

HIGHLIGHTS OF MARINE OIL SPILL PREVENTION, PREPAREDNESS, RESPONSE AND RECOVERY: WORLD-LEADING APPROACHES FROM SELECT JURISDICTIONS

PREPAREDNESS RESPONSE AND RECOVERY



[Clear Seas](#) is an independent, not-for-profit organization that provides impartial and evidence-based research to inform the public and policy makers about marine shipping in Canada.

We are providing this digest of the BC Ministry of Environment's report entitled **Marine Oil Spill Prevention, Preparedness, Response and Recovery: World-Leading Approaches From Select Jurisdictions**.

This short digest is not meant to be inclusive of all the Review's commentary and/or recommendations, nor are the items mentioned necessarily in the same order as the original report.



MESSAGE FROM THE EXECUTIVE DIRECTOR

As shipping volumes increase on Canada's west coast, and with further major marine transportation projects anticipated for BC ports, the government of British Columbia has a vested interest in better understanding the risks particularly associated with increased ship-based oil movements. To that end the British Columbia Ministry of Environment commissioned Nuka Research to conduct a three-volume study to provide an assessment of the current oil spill prevention and response regime on the west coast. The study was completed in 2013.

For marine oil spill prevention, preparedness, response, and recovery - and the provincial government's aspiration for a world-leading system - it is important to note that it relies on initiatives that are largely beyond provincial jurisdiction - and on a network of international, federal, provincial, and local regulatory and response authorities. As such the recommendations for BC mentioned in the report must be considered in the context of these other jurisdictional realities.

This Volume (published in October, 2015) entitled [Marine Oil Spill Prevention, Preparedness, Response and Recovery: World-Leading Approaches From Select Jurisdictions](#) is an update to the original Volume 3 (published in 2013) [West Coast Spill Response Study, Volume 3: World Class Oil Spill Prevention, Preparedness, Response & Recovery System](#).

This digest covers some of the major observations in this update, specifically those that discuss **preparedness response and recovery** examples from around the world that suggests options for action after a marine oil spill has happened.

From a Clear Seas perspective, preventing oil spills from happening at all is always the best course of action. However, if they do occur, it is critical that the most efficient mitigation systems are in place. To that end the examples presented are worthy of serious consideration by provincial and federal decision makers.



World-Leading Marine Oil Spill Preparedness, Response, and Recovery Examples

This updated Volume links the elements in the three volume 2013 report to the BC government's aspiration for world-leading standards by presenting specific examples from select jurisdictions around the world that the governments of BC and Canada may look to as model approaches.

Oil spill preparedness, response, and recovery measures provide some level of mitigation to reduce the adverse impacts from an oil spill. In Volume 3 of the 2013 study, five common elements of world-class system were identified:

1. Geographic areas are prioritized for protection from oil spills;
2. Contingency planning is comprehensive, integrated, and well understood by all relevant parties;
3. Sufficient equipment can be deployed quickly to respond to a worst-case spill;
4. Sufficient trained personnel are available to respond to a worst-case spill; and
5. A process is in place to restore damaged resources and promote ecosystem recovery after a spill. It also suggested "opportunities" for improvement to Canada's oil spill regime.

Incorporating similar elements, this updated volume discusses six examples of world-leading marine oil spill preparedness, response and recovery systems.

Most coastal nations have adopted some form of a national contingency plan for oil spill response, and many countries have additional layers of planning at the regional, state/provincial, port or local levels.

(1) The Australian National Plan provides the foundation for oil spill contingency and emergency response planning at all levels. It is rooted in an evaluation and capability assessment that establishes a risk-based prevention and response system. National capacity includes emergency tow vessels to prevent incidents and strategically positioned, stocked, and maintained equipment caches to respond to oil spills using either mechanical response or dispersants. Over 20 years of annual reporting on National Plan activities creates accountability and transparency.

Based on the Australian plan, British Columbia and Canada could:

- Identify strategic priorities for marine oil spill preparedness and response.
- Develop an integrated plan across all federal, provincial, local and Indigenous agencies and governments involved in oil spill prevention or response.
- Evaluate spill response capacity (equipment, personnel, response time) based on regional oil spill risks and fill any gaps in equipment stockpile quantity, type, or location.
- Establish performance-based training standards for spill responders (government and industry).
- Conduct periodic self-assessments to identify opportunities to improve or enhance national and regional response capability.

In some industries, regulatory compliance can be evaluated using metrics, representative of actual performance. However, in the case of oil spill response planning, the metrics or standards used to determine oil spill readiness are by necessity hypothetical and reliant on numerous assumptions. What response planning standards can do is establish target thresholds for preparedness that can be measured and compared and thus provide an indicator of response capabilities.

(2) US Pacific states' oil spill response planning standards are a case in point inasmuch as they compel operators to ensure that they have sufficient capacity available in a given region to clean up a worst-case oil spill. Operators must describe their capability in government-reviewed contingency plans. State regulations encourage continuous improvements to response technologies and some require periodic formal assessment of best available technologies. The public has the opportunity to review and understand operator plans and compliance.

Based on the US example, BC and Canada could:

- Establish worst case spill response volumes based on total vessel cargo and fuel oil, and use worst case spill volumes to drive response capacity building.
- Consider replacing the current 10,000 tonne response organization requirement with vessel-specific standards that compel operators to contract for sufficient capacity to manage worst-case discharge from vessels.
- Establish oil spill contingency planning requirements for vessels calling on BC ports.
- Develop best available technology requirements for oil spill response equipment.

In most countries, mechanical recovery of oil spills using boom and skimmer is the preferred technique for responding to marine oil spills. There are alternative response technologies – such as the use of chemical dispersants or treating agents, or in-situ burning of oil on the water's surface. These may be preferred in some situations.

