WCMRC
Western Canada Marine Response Corporation

MARINE SPILL RESPONSE ON THE WEST COAST

CANADA'S FIRST SPILL RESPONSE ORGANIZATION

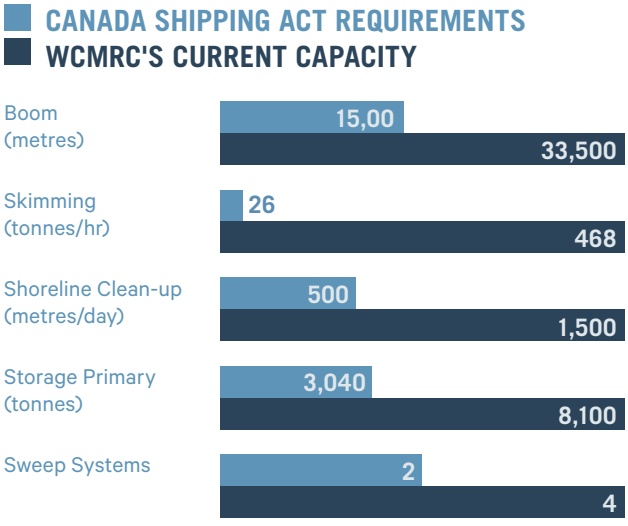
Western Canada Marine Response Corporation (WCMRC) is a Transport Canada certified organization that protects the coastal waters of British Columbia from oil spills. We're the only certified spill response organization on Canada's West Coast.

WCMRC has successfully responded to oil spills for nearly 40 years. We began operations in 1976 as an industry co-op under the name Burrard Clean and became Canada's first certified response organization under the amended Canada Shipping Act in 1995.

THE SPILL RESPONSE REGIME

Transport Canada regulates the transportation of oil within our borders and sets the planning standards for spill response. WCMRC surpasses these standards. The standards for the entire regime are described in the Canada Shipping Act.

- **Oil volume:** Response organizations in Canada are required to have equipment to handle a 10,000-tonne spill. WCMRC has 2.6 times as much equipment in place
- **Response times:** The Canada Shipping Act also sets the upper limits for response times depending on the location and size of the spill. While our actual response times are typically less, the Canada Shipping Act standards vary from six hours inside Port Metro Vancouver's boundary to 72 hours plus travel time outside of our core response area
- **Response duration:** Response organizations are required to remove all oil from the water within 10 days of a spill. They must also be able to clean up 500 metres of shoreline per day



STATE OF PREPAREDNESS

We are continually expanding our capacity and improving our ability to respond to spills:

Responders at the ready:
WCMRC trains on average 150 to 200 contractors a year

- ***Core response force:*** *Our full-time spill responders train and drill regularly*
- ***Auxiliary:*** *WCMRC's auxiliary responders include fishermen, First Nations and marine contractors*

Roles in a spill
During a spill, industry and government perform clear and specific roles managed by an Incident Command System under the authority of a Unified Command.

- ***Responsible Party (Polluter):*** *Leads the overall response*
- ***Canadian Coast Guard:*** *Federal Monitoring Officer; has authority to take command if Responsible Party is unable or unwilling*
- ***Environment Canada/Ministry of Environment/ Department of Fisheries and Oceans:*** *Provide environmental advice; assist in identifying environmental, cultural and economic priorities*
- ***Response Organization:*** *Executes the operational spill response*

WCMRC's average response time in the Lower Mainland over the last 10 years is approximately 60 minutes.

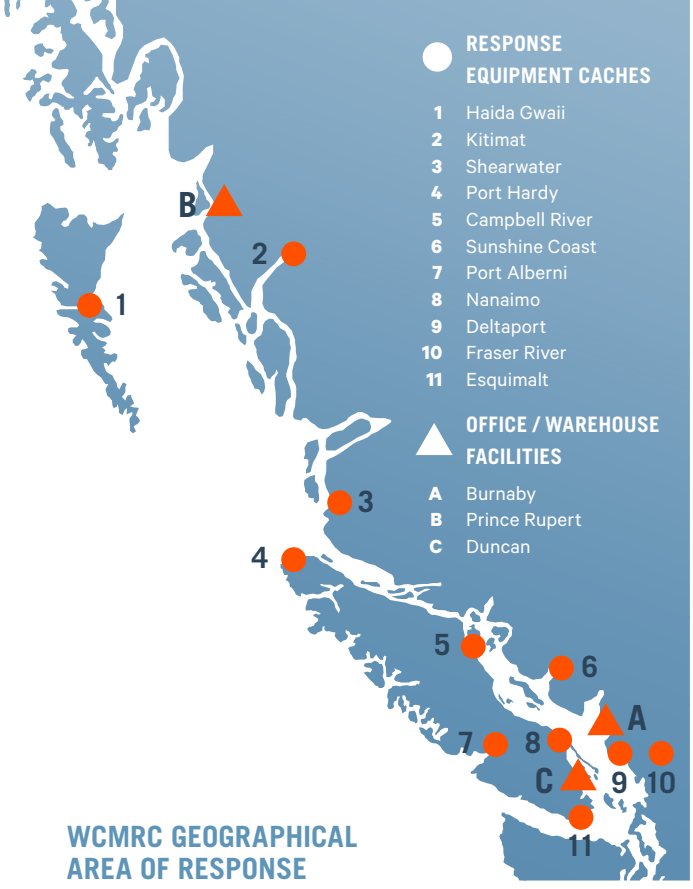
Strategic positioning:
Vessels, equipment and personnel are placed at intervals along B.C.'s coastline, enabling us to respond quickly wherever a spill occurs.

