



## Humpback whales seize chance to sing in Alaska's cruise-free Covid summer

The cruise ships that normally throng south-eastern waters are absent, giving researchers a unique opportunity to eavesdrop

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For Alaskans, summertime means cruise ships. Lots of cruise ships. The 2020 season was expected to commence with a record-breaking deluge of 1.4 million tourists and glacier gazers that would effectively triple the state's scant population of 730,000. Once the pandemic hit, that number effectively dropped to zero.

"The town of Skagway gets a million people a year off cruise ships and is just completely shut down," said Paul Swanstrom, longtime bush pilot and founder of Mountain Flying Service, which operates out of the southern Alaska community. "It's nuts. All the south-east has been hit pretty hard."

Yet although the economy is being decimated by the reduction in tourist vessels, the state's humpback whales are some of the few locals actually enjoying the silence. Dr Michelle Fournet, director of the Sound Science Research Collective and research fellow at Cornell University, has been listening in on whale conversations for 10 years, but never before has she seen a summer like this.

"It's the first time in human history that we've had the technological ability to listen to these whales in a meaningful way without us interfering ... it's a really, really big deal.

"The last time researchers were able to listen to humpbacks in a quiet ocean in Alaska was in 1976," when commercial whale watching began, said Fournet, and their population was much lower as humpback whaling was banned only a decade earlier. Since that time, recording technology has come a long way and whale populations have seen a huge resurgence, with several thousand summering in south-east Alaska alone. (Though most of their populations worldwide are now labeled 'not at risk', four of fourteen groups are still considered endangered.)

Most whale watching in Alaska happens out of Juneau's Auke Bay, and it's one of the most popular excursions for those visiting on a cruise ship. More than one-quarter of all passengers opt for this day tour, which amounts to over 350,000 travelers packing the boats each year, according to Suzie Teerlink, marine mammal specialist with NOAA Fisheries. On a busy day, there can be 10 or more whale-watching vessels clustering around a single whale or group, prompting concerns about vessel overcrowding.

With as many as 65 whale-watching boats zooming around Juneau and nearby Glacier Bay national park on any given day during the summer, humpbacks change their behavior in two distinct ways: they call louder and they call less.

"When an animal calls less, the likelihood of it finding a comrade goes down significantly," said Fournet. "So, we alter their social structure."

This year "we're going to see how these humpback whales are interacting with their environment instead of how they're interacting with us. You can't figure out whether or not your species is resilient to something if you don't know what it acts like when it's happy."



A humpback whale off the coast of Alaska. Photograph: Alamy

Researchers are also gathering blubber biopsies to analyze the animals' stress hormones during the 2020 season. They obtain the samples by firing an untethered biopsy dart or bolt from a modified .22 rifle or crossbow – researchers argue that this causes only limited harm – and compare the cortisol levels against samples collected from the same whales in 2014.

“We are still amidst data collection and so it's too soon to report any numbers or results,” said Dr Heidi Pearson, associate professor of marine biology at University of Alaska Southeast. “But, based on my observations, it does seem that whales are exhibiting more resting behavior this year ... I have also observed larger groups and more social behavior than I have in previous years.”

The goal of the studies is to establish a meaningful behavioral baseline and better understand the impacts tour boats have on marine creatures. “We are committed to ensuring that whale-watching tourism is done in a responsible and sustainable way,” said NOAA's Teerlink. “I am hopeful that we will be able to use this pause to work together with our industry partners to think outside the box and move forward with conservation and sustainability in mind.”

Scientists are keenly aware that it is often the whale-watching trips themselves that help sway the public to support and fund protective measures.

“We're not going to eliminate cruise ships, nor should we,” said Fournet, “They're really important economically and for people to interact with their environment ... but what I hope is that as we start to ramp the noise back in we can identify the tipping point.”

Fournet was ecstatic after listening to her first hydrophone recordings of the year two weeks ago. “It's really, really quiet. [On] my very first pass of listening, I randomly picked a file, and I immediately heard a whale instead of a boat.”

The state may be facing a big economic downturn, but this is at least one fact to take comfort in, she said. “Even though we are not on the ocean right now, the whales are still there,” said Fournet. “They're there whether we are watching them or not, and that is a very comforting thing.”

## News 4

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Are you interested in whale watching?

Why do many people opt for the whale watching tour.

Are you concerned about animals' well-being? Any animal in particular?

Should whales be in an aquarium?

Do you think it is ethical to eat a whale?

What is your opinion of zoos?

If whale watching injures them, should it be allowed?

----- is nuts in my opinion.

----- was a big deal for me.

What kinds of businesses have been hit hard in 2020?

Besides your parents, who has had the greatest impact on you?

What kinds of problems are difficult to figure out?