

New tag revolutionizes whale research for OSU study

A sophisticated new type of “tag” on whales that can record data every second for hours, days and weeks at a time provides a view of whale behavior, biology and travels never before possible, scientists from Oregon State University reported in a new study.

This “Advanced Dive Behavior,” or ADB tag, has allowed researchers to expand their knowledge of whale ecology to areas deep beneath the sea, over thousands of miles of travel, and outline their interaction with the prey they depend upon for food.

It has even turned whales into scientific colleagues to help understand ocean conditions and climate change.

The findings, just published

in the journal *Ecology and Evolution*, showed sperm whales diving all the way to the sea floor, more than 1,000 meters deep, and being submerged for up to 75 minutes.

It reported baleen whales lunge after their food; provided a basis to better understand whale reactions to undersea noises such as sonar or seismic exploration; and is helping scientists observe how whales react to changes in water temperature.

“The ADB tag is a pretty revolutionary breakthrough,” said Bruce Mate, professor and director of OSU’s Marine Mammal Institute in the College of Agricultural Sciences. “This provides us a broad picture of whale behavior

and ecology that we’ve never had before.

“This technology has even made whales our partners in acquiring data to better understand ocean conditions and climate change,” Mate said. “It gives us vast amounts of new data about water temperatures through space and time, over large distances and in remote locations.”

“We’re learning more about whales, and the whales are helping us to learn more about our own planet.”

The new tag, the researchers say, expands by several orders of magnitude the observations that can be made of whale feeding and behavior.

Researchers say it’s showing what whales do while underwa-

ter; when, how and where they feed; how they might be affected by passing ships or other noises; and what types of water temperatures they prefer.

In the new study, researchers outlined the continued evolution and improvements made in the ADB technology from 2007-15, in which it was used on sperm, blue and fin whales.

The research has been supported by the Office of Naval Research, the U.S. Navy and the International Association of Oil and Gas Producers.

“By using this technology on three different species, we’ve seen the full range of behavior that is specific to each species,” said Daniel Palacios, a co-author on the study. “Sperm whales, for instance, really like

to dive deep, staying down a long time and appearing to forage along the seafloor at times.

During summer the baleen whales will feed as much as possible in one area, and then they move on, probably after the prey density gets too low.”

Unlike earlier technology that could not return data from the deep sea for much longer than a day, the new ADB tags are designed to acquire data constantly, for up to seven weeks at a time, before they detach from the whale, float to the surface and are retrieved in the open sea to download data.

The retrieval itself is a little tricky — scientists compare it to searching for a hamburger floating in thousands of square miles of open ocean — but it

has worked pretty well, thanks to the tags transmitting GPS-quality locations and flashing LED lights once they have released.

The tag can sense water depth, whale movement and body orientation, water temperature and light levels.

“With this system we can acquire much more data at a lower cost, with far less commitment of time by ships and personnel,” said Ladd Irvine, the corresponding author on the study. “This tag type yields amazing results.”

“It’s going to significantly expand what we can accomplish, learning both about whale ecology and the ocean itself.”

SIUSLAW’S NORTH JETTY WILL BE SITE OF ‘FREE FIRST DAY HIKE’ SUNDAY

For the sixth consecutive year, Oregon Parks and Recreation Department (OPRD) is partnering with state parks around the nation to offer free guided First Day Hikes in state parks throughout Oregon on New Year’s Day.

Among the parks participating will be Jessie M. Honeyman Memorial State

Park, just south of Florence.

Hike time begins at 10 a.m. at the Siuslaw North Jetty, at the last parking lot near the Coast Guard tower. It will be a moderate, two-mile hike on the beach with some hiking in sections of loose sand.

Come hike, celebrate and appreciate the 50-year anniversary of the Oregon Beach Bill,

which allows millions of people to experience the beauty of the Oregon Coast annually.

Ranger Paul Reilly will discuss the local flora and fauna of the area, geology and the historical perspective on the Oregon Beach Bill and how it affects us today.

Participants should dress in layers, wear sturdy shoes and

bring water as well as a camera or binoculars for wildlife viewing.

In case of inclement weather, the park should be contacted directly to find out about cancellation.

This year, OPRD is asking participants to share photos of their First Day Hike via social media by using the hashtag

#ORfirstdayhikes on Twitter and Instagram, or tagging “Oregon State Parks” on Facebook.

Images can also be emailed to social.oprd@oregon.gov.

For more information, call 541-997-3851.

Unfortunately, ‘Tis the season’ for sea turtle stranding

NEWPORT — If you’re out walking the beach this winter, keep an eye open for stranded sea turtles. Winter storms along the Pacific can push sea turtles northward into colder waters, where they quickly grow weak and end up stranded on Northwest beaches.

Pacific green sea turtles (*Chelonia mydas*) and olive ridley sea turtles (*Lepidochelys olivacea*) are the two most commonly encountered species that strand on Oregon beaches, and both are classified as endangered.

Green and olive ridley turtles have extensive global ranges and breed in warm waters, including along the Pacific coast of Mexico.

Most of the sea turtles recorded in Oregon likely originate from this coastal Mexico population.

“Sea turtles do not reach Oregon beaches unless injured or sick, and once stranded, they require immediate specialized care to survive,” said Jim Burke, Director of Animal Husbandry at the Oregon Coast

Aquarium. “Last winter, four hypothermic turtles were recovered from Pacific Northwest beaches — a record for the region.”

