

Geog 419: Term Paper Assignment
Community Partner: Dogwood Initiative
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Tanker Traffic on BC's North Coast:
Full-Cost Accounting and the Evaluation of the Ecological,
Economic and Socio-cultural Costs of a Marine Oil Spill

Introduction and Statement of Intent

This project is focused on a calculation of the true cost of the planned oil pipeline from Kitimat on British Columbia's North Coast to the Alberta tar sands. The project will consider the value of an attempt to evaluate the economic consequences of the proposal for local communities and will further attempt to factor in and consider the environmental and cultural costs arising from the destruction and pollution of habitat and the destruction and trespass on First Nations lands and cultural property. The project was undertaken on behalf of the Dogwood Initiative who requested a consideration of the potential for techniques of economic evaluation to be applied to the Enbridge Project. This paper assumes particular importance in the light of the upcoming federal election in Canada, which is scheduled to take place on the 2nd of May 2011. A key goal for the Dogwood Initiative in the coming weeks will be to ensure that this issue maintains the longest possible lifespan, remaining in the public eye long after the election is over.

While human considerations have been made, evaluations of impact made by Enbridge have largely focused on the positives such as job creation, economic diversification and increased services in previously remote communities. These evaluations have made little reference to the potential impacts of oil pipeline development on the land held by First Nations groups and the potential damage to both hunting, trapping, fishing and logging privileges and also to lands held as having sacred and spiritual value. One of these relationships I am particularly eager to consider is the important role that salmon plays both for ecosystems on the North Coast and also as an economic and cultural resource for First Nations (Williams and Thomas 2007). This

project will be undertaken to try to aid in attempts to place a more accurate value on the total cost of the Enbridge Project.

One of the largest oil spills in history occurred in the same area as is now being proposed for tanker traffic; the Exxon Valdez ran aground off Prince William Sound, Alaska in 1989. The extent of this spill and the damage it caused to local industries meant that it spawned one of the first major attempts at full-cost accounting in an attempt to hold Exxon Mobil to account for the great costs the community was forced to bear (Cohen 1995). This example will be considered as an important case study here, not only as a cautionary tale from similar and close by waters, but also in relation to the nature of the accounting that was completed (Nikiforuk 2008).

Ultimately this paper aims to show that the process of environmental evaluations and accounting of the costs and values of ecosystem services and goods is one that is perhaps not futile, but should not be brought to bear on the situation of the Enbridge Northern Gateway Project. Full-cost accounting is a tool, which is inappropriate philosophically and practically challenging in this case. The Enbridge Pipeline passes through too many territories which are all under varying jurisdictions, it crosses too many different areas held by local First Nations groups as sacred and it will violate the sanctity of one of the most ecologically complex wilderness areas in North America for the sake of profit (Nikiforuk 2008).

Moving Oil: Known Risks

Tanker ships and pipelines are the two most common and widely used methods of moving liquid and gas resources. The latest iteration of this sort of 'pipedream' is the

Enbridge Northern Gateway Project. The complicating factor in this project is that the pipeline, which will run from the Alberta Tar Sands, will connect at the proposed deepwater port in Kitimat B.C. with tanker traffic from around the Pacific Rim. The nature of oil tankers the inherent risks in their traffic on the seas and waterways of the world are magnified when they are close in to shore on the sorts of coastlines represented by B.C.'s North Coast (Huijer 2006, Transportation Safety Board of Canada 2011). The likelihood of shipwreck and thus of oil spills close in to shore is increased in this area (Nikiforuk 2008). Simultaneously, the Hecate Strait is famous as a dangerous stretch of semi-open water. The shallow nature of the channel means that in high winds and storm conditions, the troughs formed between waves have been deep enough for ships to founder. The grounding of the Exxon Valdez on March 24, 1989 in Prince William Sound, Alaska stands as one of the central examples of both major oil spills and major shipwrecks in the area, spilling close to 240,000 barrels of oil and with impacts still felt in the areas marine life today (Nikiforuk 2008). The Canadian Government has declared that it is not prepared to respond adequately to a major oil spill (Office of the Auditor General 2010).

BC MP Joyce Murray introduced into Parliament in March 2010 Bill C-606 a Private Members Bill, which calls on the Government to sign into law a Bill banning the passage oil tankers carrying oil (or other hydrocarbon products, including bitumen) along the B.C. North Coast (Murray 2010). Specifically the Bill refers to the Passages around Dixon Entrance, Hecate Strait and Queen Charlotte Sound (Murray 2010). This was heralded as a great success however it only marks the beginning as few signs have yet been seen of the Government acting on the demands of the Bill.

