

# 1 Problem

<b>What</b>	Problem(s)	Oil washing up on coast, oil leaking from sunken ship
<b>When</b>	Date	First reports of oil on March 31, 2013
	Different, unusual, unique	Sunken ship nearby
<b>Where</b>	Facility, site	Change Islands in Notre Dame Bay, Newfoundland
	Task being performed	Normal coast activities

## Impact to the Goals

<b>Environmental</b>	Oil released into environment
<b>Customer Service</b>	Citizens concerned about response to oil
<b>Production/ Schedule</b>	Impact on tourism and fishing
<b>Economic</b>	Cost of clean-up/containment
<b>Labor/ Time</b>	Ongoing containment/investigation

Frequency	700 at-risk sunken vessels have been identified in Canadian waters alone
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# OIL LEAKING FROM SHIPWRECK

Cause Map

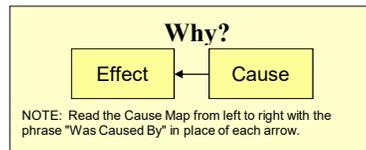
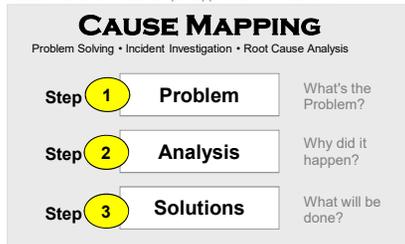
## Newfoundland Community Threatened

On March 31, 2013, oil was reported in Notre Dame Bay, Newfoundland. Officials traced the source of the oil back to a ship, the Manolis L, that sank in 1985 after running aground. The Manolis L is estimated to have contained up to 462 tons of fuel and 60 tons of diesel when it sank and much of that oil is believed to still be contained within the vessel. Officials are working to ensure the oil remains contained, but residents of nearby communities who rely on tourism and fishing are concerned about the potential for more oil to be released into the environment.

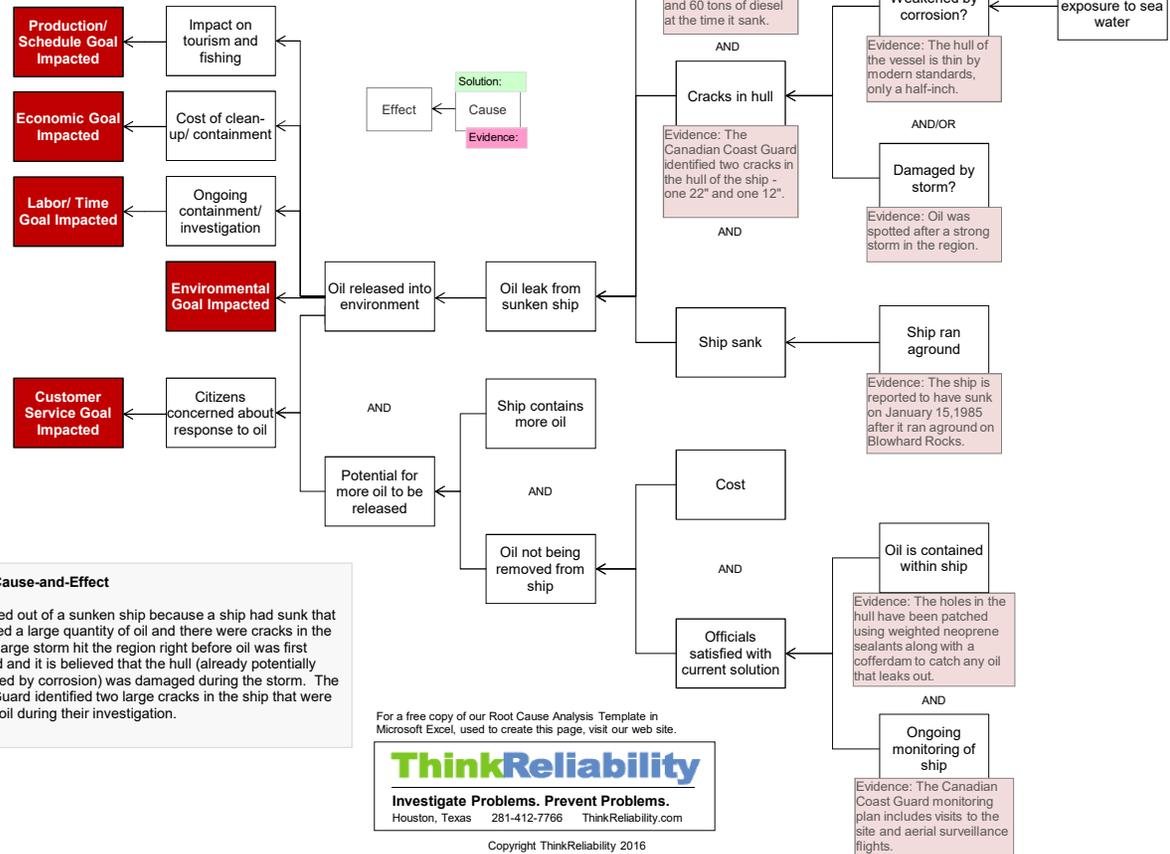
"The seriousness comes from the potential impacts because she's... so close to the shoreline. Any oil spill in that area is going to have catastrophic effects on the environment."

-Naval architect Kevin Strowbridge

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.



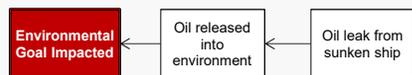
### More Detailed Cause Map - Add detail as information becomes available.



# 2 Analysis

Basic Level Cause Map - Start with simple Why questions.

Basic Cause-and-Effect



Oil leaked out of a sunken ship because a ship had sunk that contained a large quantity of oil and there were cracks in the hull. A large storm hit the region right before oil was first reported and it is believed that the hull (already potentially weakened by corrosion) was damaged during the storm. The Coast Guard identified two large cracks in the ship that were leaking oil during their investigation.

For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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