrounding the North and Central Coasts and Haida Gwaii referred to as the Pacific North Coast Integrated Management Area (PNCIMA) by the Department of Fisheries and Oceans (DFO). The North Coast marine area is home to a rich and diverse ecosystem. Forty-four percent of the area is identified as ecologically and biologically significant.

Pacific North Coast Marine Area Facts

- 88,000 square kilometre marine ecosystem on the Central and northern BC coast;
- Home to more than 400 different species of fish and three of BC's five herring populations;
- Home to 88 per cent of spawning rivers for oolichans in BC;
- 108 species of marine birds in BC depend on the area through their lifecycle;
- Home to specimens of 9,000 year old sponge reefs; and
- Provides the backbone for the North and Central Coast economy.

MARINE ECONOMY

The marine economy plays a vital role in our communities. Marine sectors on the North and Central Coast and Haida Gwaii generate \$386.5 million in revenue and provides 7,620 direct, indirect and induced jobs on a continuing basis.

Tanker Traffic accessing Kitimat Terminal

Tanker traffic in and out of Kitimat terminal will use three potential routes: a northern approach, a southern direct approach, and a southern approach via Principe Channel. All three proposed tanker routes will pass through

Coastal First Nations traditional territories. These routes pass through multiple-use environments that have many environmental, economic, social, and traditional values and uses.

Proposed tanker traffic routes

The proposed north and south tanker routes fall within seven distinct ecosections that are home to important biological features including plankton communities, migratory corridors and nursery areas for salmon and other fish, marine transportation corridors, sites for tourism and recreational activities, and culturally-important harvesting areas for many First Nation communities.

Tanker traffic will also pass through many parks, ecological reserves, conservancies, and protected areas along, or close to, the proposed northern and southern routes. Some of these include Gwaii Haanas National Park Reserve, Naikoon Provincial Park, Tow Hill and Rose Spit ecological reserves, Hakai Luxvbalis Conservancy and the Kitasoo Spirit Bear Conservancy.

Enbridge Oil Spill Assessment

Enbridge conducted an oil spill risk assessment that estimates the probability of tanker spills and the impacts of spills on biophysical and human environments. The risk assessment included:

- Likelihood of oil spills;
- Oil spill response and recovery initiatives; and
- Oil spill impacts.

