Harmful algae blooms is the term used to describe naturally occurring, worldwide phenomena of nuisance blooms of toxic algae. From December 2015 to March 2016, a slow-moving disaster struck the farmed salmon industry in southern Chile and 20-25 million farmed salmon were killed by an algae bloom of *Pseudo*chതtontella verruculosa*. Mortalities started in the Los Lagos area (Region X) in January and then spread northward for hundreds of kilometers to Los Lagos, Los Ríos and Chiloé island, the main salmon farming areas of the country. At its peak, more than 2,000 km of coastline were affected, with a hardest hit area of about 300 km.

To dispose of the dead salmon, about 22,000 t were ground up for fishmeal and an additional 9,000 t were disposed of in landfills. In what now seems to be an ill-advised decision, the government fisheries agency, Sernapesca, and the Chilean Navy approved a request from the salmon industry trade group, SalmonChile to dump 4,500-9,000 t of dead salmon at sea about 130 km from Chiloé island.

A few weeks after the dumping of dead salmon at sea, in April, another wave of dead sealife washed up on Chiloé island. This fish kill was caused by a bloom of the red-tide algae *Alexandrium catanella*, leading regulators to close area coastal fisheries and for the government to declare a state of emergency in the region in response to the environmental disaster. About a dozen people were poisoned by consuming toxin-contaminated seafood.

Red tides are common and occur naturally during the summer in southern Chile. However, the impressive extent and magnitude of this year’s red tide was enhanced by the strong El Niño event that pushed regional sea surface temperatures 2-4°C above normal.

The closure of area fisheries by government regulators disrupted the livelihoods of thousands of fisherman. The government offered a token compensation, bringing the level of anger and frustration of fishermen to a boil. Fishermen blocked roads and access to ports and to Chiloé island for 17 days. For a brief time, protests spread to the capital Santiago. What started as a regional protest became more widespread and occasionally violent.

Many fishermen blamed salmon farming practices and specifically the disposal of dead fish at sea for the red tide. Fishermen are angry about what they perceive to be weak regulation of the salmon farming industry. Public opinion in the country generally shares the negative views of salmon farming held by fishermen.

Blockades of ports prevented access to salmon processing plants and cold storage facilities, so there were no salmon exports from Chile in early May. Fishermen blockades also disrupted normal salmon farming operations. The salmon industry there was effectively paralyzed during this period.

About 2/3 of salmon processing capacity is located on Chiloe island. The major salmon producers and processors in Chile reported large losses from red tide. For 2016, it is estimated that annual production will decline by 15-20 percent, from 750,000 t to about 650,000 t, the shortfall worth around $800 million. Undercurrent News is reporting that more than 10,000 people will be out of work as a result of this crisis, including 5,000 small-scale fisherman, 4,000 salmon farm industry workers, and another 2,300 indirect workers. Marine Harvest let go 500 workers and had to restructure its business. The CEO of AquaChile resigned after the company posted millions of dollars of losses. The effects of this crisis on the salmon farming industry in Chile have been profound and are expected to linger until 2018.

President Michelle Bachelet has named a commission to investigate the causes of the red tide. The study has been completed but results have not yet been released. It is difficult to ascribe the causes for the disaster but it seems that some combination of causes of red tides include 1) a strong El Niño event, fueled by warming induced by climate change, 2) a 25-yr period of benthic and nutrient loading by the salmon farming industry, and 3) perhaps a pulse of nutrients associated with dumping dead fish at sea, but this seems the least likely mechanism. It is difficult to explain the event with certainty because monitoring of coastal water quality has not been ongoing or systematic. Investment is needed in this basic research.

The government has just now begun to reopen areas to fishing as water temperatures drop and the red tide has receded. However, mistrust of the salmon farming industry lingers and there is no doubt that the public perception of salmon farming as a “dirty” industry that contributed to making the red tide and other environmental problems is now firmly embedded in the public consciousness, irrespective of the reality. The handling of the crisis, particularly the dumping of dead fish at sea, was a public relations disaster for the industry, coming on the heels of other environmental problems. Self-regulation does not seem to work in Chile and another regulatory approach, perhaps modeled on the flexible system of “maximum allowable biomass” and zonation used in Norway. In any case, better governance and greater authority to impose limits seems to be called for in light of this disaster.

In experiencing fish kills of the magnitude that occurred in Chile, for any reason, it’s hard not to believe that the sea is dying. Fish kills caused by harmful algae blooms are highly disruptive to marine and coastal ecosystems and to the livelihoods of fishermen and fish farmers who depend on those systems. These crisis-level events seem destined to be part of our future, representing a challenge to the sustainability of aquaculture. People want aquaculture industries to act responsibly and be “clean.” They want competence, transparency and accountability from their public officials and industry leaders.

— John A. Hargreaves, Editor-in-Chief