



WINTER 2014

**CANADA'S MARINE OIL SPILL PREPAREDNESS &  
RESPONSE REGIME: POLICY BRIEF**  
WHERE TO REFOCUS POLICY STRATEGY

JEFFREY KENT

YORK UNIVERSITY – PUBLIC ADMINISTRATION COURSE

Energy Policy: Transport Safety  
Recipient: The Tanker Safety Expert Panel – Transport Canada



## Table of Contents

Executive Summary .....	1
Policy Issues.....	1
Increased Tanker Traffic.....	1
West Coast Capacity and Resources.....	2
Handling of Oiled Wildlife .....	3
Policy Implications .....	4
Critique of Current Policy – Dynamic Exogenous Factors .....	5
Prevention and Pre-planning.....	5
Response Recovery Systems.....	5
Emergency Preparedness – Gaps .....	6
Oiled Wildlife Response .....	6
Assurance of Funding .....	6
Policy Recommendations.....	7
References.....	9

## **Executive Summary**

This policy brief outlines the core issues with Canada's current Marine Oil Spill Preparedness and Response Regime and its Polluter Pays Principle, which has been in place south of the 60° N latitude since the mid-1990s. The brief will discuss the issue of progressive increased tanker traffic along the western Canadian coastline due to major resource projects throughout the B.C. region; the insufficient and inefficient oil spill response resources along the Central and Northern coastline of British Columbia; and the inadequate resources and lack of legislation that deals with oiled wildlife incidents and their protection in Canada, specifically the western region.

The current policy needs to be modified for several reasons: Since the inception of this regime, there has been and will continue to be, a progressive increase in oil shipments, chemicals, and other potential contaminants within Canadian waters and along Canada's coastline, which is the longest in the world. Because of this and the fact that there are many resource development projects proposed and ongoing, especially in the British Columbia region, gives reason to update the current regime policy. Without the necessary policy updates, the current regime may well end up being ill-equipped to handle the future demands of any major spill incidents, especially in western Canada, which would be catastrophic for all Canadians. After assessing the core issues with the current OSP&R regime in depth, the brief will consider policy implications for Canada if the current regulations are left in place.

Finally, this policy brief has several recommendations on where the federal government should refocus their efforts towards making the necessary policy changes and upgrades: updating the funding model; additional emphasis on training and education; updating the risk assessment scheme; implementing optional response strategies; incorporating bottom-up and gap analysis for equipment technologies; legislation for the protection of wildlife; regulations dealing with delinquent Responsible Parties and financial needs assessments for Response Organizations.

## **Policy Issues**

There are a few core issues with the current OSP&R regime centred around Canada's west coast region in the province of B.C., where this policy brief gives the majority of its attention. Is the current OSP&R regime capacity adequate for the predicted increase to tanker traffic in the coastal waters of western Canada? Does Canada have sufficient response capacity and resources along the B.C. coast with ample coverage also in the North and Central regions? Are there sufficient resources available, i.e. expertly trained personnel, appropriate rehabilitation facilities and equipment, for tending to and cleaning up oiled wildlife along the B.C. coast?

## **Increased Tanker Traffic**

Since the inception of the current OSP&R regime back in the mid-1990s, tanker traffic has increased significantly throughout Canadian waters, more so lately along the western coast of Canada in the B.C. region. At the present time, the greatest concentration of tanker traffic, off the B.C. coast, is in the southern region. Over the next fifteen years the volume of container ship traffic along British Columbia's coast and through B.C.'s ports, is expected to increase by three hundred per cent (Living Oceans Society, 2011). There are no fewer than four oil pipeline projects proposed for along the North Coast alone. If these projects are permitted to go forward, this would bring more than three hundred oil tankers to the North and Central waters each and every year (Living Oceans Society, 2011). In the southern area of Vancouver, the port throughput is expected to increase 2.3 per cent per year from 73.57 million tonnes in 2004 to 106.4 million tonnes by the year 2020. The Westridge Marine Terminal in Vancouver, which is owned by Kinder Morgan, has expanded its operations from 28 loaded crude oil tankers in 2006 to 34 in 2007, with plans for further expansion if possible. Enbridge's Northern Gateway project is one of the largest proposed pipeline projects in the Northern region. If approval is given to go ahead with this pipeline, there will be an average of 220 supertankers passing through the narrow waterways of the Great Bear Rainforest on B.C.'s North and Central Coast each year (Living Oceans Society, 2011).