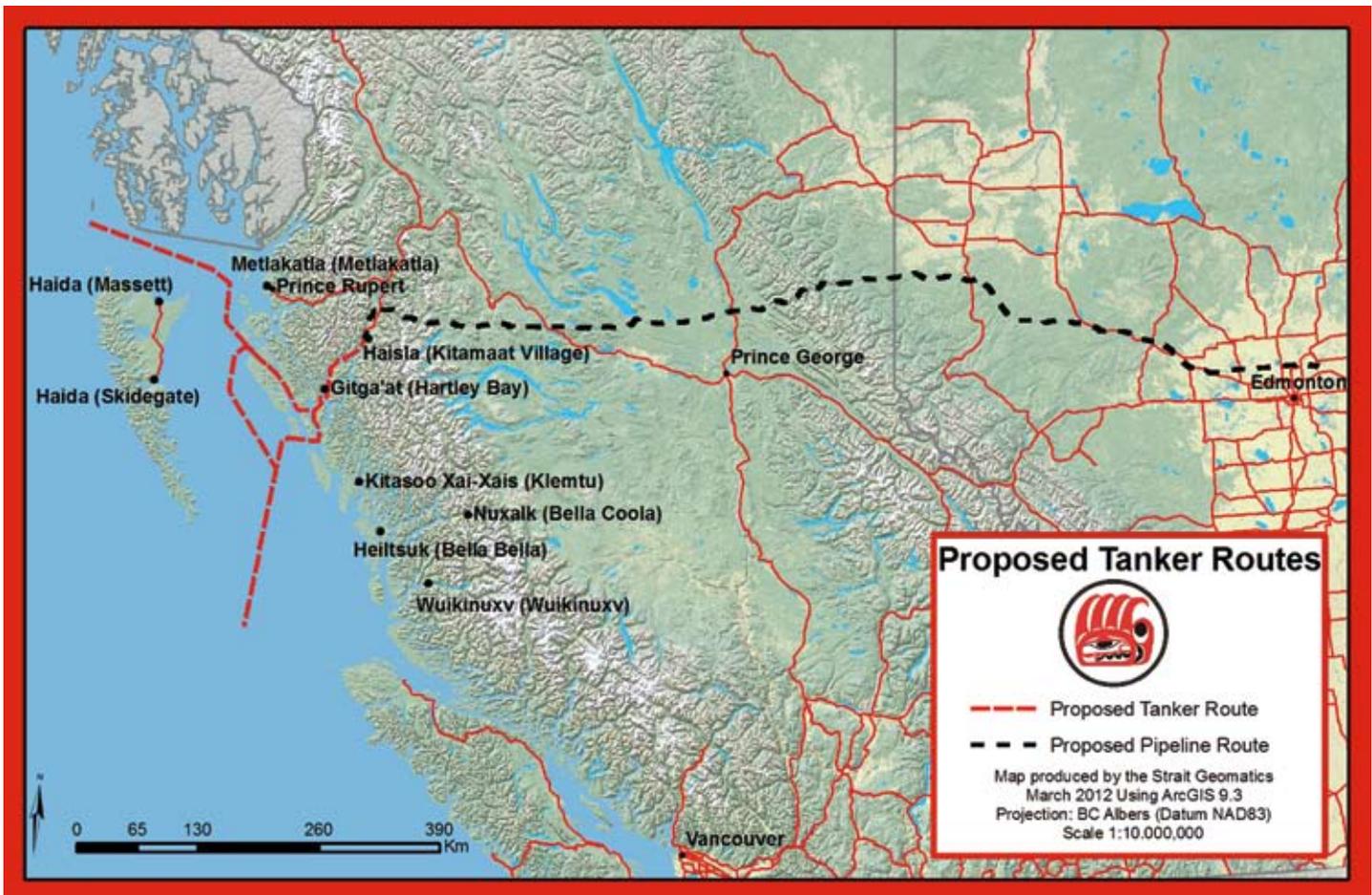
Enbridge's risk assessment assessed five tanker spill scenarios:

- Four spills of 63,000 barrels (10,000 m³) two of which occur in confined channel areas and two in open water areas, and one spill of 189,000 barrels (36,000 m³) in the confined channel area of Wright Sound.

The risk assessment also assessed the impact of two spills at the Kitimat port.

Enbridge estimates that an oil spill of 189,000 barrels in Wright Sound would have the following biophysical and human impacts:

- The spill would reach many sensitive and commercially important areas in the 240 kms of shoreline;



- Oiled fur or feathers pose the risk of hypothermia and animals could inhale or ingest oil from self-cleaning
- First Nations would be suffer significant damages because of their dependence on the sea for food, transportation, social and ceremonial purposes; and
- Effects to traditional uses could include impacts to food harvesting, and impacts to areas of cultural and sacred importance.

The CFN report found that the risk assessment done by Enbridge significantly underestimated the risks of an oil spill due the following deficiencies in their analysis:

- Failure to accurately assess the magnitude of cost of damages from a major oil spill;
- Failure to examine the potential consequences of a catastrophic, worst-case scenario oil spill;
- Failure to examine the risks of smaller oil spills under 63,000 barrels even though spills as small as 1,500 barrels could cause severe damage;

- Failure to provide reliable estimates of the likelihood of oil spills; and
- Failure to provide a compensation plan to mitigate damages of impacted parties.

Likelihood of an Oil Spill

Enbridge states that an oil spill from its project is unlikely. According to Enbridge, one spill is likely to occur once every 49 years (oil/condensate spill for port and tanker). However, Enbridge's oil spill estimates have serious deficiencies including:

- Failure to provide confidence levels for the probability estimates;
- Failure to provide adequate sensitivity analysis on how changes in assumptions impact oil spill occurrence rates;
- Lack of transparency in how risk estimates are made;
- Failure to provide evidence to support some key assumptions;

- Failure to present information in the form of probabilities of oil spill occurrence over the operating life of the project; and
- Failure to combine the probabilities of oil spills from the pipeline, port, and tanker operations.

