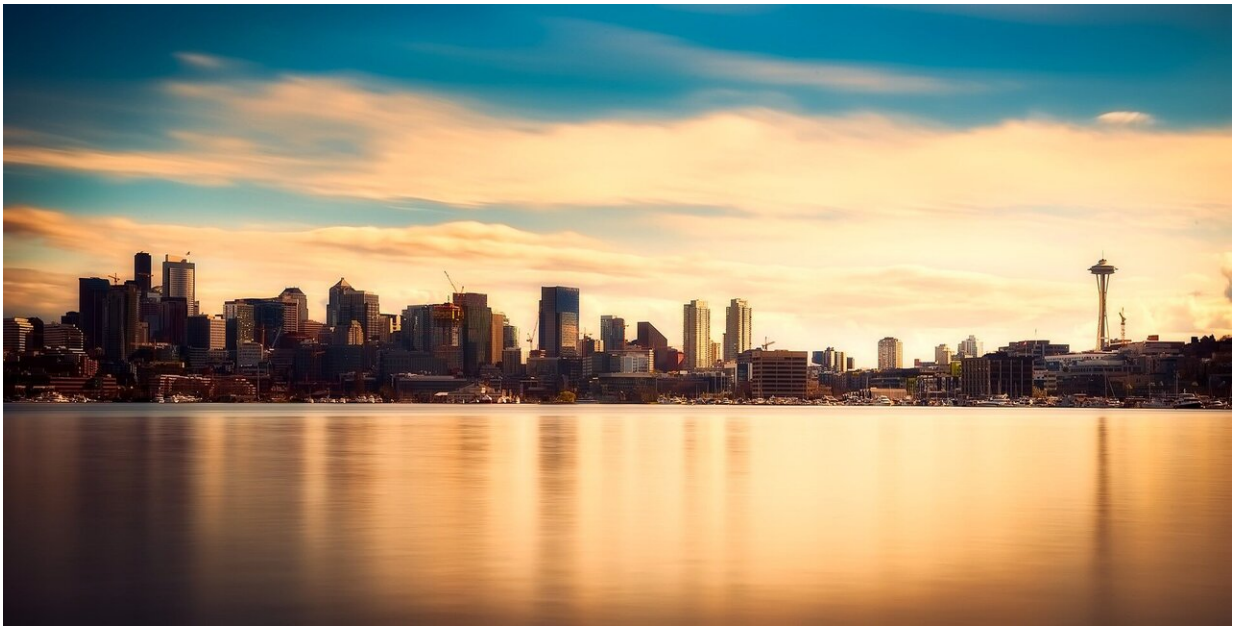


Researchers seek answers to gray whale deaths after 57 are stranded this year

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Gray whales are dying at twice the usual rate as a brutal migration unfolds, with whales washing up on Washington state beaches, apparently starved to death.

As if [gray whales](#) didn't already have enough troubles, with transient killer [whales](#) preying on their calves as the mighty grays swim north in their annual [migration](#) from their birthing lagoons in Baja. But now, gray

whale mothers in particular, depleted by the demands of lactation, are starving, too.

So far 18 gray whales have washed ashore in Washington and a total of 57 have stranded on the West Coast since gray whales began their spring migration north to Alaskan waters from their calving lagoons in Mexico.

Experts are exploring reasons for the spike in strandings, the most in nearly 20 years, and whether warming oceans in an era of climate change could be contributing to the deaths.

"It is almost too soon to tell, are we in a new world where we are going to see more mortalities in top predators like sea lions and gray whales, is this the harbinger of things to come?" said research ecologist Elliott Hazen, of the Southwest Fisheries Science Center of the National Oceanic and Atmospheric Administration (NOAA). "If we start seeing this year in and year out, that is when we should be alarmed."

Last year the total death toll on the West Coast was 45 whales, including 10 in Washington, a little above average. But that was for the entire migration season, which begins as the whales leave their calving grounds in spring and lasts into June. The strandings already seen so far this year are the most of any year since 2000, when 131 grays perished.