The Kinder Morgan Trans Mountain Pipeline Expansion project in Vancouver, which is estimated to be operational in the year 2017, will produce new tanker traffic of 408 transits per year. In the Prince Rupert area, there is the Pacific Northwest LNG project for 2018, eventually having up to 350 tankers visit per year (Nuka R&P, Vol. 2, 2013). In the Kitimat area, the Pacific Trails Pipeline LNG Terminal project for 2016, will bring about 60-84 LNG carriers to its port

each year; the LNG Canada Export Marine Terminal in 2020 will have up to 350 tankers per year; the Kitimat Clean Oil Refinery in 2020 will have about 90 tankers per year; and the Enbridge Northern Gateway Pipeline for 2017, will use up to 250 tankers each year. In fact, the tanker traffic could possibly double in the South coast region by 2027, while traffic in the North will go from being negligible to at least 200 transits per year and these projections are only for vessels that actually stop at a Canadian port and do not include the ones just passing thru (Nuka R&P, Vol. 2, 2013).

### **West Coast Capacity and Resources**

The Commissioner of the Environment and Sustainable Development's 2010 fall report regarding *Oil Spills from Ships*, by the Auditor General of Canada, noted that the Canadian Coast Guard (CCG) has not had a comprehensive assessment of its response capacity done since the year 2000. The report noted that the results of their response efforts (from identifying the source of the pollution to full cleanup), were poorly documented and the CCG had limitations to their systems for tracking oil spills and other marine pollution incidents (Auditor General, 2010).

The response organization on the west coast is Western Canada Marine Response Corporation (WCMRC). The WCMRC and the Canadian Coast Guard are the only go-to primary sources for spill response equipment in the B.C. region (Nuka R&P, Vol. 1, 2013). WCMRC and the CCG currently only have large equipment facilities in the Vancouver, Victoria, and Prince Rupert areas, with various caches of equipment mostly concentrated in the southern region, and some resources located near the Dixon Entrance, Kitimat, and Shearwater areas. At the present time, all government-owned spill resources and equipment are not included in the west coast regional oil spill response equipment database because of a policy decision not to make detailed inventory publicly available (Nuka R&P, Vol. 1, 2013).

The equipment that the WCMRC has on hand is intended for spills that consist of petroleum oil-base type only and they currently do not provide response to any other types of hazardous materials or releases. The oil spill response vessels (OSRV) the WCMRC are currently using are not the ideal type for open water use and are better suited for deployment in protected water, which leaves insufficient equipment for open water use now and especially into the future (Nuka R&P, Vol. 1, 2013).

The boom inventory that WCMRC has is approximately 80% geared toward protected waters that have wave heights of 0.9m to 1.8m, 9% is for calm waters with waves of 0.3m to

0.9m, and only about 9% of the boom inventory is for open waters. The majority of this inventory is stored in the south coast region and on Vancouver Island, which leaves the Central and North coasts vulnerable to a shortage of boom inventory (Nuka R&P, Vol. 1, 2013).

WCMRC estimates their current storage tank capacity for oily waste at 11,700t, of which 68% is on the south coast, 30% is on Vancouver Island and only 2% of storage capacity is on the north coast. This leaves the North coastal areas under capacitated for storage facilities (Nuka R&P, Vol. 1, 2013).

### **Handling of Oiled Wildlife**

British Columbia currently does not have a pre-existing facility identified for use as an oiled wildlife care centre and B.C. has 18 times the amount of coastline as the state of California, where there are ten oiled wildlife primary care facilities (Oiled Wildlife Trust, 2013). There are fewer than fifteen specially trained individuals (experienced experts) within B.C.'s Oiled Wildlife Trust (OWT) organization network and they are not guaranteed to be available during the event of a spill since they are only on-call emergency response workers (Oiled Wildlife Trust, 2013). Most rehabilitation centres rely on public donations in order to look after their usual patient load and function at capacity year round. It is common for staff and volunteers not to have any training in the care of oiled wildlife. Oiled animals require isolation and separation from other recuperating patients as well as special equipment and expertise for handling and care (Oiled Wildlife Trust, 2013).