BC's North Coast: Ecological Communities

The North Coast of British Columbia is one of the most important areas in British Columbia in terms of remaining wilderness and it stands as a key example of many of the sorts of ecosystems and ecological relationships and species that have been eradicated on the southern coastline (Williams and Thomas 2007, Worm et. al. 2006). The North Coast is also of particular importance as it is an area where the local populations are also crucially tied to local foods and forest products for their sustenance and subsistence (Nikiforuk 2008).

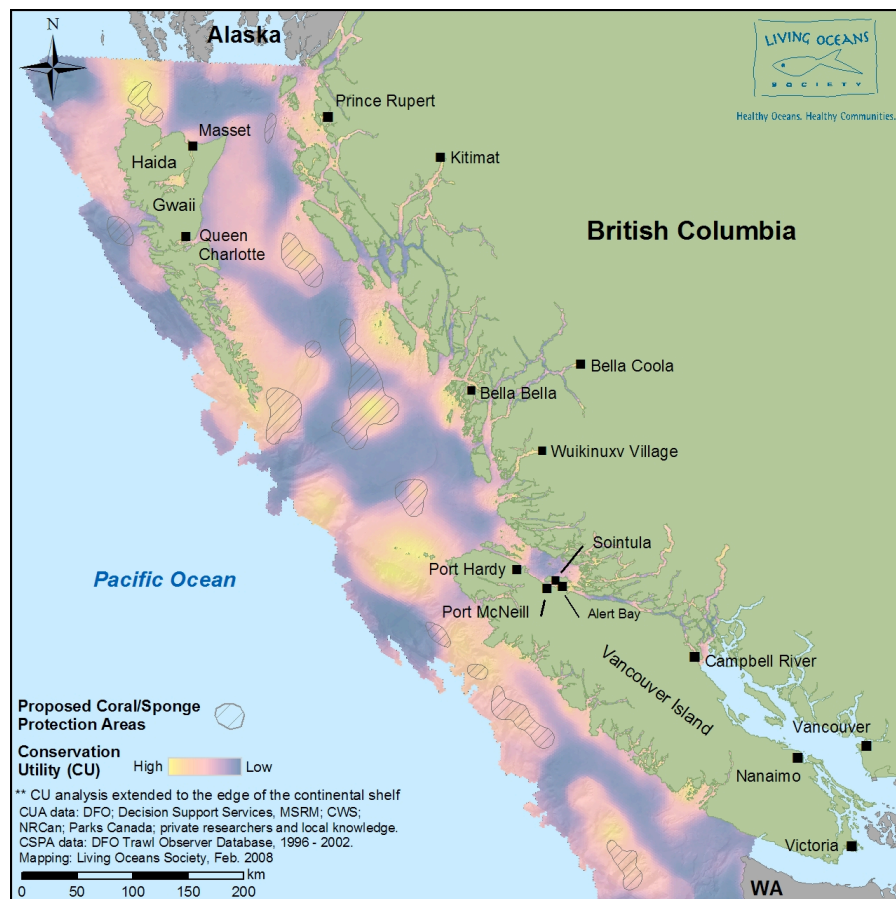


Figure 2. The above map depicts the areas of coral and sponge growth that would be most worth protecting (Conservation Utility in the legend) for the sake of conservation goals. Note that these areas of primary interest for conservation are also directly in line with the passages that oil tankers would be taking. (Living Oceans Society, 2008)

The study of oil impacts on marine life is a field that began with the Exxon Valdez. The results of studies conducted in Alaska and also in other locations such as the Gulf of Mexico and the coast of California as well as in the High Arctic, all point to the very negative impacts that oil has on marine mammals (Geraci and St. Aubin 1990). Not only does oil act as a toxin causing serious if not life-threatening illness but it also coats the water surface and other marine life such as kelps and mussel beds which are key food sources for marine mammals such as otters (Geraci and St. Aubin 1990).