Gray whales undertake one of the longest migrations of any mammal, clocking more than 10,000 miles in some instances.

The gray whale population overall is healthy. The population has fluctuated since the late 1990s from about 20,000 to nearly 30,000 animals, about what it was before commercial whaling drove gray whales nearly to extinction. Under protection by an international [commercial whaling](#) ban and the Endangered Species Act, gray whale populations in the northeastern Pacific have steadily rebuilt. This year, the northeastern

Pacific gray whale population is about 27,000 strong.

In a similar so-called unusual mortality event in 1999-2000, most of the grey whales that stranded—but not all—were found to be malnourished. The cause of that event was never entirely determined. However, the deaths were most probably density related, meaning that as the whales' numbers grow, the population reaches so-called carrying capacity. There are more whales than the amount of food in their environment can support.

A similar scenario appears to be at work this year as well, scientists believe. But there is a new possible culprit: climate change.

The whales probably did not get enough food last summer before beginning their epic journey south. That could be both because there are so many whales, and because their food resource was less abundant, because of lingering effects of The Blob, a mass of warm water that began forming in the Northeastern Pacific in late 2013 that massively disrupted ocean food webs.

In addition, as sea ice retreats because of our warming climate, the whales are being forced to forage farther north for the abundant food produced when plankton blooms at the edge of the ice. Traveling farther north to eat means an even longer migration south—with less fat on board to stoke the journey. (The whales don't eat once they begin their southbound migration.)

Frances Gulland, a member of the Marine Mammal Commission and lead author on the analysis of the last die-off, said that while there is no worry as to the survival of such a robust population, scientists are still concerned about the increase in strandings, and the public should be, too.

"Is this yet another symptom of climate change?" Gulland said. "We do

know that they are suffering from malnutrition, and we do know it is because of larger sea ice changes. The public needs to wake up that everywhere you look, there are impacts of climate change."

Next year will be telling, Gulland said. If The Blob is primarily to blame, next year's migration should not be as marked by strandings. However, if shrinking sea ice is the primary driver, next year could be just as bad, even worse.

Hazen, the research ecologist with NOAA, also wondered if what is being witnessed this year is not just a repeat of the die-off in 1999-2000, but a reset of the ecology of the Arctic in a warming world. Hazen studies migration as an indicator of environmental change.

"It's hard to say, is this the same as we saw in the past? The way I like to describe it is we don't know if we are still experiencing a recovery in the ecosystem from The Blob or are we facing a new normal," Hazen said.

John Calambokidis, of the Cascadia Research Collective in Olympia, cautioned it is still early to understand just what is behind the die-off. He expects the record set in the last unusual mortality event could be reached and broken this season. "We are getting close to those numbers and we are only halfway through the migration season, and there certainly will be more."

Once relentlessly pursued nearly to extinction by commercial whalers, grays have been protected from commercial hunting by the International Whaling Commission (IWC) since 1949.

The grays were taken off the federal endangered species list in 1994. They are still protected from hunting under the Marine Mammal Protection Act and IWC. Exemptions are granted for aboriginal subsistence hunts, including by the Makah Tribe in Washington.

Growing nearly 50 feet in length, the slow but steady grays have a way of endearing themselves to people.

They are not flashy like orcas, with their stately dorsal fins and dramatic breaches and fierce, toothy visage. Grays are the homebody whale, often visible during their near-shore spring migration all along Washington's coast, and choosing to give birth together in Baja lagoons, where they will even show off their young to adoring tourists.

Local feeding aggregations of gray whales return year after year to the Strait of Juan de Fuca and the north Puget Sound. They are a staple of the whale-watch industry, and their return is awaited and expected by Washingtonians as eagerly as the first swallow in spring.

What's happening to the gray whales matters both because of what it can teach us about environmental change, and for the sake of the whales themselves, Calambokidis said.

"Whales represent what we can see, and something people care about," he said. "All of those are important reasons to think through the bigger environmental issues underlying this."

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