No designated funding is in place within the Canadian Wildlife Service, B.C. Ministry of Environment, or Fisheries and Oceans Canada to fund oiled wildlife response efforts. The B.C. Ministry of Environment is primarily responsible for terrestrial mammals and non-migratory birds, so it is typically called upon less than the Canadian Wildlife Service, which oversees migratory birds. Even though its role is crucial, the B.C. Ministry of Environment's involvement is limited by jurisdiction and by cooperative relationships with federal government entities (Oiled Wildlife Trust, 2013).

There is an absence of federal legislation to deal with ensuring the protection of wildlife. Because of this, there are ineffective and inconsistent responses to oiled wildlife incidents throughout the B.C. corridor. The province and federal government each carries their own policies on this matter which leads to unclear decision making when dealing with spill incidents (Oiled Wildlife Trust, 2013).

## **Policy Implications**

There are several policy implications for the current OSP&R regime this brief will address. This regime policy was put into effect twenty years ago when the Canadian government had a fiscal deficit and debt crisis situation. At the time, they were in the process of cutting deficits and slashing spending programs in order to tighten their fiscal policies (Johnson, 2011). Because of this, there could be a funding shortfall with the present program. It is also the case that since inception of this regime, there has been a progression of dynamic risk factors working against the policy, such as the continual added pressure of increases in oil tanker traffic up and down the B.C. coast. This could lead to the current policy being insufficient for Canada's needs in the near future (Nuka R&P, Vol. 2, 2013).

The current strategy of the OSP&R regime is to focus on response only and not take into account any preventative or pre-planning measures. If another layer of focus to the risk management analysis of the OSP&R policy is not implemented, there could be consequences for Canadians environmentally and socially by not being better prepared for an oil spill incident.

This OSP&R regime is based on a mechanical recovery system and not on a net benefit system. If the policy does not endorse the use of alternative response and recovery methods such as dispersants or treatment agents, it could mean much slower, less efficient outcomes to oil spill events than with the technology currently available and appropriate (Enbridge NGP, 2013).

With the program funding seemingly underfunded, there are likely gaps in the program due to insufficient and inadequate equipment, lack of organization, poor communication, and insufficient trained personnel. The areas most likely to be vulnerable are the Central and North regions of B.C.'s coast (Living Oceans Society, 2013).

The west coast Response Organization doesn't have any responsibilities for oiled wildlife now, other than for hazing, and there is a lack of federal legislation and dedicated funding for ensuring the protection of oiled wildlife in Canada. If this continues, there could be many unnecessary wildlife casualties in an adverse environmental event (OWT, 2013).

There is no assurance of payment to the Response Organization by the Responsible Party and if payment is not made, the RO does not have any legal recourse for getting paid by the RP. These fees are also insufficient for the RO to function effectively and are not commensurate with risk. Leaving this as-is could cause a crisis when a delinquent RP has an incident and the RO

refuses to respond. Also, the inadequate funding could lead to amplified ineffectiveness in the future (Living Oceans Society, 2013).

### **Critique of Current Policy – Dynamic Exogenous Factors**

I believe that one of the key factors at issue with the OSP&R regime is that its policy framework has been in place for twenty years while exogenous factors have continuously been changing. When the original policy framework was implemented by the federal government, they were slashing program spending because of fiscal constraints due to large deficits and debt as well the economy was in recovery from a very bad recession (Johnson, 2011). This most likely caused the original program budget to be insufficient.

The external risk pressures the policy is supposed to mitigate have changed and will continue to change significantly over time. There are numerous large scale resource development projects that are either ongoing or have been proposed on Canada's west coast. This will only add to the pressures already placed on the existing policy framework. During the time period since implementation of the current OSP&R regime, newer advanced technologies, equipment, and methodologies have been tested, proven, and implemented in other parts of the world. Some of these would be advantageous to Canadian Response Organizations (Nuka R&P, Vol. 1, 2013).

### **Prevention and Pre-planning**

The current oil spill response regime's core strategy is to focus on the *response* aspect to oil spill incidents, and not with the prevention of oil spill events themselves (Enbridge NGP, 2013). The addition of preventative measures and pre-planning to a *response* focused regime strategy, would give the policy framework an additional layer of focus to its risk management analysis and help to mitigate possible spill incidents. This can be achieved through the implementation of sensitivity studies, operational atlases, geographic response plans, harvesting studies, and marine environmental monitoring programs (Enbridge NGP, 2013).

