

Will orcas thrive in the coronavirus pandemic's quieter waters? Scientists aim to find out

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The coronavirus pandemic has upended and refocused orca field research in Northwest waters this season.

Some scientists are beached. Others are investigating the effect on endangered southern resident orcas of suddenly much quieter home waters in the Salish Sea, the transboundary waters between the United States and Canada including Puget Sound.

The southern residents hunt by sound. Disturbance and noise caused by boats and vessels is one of three main threats to their survival, in addition to lack of adequate chinook salmon (their preferred food) and pollution. So this spring like none other, researchers are trying to learn how orcas respond to waters deserted by recreational boaters because of the pandemic.

The recreational whale watch fleet is temporarily tied up at the dock because of the stay-home order imposed by Gov. Jay Inslee intended to slow the spread of the virus. Recreational boating also is greatly reduced.

The Northwest whale watch industry is anticipating a restart at some point this summer, with retrofits for social distancing, said Kelley Balcomb-Bartok, communications director for the Pacific Whale Watch Association. But so far income and employment for the 28 tour operators from 19 ports in B.C. and Washington has been cratered by the virus.

The industry was hoping to take out an estimated 562,274 guests in a tour business worth about \$68 million, and employ about 675 people at the peak of the season, Balcomb-Bartok said. Instead the boats barely got out before the shutdown, and operators so far have laid off 424 employees.

The water isn't totally quiet. Ferries, military boats and commercial shipping lines and tankers are still operating. But the tour boats that follow the whales from morning till sunset for now are tied up.

"It's unbelievable, there are zero boats," said Sam Wasser, director of the Center for Conservation Biology at the University of Washington. "I have never seen anything like this and I have been coming here since the 1980s," he said of the west side of San Juan Island.

For the past nine years, Wasser and his research team have studied nutritional stress in orcas by examining hormone levels in their scat.

The team uses specially trained dogs that can sniff out whale scat from a nautical mile away, so the team can collect it for analysis. This year offers unique conditions for study.

So Deborah Giles, science and research director for the nonprofit Wild Orca, headed out in her [boat](#) with her husband and trained whale scat dog Eba in an early season start, intended to capture scat from the whales in quieter water. "But the sad fact is they have not been here," she said of the orcas.

The scarcity of salmon has changed the orcas' foraging patterns, Giles said. Instead of being in the Strait of Juan de Fuca and west side of San Juan Island regularly beginning in May as in the past, the orcas in recent years have been arriving later, and spending much less time in and around the San Juans.

Instead K pod was spotted in late May off Eureka, Calif., targeting chinook on the outer coast. J pod also has been spotted farther north, in Canadian waters. The J, K and L pods of the southern residents were listed as endangered in 2005. There are 72 left, the lowest population in more than 40 years.

Wasser said the team will probably still be able to get some samples this summer, before things return more to normal—if they do.

Clearly the presence of boats isn't what is keeping the whales away now, Giles said. "They go where the food is."

Brad Hanson, research biologist with the National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center in Seattle, had to cancel his May field season because of the coronavirus. He had been planning to mobilize out of Neah Bay with his crew. But the Makah Tribe has closed its borders since mid-March to outsiders, to protect their people during the pandemic. Social distancing also is impossible on his research boat, Hanson said.

Hanson and his team survey the southern residents every year to conduct health assessments of the orcas, by observation from his research boat. He and the team also gather scat and prey samples opportunistically when with the whales.

Hanson said he hopes to get out on the water with the whales later this summer.

Meanwhile, another crew also has been working to gather photos by drone of the southern residents, to assess their body condition.

John Durban, senior scientist with Southall Environmental Associates, and Holly Fearnbach of the nonprofit SR3 are a husband and wife team of scientists, so their fieldwork is not shut down by social distance requirements. They've had their drone up in the air documenting the southern residents already.

If the whales come back, the team is in good shape to compare drone photos from previous years with normal boat traffic with whatever they will witness this year, Durban wrote in an email to The Seattle Times.

The team's February aerial survey found J pod mostly to be in "generally

decent condition," Fearnbach wrote in an email. "Although some juveniles continue to be lean."

The team has in the past documented poor body condition of orcas that subsequently died as well as smaller body size overall among younger orcas, growing up in a time of chinook scarcity, compared with their elders.

Why some of the [whales](#) are so food limited is something scientists are continuing to look into. Is it lack of adequate regularly available chinook, their favorite food? Is disease or some other factor affecting their ability to feed?

The team was able to get photographs of the pod's most recent baby, J56, and mother J31, Fearnbach said, "and mom appears to be in robust condition."

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