

Researchers studying Oregon's 'resident' population' of gray whales

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Every year, some 20,000 gray whales migrate between the breeding lagoons of Baja, Mexico, and the bountiful feeding grounds off British Columbia and Alaska, often passing close to shore along the Northwest coast – creating a popular tourist attraction.

For some reason, however, about 200 of these whales annually cut short their northern migration, opting instead to cavort along the coastline from northern California to Washington throughout much of the summer. Although they don't live year-round off the Northwest coast,

they are known informally as Oregon's "resident" gray whales.

Scientists don't know as much as they'd like about our ocean-dwelling neighbors, thus a team of researchers from Oregon State University, led by master's student Florence van Tulder, aims to learn more. She is leading a project this summer to spot gray whales that like to frequent the Oregon coast, track their movements and behavior, and compare them with photo archives in an attempt to identify individual whales.

As part of the study, the OSU researchers will also monitor activities of commercial, charter and recreational fishing boats – as well as whale-watching vessels – to determine if they have an effect on the whales' behavior.

"Our goal is not to curtail boat use in waters near whales, but to develop a list of best-practices that we can share with the fishing and whale-watching industries," said van Tulder, who is a student in OSU's Department of Fisheries and Wildlife in OSU's College of Agricultural Sciences. "We'd like to learn more about these whales and better understand how and where they feed along the Oregon coast."

For the next several weeks, van Tulder and her research team will set up viewing locations at two popular waysides – Port Orford and Boiler Bay State Park near Depoe Bay. There they will use a surveyor's instrument called a theodolite to track and map the movement of individual whales at a fine scale as they forage. The data collected will tell them how the whales use different areas, how they search for food patches, and how they interact with vessels.



Survey site at Graveyard bluff above Port Orford. Florence van Tulder on laptop, Sarah Wiesner is on theodolite, and Cricket Carine is on camera duty.
Credit: Cory Bantam

During the team's first week at Boiler Bay, they spotted a whale with overlapping spots on its tail that they nicknamed 'Mitosis.' The whale did a quick "drive-by" and left the study area, but returned two days later and foraged for more than three hours in one small area of just a few hundred yards. The following day, Mitosis arrived again and didn't stay as long, but covered a much broader area.

"We think the reason they're attracted to these foraging hotspots along

the Oregon coast is an abundance of mysid shrimp," van Tulder said. "During summer months, the mysid can be really dense, from the seafloor to the surface, and really close to the shore. We want to know if this wealth of foraging is enough to get them to disrupt their migration north. Or is there some other mechanism at work that makes 200 whales act differently than the other 20,000? That's what we hope to find out.

"There's also the question of how they even locate the shrimp," she added. "Gray whales don't use echo-location, so how do these whales search for and find dense prey patches? It may be possible that this knowledge is passed along from mother to calf among this population subset."

Gray whales are one of the few endangered species success stories, scientists say. The population of eastern gray whales has recovered from the exploitation of 20th-century whaling to become robust. Their near-shore migration has spawned a new industry of whale-watching along the Oregon coast that in 2009 was worth an estimated \$29 million – a figure likely higher today.

Leigh Torres, an OSU whale specialist with the Marine Mammal Institute who is van Tulder's mentor for the project, said the work done this summer by the student research team will help scientists learn more about how the whales use their habitat – and interact with humans.

"There is still a lot we don't know about these whales, so the fine-scale tracking of their feeding behavior, with concurrent tracks of vessels, will be very enlightening," Torres said. "We'd like to know more about how gray whale foraging strategies differ between the two study sites or when there is a dependent calf, or multiple whales are around.

"We're also interested in how the whales behave when there are boats in the vicinity," Torres added. "Are there behavior differences based on

boat traffic and composition? Whales might react to some boats, but perhaps not others based on speed, approach, motor type, etc. We hope to give back to the whale and fishing industries what we've learned so they can establish their own guidelines about how close to get to whales so they can maintain a profitable business and the whales can continue to utilize the habitat."

The researchers also are interested in whether other gray whales may be joining the group of 200.

"It's possible that other [gray whales](#) historically did what this population subset is doing now, but got away from it for some reason," she said. "Or it may be that some [whales](#) are just opportunistic and want to stick around and chow down on the shrimp. With a long-term study, we hope to find out."

van Tulder and her research team will alternate between Port Orford and Boiler Bay through mid-September and welcome interaction from the public.

Provided by Oregon State University

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