Enbridge oil spill estimates are also inconsistent with number of spills occurring from Alaska tanker traffic. Based on U.S. government data, there has been an average of one oil spill every two years (oil spills over 1000 barrels combined port/tanker, 1977-1999), which is much higher than Enbridge's estimate of one spill every 49 years.

The exact likelihood of an oil spill from the Enbridge project is difficult to estimate due to changing technology and safety measures and local conditions such as weather and navigational hazards that affect spill rates. However, estimates based on the standard U.S. government oil spill risk methodology show that spills from the Enbridge project are highly likely.

Based on U.S. government methodology, it is estimated that a marine oil spill greater than 1,000 barrels is likely to occur once every 6-10 years. This estimate does not include pipeline spills or condensate spills. If pipeline and condensate spills are included the estimate of spill frequency would be significantly higher.

Although the frequency of spills is declining due to safety improvements, the Alaskan experience and the estimates based on U.S. government spill risk assessment methodology shows that spills are more likely than Enbridge suggests.



Photo courtesy of the Exxon Valdez Oil Spill Trustee Council

Oil Spill Prevention

The frequency of tanker spills are decreasing with improvements in safety. Enbridge states that they will be adopting many of these improved safety measures including;

- Use of 'modern', double hull tankers;
- Having a pilot on board fully-laden tankers;
- Use of harbour and escort tugs;
- Use of radar and improvement of navigational aids all along the transportation route;
- Reduced tanker speeds;
- Operational safety limits that cover visibility, wind and sea conditions; and
- Automated identification system for tracking vessel.

These types of safety measures have been implemented in other jurisdictions such as Alaska to reduce the risk of spills. But the evidence shows that while these safety measures may reduce the risk, they do not eliminate the risk. For example, there have been major oil spills from double hull tankers and the U.S. Coast Guard estimates that Exxon Valdez would have still spilled a significant quantity of oil even if it was double hulled. There are also recent examples of escort tugs that have run aground including the tug Pathfinder that ran aground on Bligh Reef in Prince William Sound on December 23, 2009, which is the very spot where the Exxon Valdez ran aground. The evidence is clear.

Improved safety measures do not eliminate the risks of a major oil spill.



Photo courtesy of the Exxon Valdez Oil Spill Trustee Council

Exxon Valdez Oil Spill

Due to similarities in the environment, the Exxon Valdez oil spill shows the magnitude of damages that would be caused by a major oil spill in Pacific North Coast marine area.

The Exxon Valdez ran aground in Prince William Sound (PWS), Alaska on March 24, 1989. Eight of the 11 cargo tanks in the single-hull vessel were punctured from the initial grounding incident, releasing about 258,000 of the 1,263,000 barrels of crude oil, most of which was lost in the first eight hours. Spilled oil contaminated at least 1,900 kms of shoreline and spread over 750 kms from the point of impact. The spill contaminated an area about the size of Vancouver Island.

Research shows that the shorelines are still contaminated more than 20 years after the spill and the environment and economy have still not recovered.



Photo courtesy of the Exxon Valdez Oil Spill Trustee Council

The Exxon Valdez spill is considered one of the world's most damaging oil spills because of its proximity to a rich, coastal ecosystem. The spill, largely the result of human error, caused short and long-term impacts to social, cultural and subsistence resources of Alaskan Natives, and produced severe disruptions to several marine-dependent sectors of the regional economy.

Environmental Impacts

The Exxon Valdez spill caused severe damage to marine vegetation and invertebrates in the upper and middle intertidal zones. Rockweed, eelgrass, kelp, clams, mussels, as well as other species of marine vegetation and invertebrates, suffered long-term impacts from exposure to oil. About 31

per cent of spawning streams and near shore rearing habitat of juvenile pink salmon were contaminated by the spill and the spill caused high mortality of salmon. The spill severely contaminated over 40 % of areas used by herring and over 90 % of the near shore nursery areas. These have still not recovered.