First Nations Cultural Sites

First Nation groups up and down the North Coast of B.C. live and subsist on their traditional territory. The coastline contains many ancient cultural sites, such as places of special and significant spiritual value, burial grounds and ceremonial sites. However, perhaps even more likely to be damaged by tankers and the Pipeline is the ability of the people to practice their cultural practices such as harvesting their food from the coastline. For many communities, wild food remains the most important part of their diet. It represents a vital cultural link to the past and a key part of teaching each new generation about the values and beliefs of the culture. The potential for damage to local health in the case of a spill is a major challenge that must be addressed. Previous considerations of accounting processes have pointed to the challenges inherent in attempting to make causal links between illness and pollution (Winpenny 1991), particularly important when so many First Nations people are subsisting on wild food.

As part of an attempt to get local First Nations groups on board, Enbridge has offered various groups a variety of incentives including jobs and a 10% equity stake in

the Pipeline. Nikiforuk cites Enbridge as offering 4000 jobs to the Kitimat and surrounding area. However these jobs are primarily low paid, low skill jobs that would disappear when the necessary infrastructure was constructed, prompting a response from local Gitga'at Hereditary Chief Ernie Hill Jr, "You are welcome in our territory as individuals, but your project is not." (Nikiforuk 2008).

Completing research such as would be called for in an assessment of the total economic cost of the pipeline on local people would be challenging within a framework which would have a strong outsider/local dynamic. Research would demand a strong ethic of community participation and leadership by local authorities in order to avoid misinterpreting or misusing local knowledge. There are particular challenges encountered when outsiders have attempted to map traditional lands, due to a natural unwillingness to reveal sacred sites and secret places. Full cost accounting in this sort of a social dynamic would be very challenging and could potentially cause offence to those participating if their inherent rights and privacies are not appropriately respected.

Evaluating Potential Damage

Methods

Evaluations of the economic value of land or territory are commonly thought of as being a linear process stemming from the assessment of the market value of the land. In the case of the North Coast, this assessment would be invalid. For while the market value of land may be low, it's ecological and social value to its residents is much higher. Placing value on the cultural sites and practices of First Nations communities in the area would be both very difficult and unproductive, as it would seek to place value on integral

beliefs and values. An accounting of the economic value of the affected area would aim to come to an evaluation of the total costs, in dollars of a marine oil spill. Thus costs to ecosystem health, costs to local First Nations economies and communities, costs to tourism, costs in terms of coastline affected etc. would all be factored in. The complicating factor in this sort of analysis is primarily the material in which a marine oil spill occurs. By their nature, oil spills at sea are going to have huge impacts. The spill and the resulting slick are in most cases mobile, and the aquatic life they contaminate are mobile as well. This all means that the repercussions can be both widespread hard to trace.

Economic views of environmental resources frame them as problematic due to their distribution (Sagoff 1981 in Pojman 1998). If resources can somehow be distributed to the greatest number of people, their benefits will also spread and that is the goal. This view however situates environmental problems not as problems of over consumption or fundamentally flawed lifestyles, but as problems of distribution. This approach places policy at the whim of the consumer who can dictate the values reflected in where and what is conserved, exploited etc. (Sagoff 1981 in Pojman 1998). Winpenny suggests that loss of earnings, loss of tourism income and replacement cost (of wildlife, ecosystems, fish stocks) might be used to establish creditable values (Winpenny 1991). Winpenny points to challenges in terms of contingent analysis as it is applied to biodiversity and the goal of preservation particularly where what is being evaluated is not immediately charismatic. While he uses the Humpback Whale as an example here it would be easy to imagine the northern rainforest ecosystem in this position of lacking appropriate recognition of its value (Winpenny 1991). If science is mobilized to complete Risk Cost

Benefit Analysis, it seems unlikely that the outcomes will not be stated in economic terms. Indeed is not economic motivation the primary factor in the completion of any such program? Advocate of RCBA, Kristin Schrader-Frechette argues that its (RCBA's) opponents claim that it does not properly consider the human element is invalid, as they do not present an alternative method (Schrader-Frechette 1998 in Pojman 1998).

However this is an altogether inappropriate suggestion and one, which would pose very serious problems for the use of RCBA in the case of the Enbridge Pipeline. These techniques are too formal for the sort of values that should be discussed in the case of B.C.s North Coast. Cultural and spiritual value cannot be adequately evaluated, neither can the value of being able to pass on traditional knowledge and lifestyles.

