

# Up close and personal with gray whales

By Rebecca Herren  
Seaside Signal

Summer vacationers are not the only part-time residents of our region.

About 200 gray whales in the Pacific Coast Feeding Group return every year. Instead of migrating with the rest of the population north to the Bering Sea, they cavort for several months along Oregon's coastline.

Known as resident whales, animals in the group do not live in the area year-round.

## Tracking gray whales

Oregon State University graduate student Florence Sullivan studies gray whales.

She is part of a research team for Geospatial Ecology of Marine Megafauna Lab or GEMM Lab, studying the Pacific Coast Feeding Group, gray whales that feed in the southern waters between northern California and southeastern Alaska.

At a "Listening to the Land" lecture presented by Necanicum Watershed Council and the North Coast Land Conservancy on Jan. 18 at the Seaside Public Library, Sullivan noted that gray whales do not feed during migration, which makes the Oregon coast an important habitat for them on their return migration to Alaska.

The focus of Sullivan's research is to document the foraging behavior of the feeding group, document the affect of manmade disturbances, overall health, body condition and the whales' response to changing ocean conditions.

After the findings are completed, Sullivan works with local communities and whale-watching operators to create scientific guidelines for vessel operation in the presence of feeding gray whales.

The researchers' viewing location is concentrated between Titchener Cove and Mill Rocks near Port Orford and Depoe Bay. The team uses a surveyor's instrument called a theodolite to track and map the



BRYCE SANDLIN/STOCK PHOTO

**A gray whale breaking the surface. Researchers believe some whales are attracted to foraging hotspots along the Oregon coast because of an abundance of mysid shrimp to feed upon.**

movement of individual whales as they forage. The data collected shows the whales' traveling patterns between kelp beds, how they search for food and how they interact with vessels.

New research techniques such as Go Pro cameras and aerial drones benefit the team to closely observe the whales' patterns and behaviors, and hydrophones aid in recording the ocean noise — natural, human and mechanical — whales become exposed to.

In an effort to gain a better understanding of the foraging ecology of the gray whales' feeding group, the team collects samples of a particular prey called mysid. Mysids are small, shrimp-like crustaceans found near the kelp beds.

"We think the reason they're attracted to these foraging hotspots along the Oregon coast is an abun-



REBECCA HERREN/SEASIDE SIGNAL

**Florence Sullivan, center, discusses the "Watch Out for Whales" brochure with Lianne Thompson, Jeff Gage, Judith Pearson and Jim Border.**

dance of mysid shrimp," Sullivan said. "During summer months, the mysid can be really dense from the sea floor to the surface and really close to shore. We want to know if this wealth of foraging is enough

to get these whales to disrupt their migration north, or is there some other mechanism that makes 200 whales act differently than the other 20,000? That's what we hope to find out."

Monitoring the activities of commercial, charter and recreational fishing boats, as well as whale-watching boats can also determine the effects on whale behavior.

## Understanding patterns

Sullivan pointed to a series of graphs and charts explaining how the data collected on vessel noise showed a significant disruption to the whale's behavior patterns while traveling from one kelp bed to another, whereas there was little change to their behavior when actual foraging and eating was in process.

Photographing individual whales is another form of data collection.

This allows the team to follow the whale's migration patterns, their health and nutritional state. Aerial photographs allow the team to document breeding females with or without a new calf. This can also give the team an estimate of the number of calves produced each year, which is an important key of reproductive health and part of Sullivan's advisor marine ecologist Leigh Torres' research. Sullivan noted that photographing a gray whale involves multiple photos and a lot of patience.

"To identify gray whales, we need to take five photographs compared to one photo of the underside fluke of a humpback whale or one photo of the profile of a dorsal fin and saddle patch of an orca," said Sullivan. To identify gray whales, researchers need to photograph the knuckle ridge along the back, underside of the fluke, both sides of the head and body showing scarring, barnacle patterns and mottling to make individual identification.

## A mad scuttle

Leigh Torres, who was unable to make the lecture, also collects data on the behavior patterns of the whales in the feeding group, but by means of a most unusual technique. This system of analyzing data is through whale fecal matter.

The collection of fecal matter is no easy task, however.

Aerial drones alert the researchers when a whale defecates creating a large red plume, springing the team into action. It then becomes a mad scuttle to coordinate their actions and scoop up the best possible sample before it sinks rapidly to the ocean floor.