Other environmental impacts of the Exxon Valdez spill include:

- Mortality of 100,000 to 300,000 marine birds;
- Mortality of 40% of sea otters;
- Mortality of 33% to 40% of impacted orca pods;
- Mortality of 60%-100% of all plants and animals impacted by oil clean-up activities on shore; and
- Failure of 18 of 28 environmental resources to recover.

Economic Impacts

The Exxon Valdez spill caused significant economic damages to the regional economy, particularly fishing, tourism and recreational fishing sectors. The spill impacts include:

- Closure of fisheries;
- Economic losses to 10,000 commercial fishermen of over \$286.8 million;
- Closure of the lucrative herring fishery for 15 of the 21 years since the spill; and



'Oil goo' from the BP Oil Spill, Grand Isle, Louisiana. Photo courtesy of: Lars Gange



Art Sterritt and Gerald Amos visit Louisiana last year to see first hand the damage caused by the BP Oil Spill..

- Losses to tourism, the third largest industry in Alaska of an estimated \$19 million in visitor spending in the oil spill areas in 1989.

Subsistence Use

The Exxon Valdez spill caused long-term damage to subsistence harvests, which are an essential component of the Alaskan Native subsistence economy. The average subsistence harvest per person declined by 50% as the rate decreased from over 168.1 kgs per year before the spill to 82.1 kgs after the spill. Although the volume of harvests has gradually recovered, the type of species harvested has changed and the difficulty of harvesting has increased.

Oil Spill Cleanup Activities and Costs

The response to the Exxon Valdez spill involved a massive four year cleanup effort to contain and recover the spilled oil. Spill response used containment booms and oil recovery devices such as skimmers, pumps and dredges, chemical dispersants, in-situ burning, bioremediation and high-pressure washing. Despite the clean-up efforts, the environment is still contaminated over 20 years after the spill.

The experience with the Exxon Valdez spill clearly shows that clean-up activities cannot prevent significant environmental damage from an oil spill.

Litigation and Court Settlement

The Exxon Valdez spill produced catastrophic environmental, economic and sociocultural impacts to the oil spill region. The total estimated economic costs of the spill range between \$12.2 and \$131.1 billion. However, after some 20 years of expensive litigation, Alaskans impacted by the Exxon Valdez spill have still not been fully compensated for damages.

Oil Spill Response and Management

The magnitude of the Exxon Valdez spill overwhelmed the oil spill response effort despite the implementation of several oil spill contingency plans. The federal and state governments lacked the resources to effectively respond to a large spill and the magnitude of the spill exceeded Exxon's capability to contain the oil or clean it up. Specific failures of the oil spill response included shortage of equipment, slow response time due to difficulties mobilizing equipment, the interruption of skimming operations due to inadequate storage space for skimmed oil and poor decision-making from a lack of information. Weather also caused severe disruptions to the response effort.

The Exxon Valdez spill experience illustrates potential limitations of Enbridge's existing oil spill response plan to contain and collect spilled oil. Many of the response techniques identified by Enbridge, including booming around tankers to contain spilled oil, skimmers and booms

used to remove oil, and re-direction from sensitive areas are similar to methods used for the Exxon Valdez spill. The Exxon Valdez spill experience shows these response techniques were largely ineffective: only 14% of the oil from the spill was recovered and the clean-up activities themselves caused significant environmental damage. The experience of the Exxon Valdez spill has resulted in improvements in response capacity, primarily related to the increased availability of equipment. While many of these improvements have been adopted by Enbridge, even an improved response capacity is not capable of preventing significant environmental damage from a spill.

Oil Spill Compensation

The assessment of the Exxon Valdez oil spill case shows that the cost of damages of a major oil spill can be significant, ranging from \$12.2 to \$131.1 billion. Adjusted for the smaller population, the damage costs of a major spill along the BC coast are estimated to be between \$5.2 and \$22.7 billion (2010 CAD). The Exxon Valdez experience shows that the determination of compensation for damages is a lengthy and costly process that imposes severe burdens on those suffering damages.