Proponent of contingent valuation Richard Carson has argued that it is possible and crucial to identify monetary values with ecosystem services in order to allow people to make rationalized policy decisions (Carson 2000 in Kalof and Satterfield 2005). He uses the concept of willingness-to-pay as part of his analysis, however this is deeply problematic as in the case of the Pipeline, willingness-to-pay is irrelevant everywhere except for the affected area (Carson 2000 in Kalof and Satterfield 2005). The impacts of an oil spill may be hugely spread out along the coast, however the fact remains that the primary consumers of the petroleum products being moved and the largest bodies of population on the B.C. coast live in the south and will probably be only marginally affected.

Results

Critiques of the full-cost accounting techniques must also be brought to bear on the literature published by proponents of the project. Much of the material published by Enbridge touts the real dollar values of various pieces of land and insists on creating and attributing real values to services and lands that are effectively priceless to local inhabitants (Enbridge 2011). The value systems being used to inform contingent and full cost analysis must be carefully considered along the lines of the definition laid out by Farber et.al.(2002) “Value systems’ refer to the intrapsychic constellations of norms and precepts that guide human judgment and action” (Farber, Costanza and Wilson 2002 in Kalof and Satterfield 2005) There seems to have been a lapse in the past decade, where full cost accounting and economic valuations went out of style, however Norway has recently undertaken a major project to attempt to evaluate its biodiversity in terms ecosystem health (Certain and Skarpaas 2010). By using some 309 different indicators, Norway hopes to produce a tool that may be adapted to market use one day (Certain and Skarpaas 2010). By assessing ecosystem functions and species health in terms of GDP, countries might be able to use their ecosystem health as a better scale on which to measure their true assets.

Conclusion

Recommendations

The Enbridge Northern Gateway Project represents a great many things to different people. Change, progress, advancement, development, energy security and

global trade are all watchwords that appear in the literature and in the marketing of the Tar Sands and the Pipeline to the rest of Canada (Emerson 2010). What seems to remain more hidden, and as result is often not discussed outside of British Columbia is the devastating effect this will have on the North Coast and the communities around both the Pipeline and Kititmat. This paper has been an attempt to synthesize a large part of this debate and incorporate it into an evaluation in economic terms. For First Nations along the coast, the Pipeline is a nightmare scenario, whereby they are being forced to bear the risks of a national (and global) demand for mineral resources. While industry may downplay the risks of moving these highly dangerous and toxic substances by cargo ship and tanker, the fact remains that the history of this traffic has been one fraught with mishap.

At this stage in the proceedings to ratify the Pipeline it is difficult to point to any clear way out for the people of the North Coast. Their plight demands a strong and concerted action by Canadian politicians and legislators to enact and enforce the Tanker Ban tabled and approved in late 2010 (Murray 2010). While comments are often made leading back to the root cause of the Pipeline, the Albertan Tar Sands, these are idealistic to the point of uselessness. Action for the coastline must be taken immediately and vigorously while there remains time. The federal election which is to be held on the 2nd of May 2011, is a major opportunity for citizen's and representative groups such as the Dogwood Initiative to make their voices heard. It is also an opportunity for politicians to recognize the need for thoughtful policy in these key areas, which are of such great concern to their constituents. The bill originally put forward to ban tankers, Bill C-606 was a Private Members Bill put which was supported in the House of Commons (Murray

2010). However this Bill only calls on the current Government to legislate the ban and does not in fact enact legislation itself. It will be vitally important that the issue of this Bill is maintained in the public eye in the aftermath of the election. The reactions that this bill spawns may have important global implications far outside of Canada. With oil extraction projects being explored in a variety of highly ecologically sensitive areas around the world such as the Gulf of Guinea, the Niger Delta and off the coast of Norway, a case where citizen response was able to provoke a prohibitive government action would be both inspiring and set a key precedent.

Future Work and Research

After conducting this analysis it seems that the most logical continuation of this study is for a more complete analysis of the literature that Enbridge and other companies supporting the Northern Gateway Project have circulated and published. The economic values and benefits touted in this literature should be compared to the dollar values of jobs and assets that communities expect to lose to try and assess the true value of the claims that are being made by supporters of the Pipeline (Nikiforuk 2008, Enbridge 2011 and Van Hinte 2001).

It is also vital that more research be conducted into the ecological health of the terrestrial and aquatic communities in the vicinity of the route that tankers will travel. While different groups such as Raincoast Conservation and individuals, such as independent marine biologist Alexandra Morton, are currently conducting studies along these lines on a variety of different species, the scope of these projects is often limited to a single species or relationship. A new research paradigm needs to be considered that



favours a systems approach, considering relationships and a more holistic ecosystem health over a single species.

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