(3) The United Kingdom (UK) Policy on Oil Spill Treating Agents provides an approach to alternative response technologies with a clear framework for decision-making regarding the use of certain approved chemicals to treat oil spills on water and on the shoreline. The UK also has operational and resource capacity in place to deploy dispersants within the window-of-opportunity while the oil is still dispersible.

Oil spill-treating agents (dispersants and other chemicals that may be applied to break up an oil slick) are a primary and preferred response option for offshore oil spills, provided that they are applied according to criteria established by the [Marine Management Organization](#). The government's policy toward the use of oil spill treating agents is clear and transparent. A decision-making flow chart is used to expedite decisions about when agents may be used, and response capacity includes both government and contractor resources. There is a framework for testing efficacy and toxicity, and only government-approved chemicals can be authorized for use. There is an expectation that port and operator oil spill contingency plans will establish criteria for deciding whether or not to use dispersants.

A BC model could include:

- Establishing geographic zones where alternative response technologies are or are not authorized.
- Providing a decision-making process regarding the use of treating agents or alternative response technologies in authorized areas during an incident.

- Developing operational capacity (stockpiles, application equipment and platforms, trained personnel) to implement alternate response technologies, if authorized.
- Establishing government oversight for the entire life cycle of treating agent use, from testing and approval of specific products based on effectiveness, toxicity, and other criteria to incident-specific and long-term monitoring if agents are used during an oil spill.

Geographic Response Plans (GRP) or Geographic Response Strategies (GRS) are location-specific strategies to protect vulnerable sites that are of particular ecologic or socioeconomic importance. GRP and GRS have been developed in many jurisdictions around the world. Some plans are developed by operators, some by response contractors, and others by government agencies.

(4) The Alaska Geographic Response Strategy (GRS) program uses an approach that ties into existing government and industry oil spill contingency plans, applies standardized tactics based on available response resources, and includes a high level of stakeholder involvement.

GRS are developed through a consensus workgroup process that involves local stakeholders, natural resource agencies, and spill response experts. There are several opportunities for public review and comment on site selection and GRS tactical plans. Operators may reference GRS in their oil spill contingency plans to show how they will protect sensitive areas.

Considerations for modeling BC's approach to geographic response planning, based on the Alaska example, include:

- Developing a prioritization process that considers vulnerability, sensitivity, and feasibility.
- Applying a regional approach for BC that integrates with other oil spill and emergency response plans.
- Using GRS to evaluate response capacity and adequacy of equipment stockpiles, and fill gaps.
- Developing local response capacity to quickly implement protection strategies ahead of an oil slick.
- Providing an opportunity for public and stakeholder review and input, particularly into site selection/prioritization process.
- Utilizing standard tactics and terminology.
- Testing strategies during field deployments under realistic conditions, and refining plans accordingly.

Local fishing vessels have been used to supplement marine oil spill response operations for decades in regions of North America, Europe, and Australia.

(5) By way of example, **the Alyeska SERVS fishing vessel program in Prince William Sound, Alaska** has created a network of trained, on-call fishing vessels and crew that can provide immediate first response to an oil spill as well as a broader network of vessels and crew to supplement ongoing cleanup operations. There are 400+ vessels in the program.

The program creates a community-based first-strike spill response capacity in the Prince William Sound region and is structured to ensure that a minimum number of vessels and crew are available on stand-by to respond to incidents at any time. Contracted vessels must meet minimum response times that range from 1 to 24 hours. Annual training that is regularly updated ensures that vessels and crews are capable of a range of spill response functions.

Considerations for BC and Canada include:

- Evaluating the need for fishing vessels to supplement marine oil spill response and establishing criteria for minimum numbers and types of vessels to support a worst case spill response.
- Considering utilizing a tier system similar to SERVS to distinguish vessels based on response availability.
- Conducting regular exercises and training, including drills to test availability of vessels to respond within their specified timeframes.
- Ensuring adequate funding for program administration, training, exercises, and documentation.

Oil spill impacts begin immediately and may endure for weeks, months, years, or decades. While some spill impacts may be obvious and relatively easy to quantify, such as reduced tourism business or a number of oiled seabirds, other impacts may be more ephemeral, such as the loss of access to a recreational area.

(6) In the US, the documentation of spill damages, pursuit of compensation from the responsible party, and implementation of restoration projects is known as **Natural Resource Damage Assessment (NRDA)** or Natural Resource Damage Assessment and Restoration (NRDAR). It is codified in federal law and some state laws.

NRDA treats restoration and recovery as a separate but critical component of oil spill response and recovery. Its ultimate goal is restoration of injured resources and is entirely separate from punishing, fining, or correcting actions of the party responsible for a spill or incident. It is a well-defined process with people and plans in place for implementation prior to an oil spill so that all

parties know what to expect. It can be implemented for an oil spill, substantial threat of an oil spill (such as a ship grounding), or other pollution event.

The responsibility to fund restoration and recovery is established in law. The process is intended to be cooperative where possible, but the authority of the trustee agencies responsible for protecting – or restoring – resources on behalf of the public is paramount. Other elements include: damage assessment and restoration and recovery planning begin immediately during spill response; recognition of a range of impacts to resources and their use; a framework for primary and compensatory restoration, depending on type and severity of impacts; and an opportunity for public input and comment.

For its part BC and Canada could consider:

- Establishing a process for assessment of oil spill damages and embedding such a process into a spill response framework.
- Assigning “trustee” equivalents from federal, provincial, local, and Indigenous governments and agencies to implement damage assessment and restoration.
- Integrating natural resource damage assessment and restoration into a polluter pays system.