

# 1 Problem

<b>What</b>	Problem(s)	California fishing season for Dungeness and Rock crab delayed until further notice
<b>When</b>	Date	Fall 2015
	Different, unusual, unique	Large algae bloom
<b>Where</b>	Facility, site	California coast north of Santa Barbara to the Oregon border
	Task being performed	Crab fishing, consumption of crabs

## Impact to the Goals

<b>Safety</b>	Potential for domoic acid poisoning from consuming crabs
<b>Environmental</b>	Impact to sea life (particularly sea lions)
<b>Regulatory</b>	California crabbing season delayed
<b>Property/ Equipment</b>	Significant economic impact to fishing industry

# 2 Analysis

**Basic Level Cause Map** - Start with simple Why questions.

**Basic Cause-and-Effect**



California officials have delayed indefinitely both recreational and commercial fishing for Dungeness and Rock crab because the crabs have been determined to be a threat to public safety. Testing has shown that many of the crabs in this region contain potentially unsafe levels of domoic acid.

# CALIFORNIA'S CRAB SEASON DELAYED

## Neurotoxin makes crabs unsafe to eat

Cause Map

Warmer than typical ocean temperatures have led to an unusually large and long-lasting algae bloom created by *Pseudo-nitzschia*. Domoic acid is naturally produced by *Pseudo-nitzschia* and it can be concentrated into dangerous levels as it moves up the food chain.

"Recent test results have shown persistently high levels of domoic acid in Dungeness crab and Rock crab which have been caught along the California coastline. The levels have exceeded the State's action level for the crabs' body meat as well as the viscera, commonly referred to as crab butter, and therefore pose a significant risk to the public if they are consumed."

- statement by California Department of Public Health on November 3, 2015

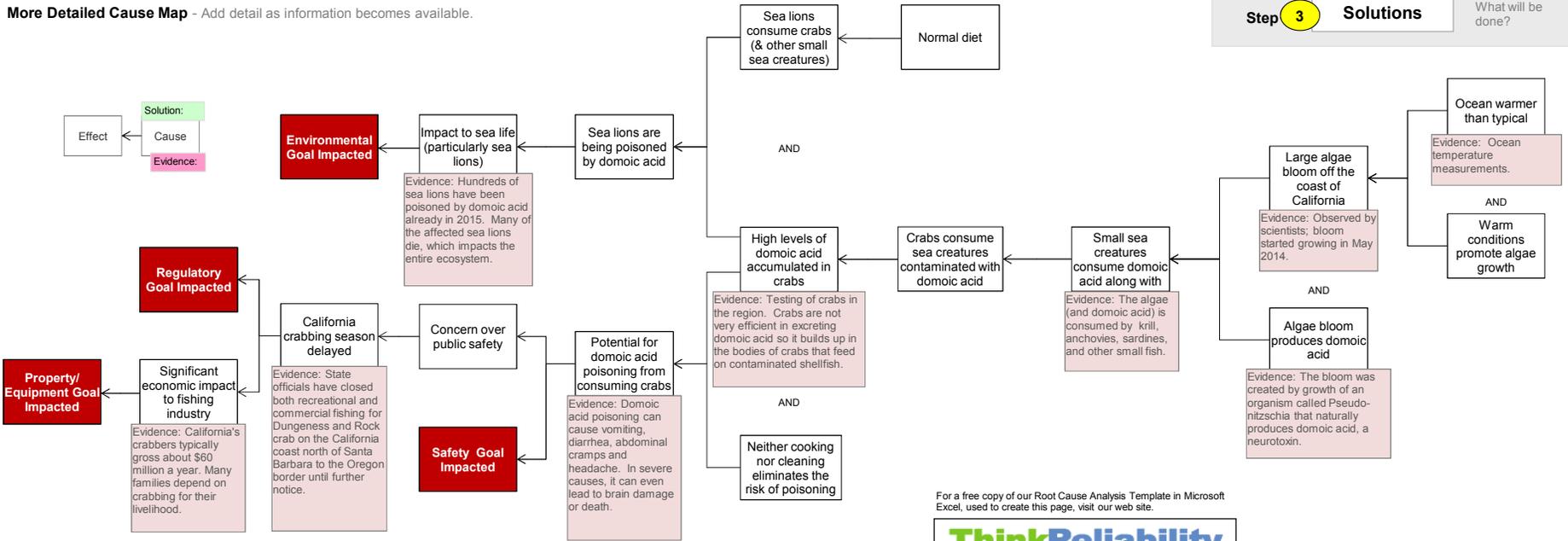
Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

### CAUSE MAPPING

Problem Solving • Incident Investigation • Root Cause Analysis



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



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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