### **Response Recovery Systems**

The current OSP&R regime is based around mechanical recovery methods and not based on providing net environmental benefits (Enbridge NGP, 2013). Having a system which is based on the net environmental benefit would allow responders the use of alternative response approaches; at the very least it would define an approval process for using alternate responses to oil spill incidents. These alternates could be the use of in situ burning, oil dispersants, and or spill

treatment agents. In order to lead a successful response effort it is necessary to use whichever method would be the most appropriate and effective in a given situation (Enbridge NGP, 2013).

In situ burning and the application of dispersants can increase the efficiency of on-water oil recovery than with using only mechanical methods such as booms and skimmers (Living Oceans Society, 2013). Canada is one of the only nations that have not adopted the use of these alternate spill response strategies that reduces waste. The known environmental impacts of in situ burning and using dispersants should be balanced with the knowledge that their use can minimize shoreline cleanup, oily waste generation, impacts to wildlife, and the health to work personnel (Living Oceans Society, 2013).

### **Emergency Preparedness – Gaps**

With a lack of funding, organization, communication, trained personnel, and appropriate equipment, there are fundamental gaps and weaknesses in Canada's and especially B.C.'s capacity for building emergency response preparedness (Living Oceans Society, 2013). Canada has insufficient resources and limited emergency planning personnel for an effective mechanism to provide public oversight of emergency preparedness. Little to no community engagement has been undertaken regarding emergency preparedness and Canada's OSP&R Organization regime is grossly under-funded (Living Oceans Society, 2013).

### **Oiled Wildlife Response**

The current west coast response organization (WCMRC) regime only includes hazing (i.e., scaring away) birds to prevent them from landing onto oil slicks during spill incidents. Wildlife response on the British Columbian coast has typically been done free of charge by volunteer animal and welfare organizations. These entities lack the resources and trained personnel with the expertise for handling major oil spill events (Living Oceans Society, 2013).

### **Assurance of Funding**

The ability of the Response Organization (RO) to perform their services is contingent on payments of fees given by the Responsible Party (RP) to the RO. If these payments do not materialize, then the RO will cease to provide any services to the RP. It is difficult to get "financial assurance" from the RP and if an RO is not properly compensated, they do not have any legal recourse in going after the RP for payment. These fees are also insufficient to effectively plan, procure equipment and staff the operations of the Response Organizations, and

do not take into account the risk that their client poses to the environment and the potential consequences of any spill incidents (Living Oceans Society, 2011).

### **Policy Recommendations**

The OSP&R regime policy must update the funding model to the current program. To be appropriate there needs to be input from all direct stakeholders including: federal and provincial governments, Canadian Coast Guard, Response Organizations, wildlife care associations, shipping associations, and any affected industry association. A cost-benefit and cost-effectiveness analysis must be done by having each stakeholder participate. All expected costs (budgets) must be taken into account so that the funding formula will be appropriate for the level of service that is expected by the tanker shipping industry, the public, and what is implied through the policy framework. It is crucial to get the funding model correct so all responders will have the appropriate up-to-date resources at their disposal for their utmost effectiveness and efficiency when responding to any spill events.

With regards to preventative measures and pre-planning, it is my opinion that the first step to take in having a world-class response policy is with having exceptionally trained staff and responders who are also educated about the effects of various spills under different circumstances. Second, performing policy mandated periodic regional risk assessments for probability, size, and types of spills along with implementing the latest computer generated predictive modelling software into these risk assessments.

Being better prepared by incorporating routine risk assessments with the latest innovative technology and having knowledgeable staff and workers, will greatly enhance communications and the expedience of delivering their services out in the field. In order to facilitate exceptional training and education with more effective risk analysis, there must be better coordination and horizontal management between all governments, their agencies, and industry.

The Response Organizations need the ability to use optional treatment methods. After completing an environmental scan to assess both external and internal risks in terms of strengths, weaknesses, opportunities, and threats (SWOT) (Pal, 2014), the regime policy must be updated to allow for the use of alternative methods for responding to any spill incidents. The federal government should be the lead agency in identifying which option or assets can be utilized for the appropriate situation. Changing or updating current policy to adopt any technology or

methodology that would be more effective and or efficient in cleaning up the environment, will be socially beneficial and advantageous to all Canadians.