If ocean conditions and weather patterns continue as they have over the last couple of years, more turtles are expected to arrive in the future.

The Oregon Coast Aquarium and Seattle Aquarium are the only rehabilitation facilities in the northwest United States authorized by the U.S. Fish and Wildlife Service (Service) to provide the specialized care sea turtles require.

These care facilities were at their maximum capacity with four turtles last year, so the service is examining ways to increase rehabilitation capabilities should more turtles arrive.

“The recovery of stranded turtles is always a group effort,” said Laura Todd, Newport Field Office Supervisor for the Service. “Reports from the public, emergency transport from the beach, intensive care at the treatment facilities, return to

warmers waters, and eventual release are all crucial steps in the process. This work couldn’t be done without highly capable partners like the Oregon Coast Aquarium, the U. S. Coast Guard, and SeaWorld.”

Such teamwork is the cornerstone of recovering any threatened or endangered species. Cooperation between the public, federal and state agencies and partner organizations are the hallmark of a successful conservation program and key to halting the decline of our sea turtle populations.

“Rehabilitation returns reproductively viable individuals to the wild breeding population that otherwise would not have survived, which contributes to species recovery,” said Todd. “Rehabilitation efforts also help us prepare for catastrophic events such as oil spills or disease by establishing clinical familiarity with listed species.”

The Service urges anyone who finds a sea turtle on the beach to immediately note its location, remain nearby to

observe it if possible and contact the Oregon State Police Tipline at 800-452-7888 or the Marine Mammal Stranding Network (MMSN) at 1-866-767-6114.

The MMSN and its partner organizations, including Seaside Aquarium, have proved invaluable in reaching stranded turtles quickly and transporting them to authorized care facilities.



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Horse Club set to saddle up in February

Junior equestrians should be ready for the second half of Horse Club, which will begin Friday, Feb. 3, for equestrians ages 6 to 18.

Horse Club meets every Friday (except for school holidays) until May 19.

Each week, the club builds on the skills learned in the previous weeks and uses hands-on techniques to help the participants learn safety around horses, grooming and riding.

The program also reviews horse and tack parts and provides written handouts on the major parts of the program. By the end of the year, the goal will be for the kids to have

learned the basic fundamentals of horsemanship, how much fun it is to ride and what won-

derful animals horses are. For more information, call 541-997-7540.

...need a friend?

Meet Arlen

I’m a quiet gentlemen that seeks attention and adoration for my beautiful coat. I love lazy Sundays. I get along with others but I like my alone time. I’ve only recently come out of my shell so I need some one-on-one time to be perfectly comfortable going home with you.



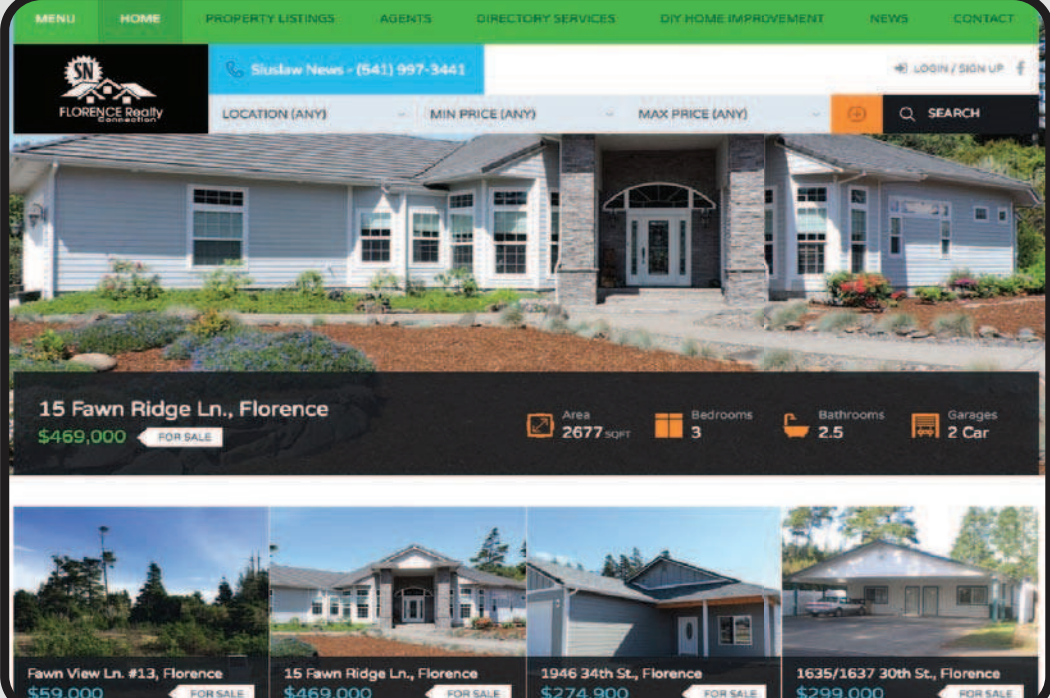
If you would like to meet Arlen or any of his friends, please visit us at:

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dress for the conditions, and be leery of high water levels and surf.”

For more ideas about opportunities near you, visit ODFW’s weekly recreation report at www.dfw.state.or.us/RR/index.asp.

Additional free fishing weekends were authorized by the 2015 Oregon State Legislature as a way of introducing new anglers to the sport.

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