- ***3 equipment warehouses*** *in Burnaby, Duncan and Prince Rupert*
- ***11 equipment caches*** *strategically located along B.C.'s coastline*
- ***17 response vessels*** *stationed around Burrard Inlet*
- ***8 response vessels*** *stationed on Vancouver Island*
- ***6 response vessels*** *stationed in Prince Rupert*

24/7 notification system:
WCMRC's responders are on-call around the clock and trained to respond to a spill at any time of day or night.

Fast boats:

- *Our average response time in the Lower Mainland over the last 10 years is approximately 60 minutes*
- *Our latest high-speed response vessels have a top speed of 26 knots and can be anywhere within Burrard Inlet in less than 15 minutes*



WCMRC GEOGRAPHICAL AREA OF RESPONSE

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RISK-BASED RESPONSE PLANNING

Recent changes to the Canadian government's tanker safety and spill response regime introduced measures that will see the creation of a response system based on risk, which takes the area's geography, environmental sensitivities and oil tanker traffic volumes into consideration. The government has proposed developing new area response plans for regions with current or projected high levels of tanker traffic, including the southern tip of Vancouver Island.

THE DIGITAL GEOGRAPHIC RESPONSE PLANNING TOOL

As part of the move towards a risk-based regime, WCMRC is developing a digital Geographic Response Planning Tool to coordinate our response activities. The award-winning application is shared and accessible to all WCMRC responders, allowing us to coordinate and map the locations of our available vessels, equipment and personnel.

The app displays data in real time so that we can quickly identify priority areas that may require a protection strategy based on potential sensitivities, topography, surrounding infrastructure and known threats and hazards. It also houses a database of site specific response plans, which provide information on booming strategies and staging points.

No spill is the same

How much oil is recovered in a spill? It is not possible to provide a standard estimate of the percentage of oil recovered from a spill. The size of the spill, oil type, response methods and the environmental conditions at the time of the incident all affect how much oil is recovered. Depending on the type of product a significant portion is lost to evaporation. Typically, mechanical systems recover about five to 25 per cent of a spill in open water conditions. WCMRC has experienced mechanical recovery rates as high as 94 per cent in sheltered water.

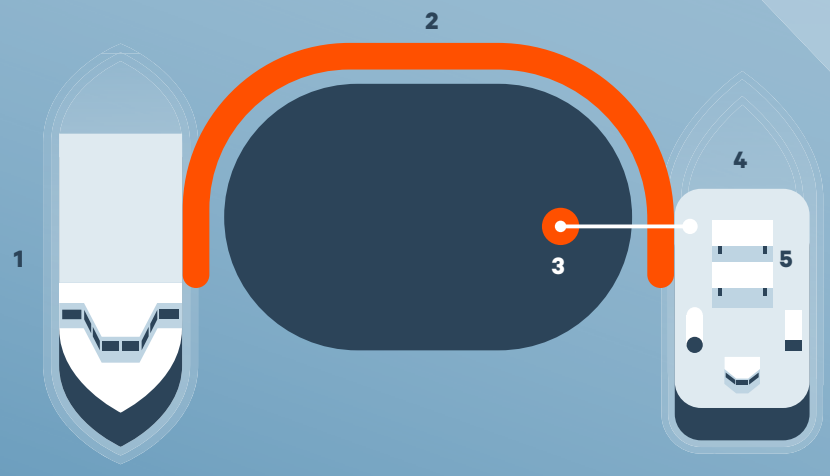
THE ANATOMY OF A SPILL RESPONSE

Containment boom, support vessels, mechanical skimmers, storage and sorbents represent the fundamental equipment for on-water spill countermeasures.

1 **Support vessels** perform a wide variety of functions from deploying boom to transporting personnel and equipment.

2 **Booms** are used to limit the spread of oil, deflect oil away from sensitive areas and contain the oil for recovery. Different booms are used for different operating environments and conditions.

3 **Mechanical skimmers** recover spilled oil from the water's surface and pump it into a storage vessel. WCMRC uses a range of oil skimmers to recover heavy crude oils (including dilbit) and lighter petroleum products.



4 **Storage Barge:** WCMRC employs a number of different storage strategies including barges and floating bladders.

5 **Sorbents** are materials used to recover liquids through absorption. Any oil that is removed from sorbent materials must also be properly disposed of or recycled.

HOW WE RESPOND TO A SPILL

Spill response regimes worldwide are designed around a system that is scalable, allowing resources to be cascaded in from other regions and from mutual aid partners if required. Spill response follows universal and established protocols:

- **Control** the source of the spill
- **Contain** the spill with a boom while protecting environmentally, culturally and economically sensitive areas along the shoreline
- **Recover** the oil and transfer it to secure storage

MECHANICAL RECOVERY

Mechanical recovery and containment is the primary line of defense against oil spills. Recovery and containment equipment includes a variety of booms and skimmers, as well as natural and synthetic sorbent materials.