To have a world-class oil spill response network you must have the latest technologically advanced equipment. There needs to be a bottom-up approach defined within the policy framework that deals with how analysis of equipment technology is handled and what steps will be taken to implement the newer equipment (Pal, 2014). Once the bottom-up approach has been implemented, a gap analysis can be integrated to policy regarding equipment resources to understand the equipment inventory in relation to what is available commercially (Daniels, Radebaugh, & Sullivan, 2013). There should be routine global monitoring or scanning implemented to the policy framework for finding the latest and best industry equipment. Emergency management is not just about great mitigation ideas, approaches, and administration, you must also have the best ‘tools’ your budget can afford in order to be well prepared and able to give a world-class response.

Canada needs to implement legislation for the protection of wildlife that will put the federal and provincial policies dealing with wildlife issues, into alignment with one another, in a horizontal management effort (Pal, 2014). The policy must provide for a dedicated funding formula for the treatment of oiled wildlife. The regulations need to be expanded for better wildlife response capability, capacity, and resources. The policy should deal with wildlife capture, assessment, rehabilitation, and their subsequent release. The public holds government entities to a high standard of accountability. By implementing the right steps and procedures to deal with oiled wildlife into the policy framework, government policy-makers show prudent social responsiveness by being accountable for their actions.

The current policy must adopt regulations to deal with delinquent Responsible Parties in paying their required fees to Response Organizations. A strict progressive fine structure could be setup with the eventual suspension of Canadian docking privileges if not complied with.

A complete needs assessment should be performed to look at current financial data and project the data several years into the future to determine the sustainability of the current fee structure. Incorporating better, more up-to-date, financial management risk measures into the policy framework, ensures a more robust and sound management of financial resources for the RO's. The RO's need to have assurance for payment of their fees and by having support through government regulation they will have the confidence for payment, which is currently lacking.

## References

- Auditor General of Canada. (2010, Dec. 7). *Oil Spills from Ships – Chapter 1*. Fall Report: Commissioner of the Environment and Sustainable Development. Retrieved from the Auditor General of Canada website: [http://www.oag-vg.gc.ca/internet/English/parl\\_cesd\\_201012\\_01\\_e\\_34424](http://www.oag-vg.gc.ca/internet/English/parl_cesd_201012_01_e_34424).
- Daniels, J., Radebaugh, L., & Sullivan, D. (2013). *International Business: Environments and operations*, (14<sup>th</sup> ed.). New Jersey: Pearson.
- Enbridge Northern Gateway Pipelines, (2013, June 21). *Key Areas of Improvement*. Retrieved from the Tanker Safety Panel Phase 1 Submissions website: <http://www.tc.gc.ca/eng/tankersafetyexpertpanel/submissions-received-123>.
- Johnson, David. (2011). *Thinking Government: Public administration and politics in Canada*, (3<sup>rd</sup> ed.). Toronto: University of Toronto Press Inc.
- Living Oceans Society, (2011). *Shipping on the British Columbia Coast. Current Status, Projected Trends, Potential Casualties, and Our Ability to Respond: A Briefing Report*. Sointula, BC: Living Oceans Society.
- Nuka Research and Planning Group, (2013, Mar. 28). *West Coast Spill Response Study, Volume 1: Assessment of British Columbia Marine Oil Spill Prevention & Response Regime*. Report to the British Columbia Ministry of Environment.
- Nuka Research and Planning Group, (2013, July 19). *West Coast Spill Response Study, Volume 2: Vessel Traffic Analysis*. Report to the British Columbia Ministry of Environment.
- Oiled Wildlife Trust, (2013). *Challenges and Limitations of Oiled Wildlife Response in British Columbia*. Retrieved from the Tanker Safety Panel Phase 1 Submissions website: <http://www.tc.gc.ca/eng/tankersafetyexpertpanel/submissions-received-123>.
- Pal, Leslie A. (2014). *Beyond Policy Analysis: Public issue management in turbulent times*, (5<sup>th</sup> ed.). Toronto: Nelson Education.
- Transport Canada, (2014, Jan. 16). *The Polluter Pays Principle*. Background: Tanker Safety Expert Panel. Retrieved from Transport Canada website: <http://www.tc.gc.ca/eng/tankersafetyexpertpanel/consultations-document-background>.