Enbridge does not have a comprehensive compensation plan. In the absence of such a plan, compensation will be determined by existing policy and laws, which limit compensation to approximately \$1.3 billion - much less than potential damages. There is no definition of how compensation will be determined and who will be compensated. The absence of an Enbridge compensation plan means that First Nations will have to resort to lengthy and expensive legal actions to receive compensation, and the compensation received is unlikely to cover the cost of the damages to First Nations from a major oil spill.

Economic Costs and Benefits of the Enbridge Project

Enbridge justifies its Gateway project based on alleged economic benefits. Enbridge states that its project is necessary to transport increased oil production from the Alberta tar sands to markets in Asia and that building the project will increase gross domestic product by \$270 billion (2009 CAD), increase employment by 558,000 person years, and increase government revenue by \$81 billion (2009 CAD).

The alleged economic benefits cited by Enbridge are largely fictitious.

Currently, much of the space in existing Alberta oil export pipelines is not being used. Both Enbridge and TransCanada recently expanded their pipeline systems to the U.S. and both plan further expansions in the near future. According to independent studies, there is enough existing and proposed pipeline space without Enbridge's Gateway project to meet Alberta oil transport needs until approximately 2025 and there is enough demand from the U.S. to take all of the increase in Alberta production without having to ship oil to Asia.

The fact is that the Enbridge Gateway project is not required and that alternative pipeline projects exist that do not require tanker traffic along BC's coast.

The employment and revenue benefit estimates by Enbridge are also misleading. According to Enbridge's own estimates, the project will create only 268 permanent direct jobs in BC. Even if all "multiplier effects" are included, the project will create only 561 permanent jobs in BC and 1,146 permanent jobs in Canada, not 558,000 as claimed by Enbridge.

Additional construction jobs will be created but they are temporary jobs that will not provide long term sustainable employment. The project also will export raw bitumen and therefore lose all the processing jobs to China and other Asian markets instead of creating the processing jobs in Canada.

There are alternative ways of creating even more jobs in BC by building renewable energy projects such as wind farms. Also the Enbridge project puts at risk the more than 7,000 BC jobs in fishing and tourism that would be jeopardized by a major oil spill.

The government revenue estimates are also misleading because they include only the tax revenue to government and do not include any of the additional costs to the BC government resulting from the project. The tax revenue estimates provided by Enbridge also show that BC will receive only 4% of the tax revenue while the Alberta and federal governments will receive about 95%.

Another concern is that according to Enbridge's own analysis, the Gateway project will increase oil prices for Canadian consumers by shipping Canadian oil to China.

The fact is that B.C. bears all the environmental risks of the Enbridge Gateway project while Alberta and the federal government receive almost all of the benefits.

Conclusion:

The Enbridge Gateway project imposes an unnecessary and high risk to Coastal First Nations and other British Columbians. Despite the safety measures proposed by Enbridge, there is a high likelihood of a major oil spill and the impact of a spill would be devastating to the environment and the economy. There is also no comprehensive compensation plan to cover the cost of damages. Coastal First Nations and other British Columbians harmed by a spill will have to resort to lengthy court actions that even if successful will not fully compensate for damages. The alleged benefits of the Enbridge Gateway project are overstated and in many cases fictitious. There are alternative projects to transport Alberta oil that will generate the same economic benefit without the risk of tanker traffic and oil spills along BC's coast. Enbridge expects Coastal First Nations and British Columbians to take all the risks of the project while almost all the benefits accrue the oil and gas industry and Alberta.

The conclusion is clear. The risks of the Enbridge project far outweigh the benefits and the future of Coastal First Nations health and livelihood will be under severe threat if the Enbridge project is ever built.



Coastal First Nations • Great Bear Initiative is an alliance of First Nations on British Columbia's North and Central Coast and Haida Gwaii working together to create a conservation-based economy.

The Coastal First Nations include Old Massett, Skidegate, Council of the Haida Nation, Metlakatla, Gitga'at, Haisla, Kitasoo/Xaixais, Nuxalk, Heiltsuk, and Wuikinuxv.

Coastal First Nations • Great Bear Initiative

1660 - 409 Granville Street, Vancouver, BC V6C 1T2

Telephone: 604.696.9889 | Fax: 604.696.9887 | www.coastalfirstnations.ca