



Photo: Lloyd DeGrane

Executive Summary

The risks posed by tar sands crude shipping on the Great Lakes are real, and proposals are in the pipeline that could make the lakes the next frontier for moving crude oil to a vast network of Midwest refineries. If granted, these proposals open the door to shipping large volumes of this unique and relatively new form of crude across the Great Lakes, and in so doing expose these waters to threats. The choice to develop tar sands crude shipping on the Great Lakes is precisely that. Any decision to move forward with this scenario must be evaluated against a backdrop of first understanding the shortfalls that exist in the current regulatory framework, meaningful and measurable improvements in spill-prevention and response capability, and whether it is possible to further develop customized spill-response protocols for tar sands crude to ensure long-term Great Lakes protection. As such, steps must be taken immediately to improve oversight and transparency about safety and spill prevention in the region.

The prospect of tar sands shipping on the Great Lakes gives rise to fundamental social and economic questions about whether moving crude oil by vessel across the world's single largest surface freshwater system is a venture this region wants to embrace, despite the known risks. As the Great Lakes are also the source of drinking water for more than 40 million people, endeavoring to understand, gird against and respond to the effects of a potential oil spill on the lakes is vitally important.

The Great Lakes have long provided critical passage for transporting goods. The shipment of petroleum products has been an important part of this history, an uneasy union that often balances economic gain against potential ecological cost. The movement of oil across water increases the risks of oil in water, a clash in which the environment is the loser. The movement of more and more oil across Great Lakes waters, as is now proposed, raises the specter of more spills and more damage. The region's cataclysmic experience in the Kalamazoo River three years ago clearly showed that when an oil spill occurs, petroleum products differ greatly in how effectively they can be removed from the environment. Indeed, the manner in which tar sands are extracted, coupled with their composition in transit, present dual risks to the environment. Tar sands crude is heavy crude oil mixed with sand, clay and other hydrocarbon mixtures. Extracting it is resource-intensive; for every barrel of tar sands oil, the extraction process removes four tons of sand and soil and three barrels of water.

Other environmental risks loom large once these tar sands are put into transit, whether via pipeline or ship. The physical makeup of tar sands crude creates a heavy substance that, during a spill, can sink to the riverbed or lakebed rather than float on the water. The resulting, disturbing characteristic of "tar

sands crude” is that it is extremely difficult, potentially even impossible, to completely remove from the water after a spill. The Kalamazoo River, a Lake Michigan tributary, still suffers the effects of a tar sands crude pipeline leak, even after three years and more than \$1 billion spent on cleanup. Much of the complexity of the Kalamazoo cleanup results directly from the heavy tar sands crude sinking to the bottom of the river. Responding to a spill of that magnitude in the deep waters of the Great Lakes would be even more difficult.

No method of transporting petroleum products can ever be completely safe, and shipping petroleum by vessel is no exception. Even the safest, best-maintained vessel faces spill risks in loading cargo and sailing on the open water. As recently as 2005, a cargo vessel owned by Egan Marine Corporation transporting clarified slurry oil in the Chicago Sanitary and Ship Canal had a large explosion that led to the discharge of 84,000 gallons of oil. Such incidents prompt concern about any sizable increase in the amount or change in the type of petroleum shipped on the Great Lakes, as neither the Great Lakes shipping fleet nor its ports were designed to ship tar sands crude over the Great Lakes.

Calumet Specialty Products Partners, L.P. has signaled its intent to begin shipping tar sands crude by vessels on the Great Lakes as early as the 2015 shipping season. Together with its dock partner, Elkhorn Industries, the two recently applied for several necessary permits from the Wisconsin Department of Natural Resources. Calumet L.P. also may plan to ship medium crude oil from western North Dakota’s Bakken fields in addition to the tar sands crude. Although far from certain, industry observers and consultants speculate this crude could travel from Wisconsin across Lake Superior to Lake Michigan, and on to refineries in Whiting, Ind., Lemont, Ill., and possibly Detroit, Mich. near Lake Erie. Other potential destinations include Sarnia, Ontario on Lake Huron, or even an East Coast refinery.

The problems are clear: tar sands crude is a significant environmental threat on multiple fronts; shipping it over water carries an inherent risk of spills; and proposals to ship tar sands crude across the Great Lakes are about to become more prevalent. Knowing this, the region must preface its decision about whether to ship tar sands crude by vessel with proactively improving oil-spill prevention and response policies.

- **U.S. and Canadian Governments:** The U.S. and Canada must work with one another when appropriate, notifying one another of plans to allow increased tar sands crude shipments on the Great Lakes and ensuring proper coordination and oversight, in keeping with terms of the Great Lakes Water Quality Agreement.
- **U.S. Government:** Relevant federal agencies must improve regulations pertaining to the shipment of petroleum products, as well as interagency coordination and communication in dealing with large-scale spill prevention and cleanup. The U.S. Coast Guard should prepare for submerged tar sands crude spills in its “Worst-Case Discharge” scenarios for the Great Lakes.
- **U.S. Congress:** Congress should increase funding for preparedness and response programs in four priority spill categories: vessel-based, facility-based, cold-weather and pipeline spills. This would be in step with key recommendation of a 2012 report by the Great Lakes Commission’s Emergency Preparedness Task Force. A proactive stance by Congress now can ensure the U.S. is prepared to prevent and respond to spills as effectively as possible, saving scarce funds in the long run.
- **Great Lakes States:** The Great Lakes states must do their part by updating their regulatory regimes. These states can learn from other states, such as Washington, which updated its laws after the Deepwater Horizon oil spill in order to better protect that state’s coast from oil-shipping spills. Our Great Lakes states should similarly expand and enhance their laws to meet current challenges.

- **Industry:** Industry has an important role in making shipping by vessel safer as a means of protecting public resources. The success of vessel shipping on the Great Lakes depends on our region's confidence that shipping will not degrade the lakes that vessels transit. Although government can and must prescribe general safety requirements, industry is in a unique position to develop improved safety practices that are tailored to individual facilities and vessels and maintain necessary spill-response equipment. Industry must also provide financial support to private-public partnerships to make spill-response information more available to the public and better coordinate response efforts.

POLICY RECOMMENDATIONS

- **U.S.-Canada:** Notify one another of plans to allow increased tar sands crude shipments on the lakes and ensure adequate oversight, in keeping with terms of the Great Lakes Water Quality Agreement.
- **U.S.:** Improve coordination among federal agencies involved in large-scale spill prevention and response, with special emphasis on tar sands crude and other "submerged" oil spills.
- **Congress:** Increase funding for prevention, preparedness and response programs in four priority spill categories: vessel-based, facility-based, cold-weather and pipeline spills.
- **Great Lakes States:** Expand and enhance state laws to prevent and better protect their shorelines from oil shipping spills.
- **Industry/Tar Sands Crude Shippers:** Improve safety and maintain spill-prevention and response equipment, and provide financial support to efforts aimed at making spill-prevention and response information publicly available.

Read the full report: <http://www.greatlakes.org/tarsands>