NON-MECHANICAL RECOVERY

Unlike other spill response regimes around the world, non-mechanical containment methods, such as dispersants and controlled in-situ burning, are currently not preapproved for use in Canada. The federal

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CONTROL → **CONTAIN** → **RECOVER**

government has proposed amending legislation to allow the use of alternate response measures and to clarify the Canadian Coast Guard's authority to use and to authorize these measures when appropriate.

Dispersants

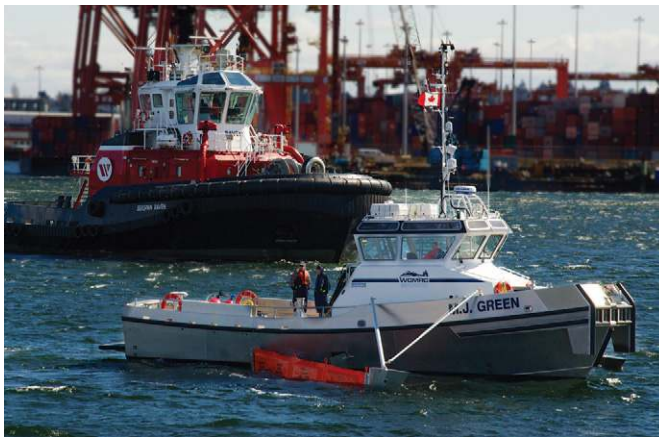
Dispersants are chemicals that break petroleum oil into small droplets, which disperse into the water column where natural processes break them down further. The use of dispersants offshore is recognized as an efficient way of rapidly treating large areas of spilled oil, preventing the oil from reaching shorelines, birds and marine mammals. Dispersants can be applied via fixed-wing aircraft, helicopters and vessels.

Controlled In-Situ Burning

Oil can be disposed of quickly, efficiently and safely by controlled burning. This technique works most effectively on thick oil layers when the oil is contained by fire-resistant booms. In-situ burning is an effective way to rapidly remove large volumes of oil.

WHO PAYS FOR OIL SPILL RESPONSE?

As required by law under the Canada Shipping Act, WCMRC's operations and equipment are funded by bulk oil cargo fees and by membership fees from shipping and oil handling companies that operate along the West Coast. Any vessel larger than 400 tonnes calling on a B.C. port is required to have a membership with WCMRC. Any oil transporting vessel over 150 tonnes is also required to pay membership fees, this includes barges and refueling vessels. In total, we have nearly 2,200 members.



In the event of a spill, the responsible party is required by law to pay 100% of WCMRC's cleanup costs.

In the event of a spill, the responsible party is required by law to pay 100 per cent of WCMRC's cleanup costs. All ships are required by law to have insurance that will cover these costs.

Does dilbit sink?

Bitumen from Alberta's oil sands is too thick to flow through pipelines, so it is thinned with a light petroleum product called diluent. The resulting product is known as diluted bitumen (dilbit). Because it weighs less than water, it floats and is recoverable using oil skimmers. WCMRC has successfully recovered dilbit using our existing brush skimmers.

Recent federal government tests revealed that dilbit behaves similarly to conventional crude oil. Both can sink if given the opportunity to mix with sediment. Recovering the oil before it has a chance to mix with sediment has become a critical component of our response planning.

INTERNATIONAL COOPERATION

If a spill were to occur in or near a trans-boundary area, a response from two countries would be required by the agencies of the two nations.

THE JOINT MARINE POLLUTION CONTINGENCY PLAN

Joint spill response between Canada and the U.S. is governed by the Joint Marine Pollution Contingency Plan treaty. Together, the United States Coast Guard and the Canadian Coast Guard manage the implementation and maintenance of the treaty, exercising response strategies every two years.

MUTUAL AID AGREEMENTS

WCMRC also maintains mutual aid agreements with response organizations in Canada and the U.S. These mutual aid agreements are formal contracts between response organizations to lend assistance across jurisdictional boundaries when required. We have mutual aid agreements with NRC, SEAPRO and the Association of Petroleum Industry Cooperative Managers (APICOM), as well an operational agreement with Eastern Canada Response Corporation (ECRC).

WHERE ARE WE HEADED?

If either of the proposed Northern Gateway or Trans Mountain pipeline projects moves ahead, WCMRC's capacity will increase substantially. Both projects have adopted a risk-based approach to response planning and have proposed significant improvements to spill response capacity and response times on the West Coast. The Trans Mountain Expansion Project would likely increase the total number of bases for Vancouver Island and the south coast from two to six, including two 24-hour bases. Northern Gateway's response equipment plan involves the creation of multiple new floating response stations in Douglas Channel.

Regardless of whether the pipeline projects proceed, WCMRC will continue to grow as marine traffic expands along our coast.

TO ACTIVATE US CALL OUR 24-HOUR SPILL EMERGENCY LINE:

1-855-294-9116

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