Tracking what gray whales eat can tell researchers important information about their reproductive hormone levels and if ocean noise causes physiological stress in the whales. They can also identify individual whales, their sex and if females are pregnant. Torres' study shows that ocean noise also affects how whales communicate.

# Maritime archeologist explores many lesser-known shipwrecks

Hunters from Page 1A

One slide of Dewey's presentation revealed a photo of a bronze bow. "Entire areas in the Mediterranean are littered with these bronze bows from galleons that sank during the many battles that took place there," he said. Another slide showed a row of vessel-like casks made out of terra cotta. "These are the only things left from this shipwreck from the Bronze Age." The 40 to 50 casks found measure about one foot wide by two feet tall. This style of stackable container held grains, oils and wine.

Over the years, Hollywood has glamorized shipwrecks and treasure hunting in such movies as "The Deep," "Fool's Gold" and "The Goonies." But who really owns abandoned shipwrecks?

Up until 1988, divers could sneak around and salvage a few trinkets they found on abandoned shipwrecks. But due to the damage many historical wrecks received from salvaging, the Abandoned Shipwreck Act was signed into law.

Shipwrecks embedded in lands in which they lie belong



**Located on Clatsop Spit near Fort Stevens, the wreck of the Peter Iredale is the most visible and well-known wreck on the Oregon coast.**

SUBMITTED PHOTO

to the State including rivers, lakes and up to three miles offshore. The federal government owns anything beyond that. Furthermore, no person shall claim an abandoned shipwreck or its artifacts since the Law of Salvage and the Law of Finds in Sec. 6 is applied to Sec. 7 of the Act. Any military crafts (boats, planes, ships or barges) belong to the military "forever" he said. This includes sunken military craft — foreign and domestic — found in U.S. waters; the country that com-

missioned them protects these sunken crafts.

An archeological site, Dewey explains must be 50 years or older in the State of Washington and 75 years in Oregon. He discourages treasure seekers from making a site claim for excavation due to the mass amounts of paperwork and the amount of money needed for an excavation. "It's expensive to claim an excavation site and by doing so many historical objects have been lost to private collections."

Sites around shipwrecks are as important as the artifacts. "If they had been lost into a private library, there would have been nothing left to see because the ship is gone," Dewey said referring back to the wreck with the containers. "So there is a good reason to leave artifacts where they lie."

The shipwreck of the Peter Iredale is the most visible and well-known wreck on the Oregon coast. Located on Clatsop Spit, its skeletal structure towers above the wet sands during

low tide. Even though larger and more famous shipwrecks such as the Titanic and Peter Iredale are intriguing, Dewey said lesser-known ships that have wrecked in the region equally capture his attention.

One such wreck was found on the Seaside beach in November 2014. Three men were metal detecting in the dunes and uncovered a large piece of wood. Dewey investigated and sent his data and a drawing of a boat keel to the State's archeologist. After much research, the State concluded it was a 1950s trawler.

It didn't take long for the Colewort Creek boat to be identified. The abandoned boat was located in the Lewis and Clark National Historical Park and through word of mouth, a relative and a photo, the boat was determined to be a 1920s square stern gillnetter owned by a local man who transported milk from a dairy farm to the Astoria market.

The ongoing Beeswax Wreck Project is a shipwreck near Nehalem beach. The ship is thought to be the Santo Cristo de Burgos, a Spanish galleon

from 1693 that wrecked sometime around 1700 between Cape Falcon and the Nehalem Spit.

Future projects for the team include the Coastal Survey Project to examine the T.J. Potter, a side-wheel steamer built in 1888 in Portland. It traveled from Portland to Astoria and Portland to Ilwaco, Washington. In 1920, its license was revoked and abandoned on Youngs Bay where it was burned and salvaged for metal. The Potter remains on Clatsop County property.

The Silvia de Grasse, a lumber schooner that sank in Located on Clatsop Spit, Astoria in 1849 is located on the rocks off Pier 39. And, the C-Trader, another lumber freighter sank in 1963 and is located in the Columbia River near buoy 20.

This summer, the team will study the Emily Reed wreck that ran aground in 1908 and is known to be located in Nehalem Bay on the South Jetty. A 1700s wreck is rumored to be located in the southern harbor of Nehalem Bay and Dewey would like to take a look at it at a later date.

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