

# Scientists employ satellite tags to solve whale-sized mystery

November 18 2014

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A WCS-led team member just after tagging a young southern right whale nicknamed “Papillon.” The white markings are called callosities – large patches of raised tissue. Each whale’s callosities are unique and can be used to identify individual whales.

For the first time, scientists working in the waters of Patagonia are using satellite tags to remotely track southern right whales from their breeding/calving grounds in the sheltered bays of Península Valdés, Argentina, to unknown feeding grounds somewhere in the western South Atlantic. This could eventually provide clues to the cause of one of the largest great whale die-off ever recorded.

The international effort for answers includes members from the Wildlife

Conservation Society (WCS), the Aqualie Institute of Brazil, the National Oceanic and Atmospheric Administration (NOAA), and Cascadia Research Collective, working in cooperation with Fundación Patagonia Natural, Instituto de Conservación de Ballenas, the University of California, Davis, the Dirección de Flora y Fauna (Wildlife Service), la Secretaría de Turismo, el Ministerio de Ambiente (Ministry of the Environment) of Argentina's Chubut Province.

The announcement was made as conservationists are holding the 2014 IUCN World Parks Congress in Sydney, Australia – a once-in-a-decade global forum on protected areas.

Said Dr. Graham Harris, Director of WCS's Argentina Program: "A provincial protected area and a key area with a long history of work by WCS, Peninsula Valdés was declared a UNESCO Biosphere Reserve in June of 2014 due to its importance to protect both terrestrial wildlife and marine species along its waters. As the World Parks Congress in Sydney is underway, it is imperative to highlight the importance of protected areas like Peninsula Valdes to safeguard unique wildlife and habitats."

Over the past month, the team succeeded in affixing satellite transmitters to five southern right [whales](#), a difficult task conducted during varying weather conditions in Golfo Nuevo, one of the two protected gulfs of Península Valdés and an important breeding ground for the southern right whale.

Over the past decade, southern right whale calves have died in unprecedented numbers (more than 400 between 2003-2011) for reasons still unclear to scientists. Different hypotheses for this mortality have been considered, including disease, certain types of contaminant, and harassment and wounding by kelp gulls, a frequent occurrence in Península Valdés.

This new research will help assess where the whales are feeding, namely if there could be any threats to the whales along their migration route or on their feeding grounds and if the research team can conduct additional tagging and studies to determine any issues associated with food or nutritional stress causing calf loss by some mothers.

Dr. Martín Mendez, Assistant Director of WCS's Latin America and the Caribbean Program, said: Over the last several centuries, and as recent as the 1960s, southern right whales were hunted, at times close to the verge of extinction. But they have now managed to rebound in numbers thanks to protected refuges such as Península Valdés. The recent increase in mortality is being caused by something that remains unsolved. Determining where the whales go to feed may offer clues to solving this complex question."

The deployed tags will transmit the geographical position and behavioral information of the animals up to Earth-orbiting satellites multiple times a day, allowing researchers to follow whales remotely. The researchers selected calving females and solitary juveniles for satellite tagging in order to glean insights into habitat use and migratory movements for different sex and age groups.

Sais Alex Zerbini, a whale telemetry expert from NOAA, Cascadia Research, and Aqualie Institute:

"Satellite telemetry is the best method to understand the long-term movements and behavior of whales. Tagging individuals of different sex and age classes will let us explore potential differences in how they migrate and use their habitats."

Data accumulated thus far reveal unprecedented information for southern right whales: real-time information on long-range movements across marine regions. Two of the five whales have remained in the

waters of Golfo Nuevo, while the other three have already left the bay. One of the animals is currently in deep waters of the South Atlantic, one has been spending its time over the continental shelf, and another has moved into deep offshore waters, but has returned to the continental shelf break. Movements from all whales have lead researchers to some areas where the tagged animals are likely feeding, and further discoveries of feeding grounds for this population may be revealed as the team tracks the movements of tagged animals.

Said Dr. Howard Rosenbaum of WCS's Ocean Giants Program: "The whales are currently in an area where former Soviet whaling expeditions killed more than 1,000 animals in the 1960s. Beyond these whaling records and other occasional sightings, the tagged animals in conjunction with whaling records will provide the best picture of the migration and feeding destinations for this population. As the tags continue to transmit, we hope our whales lead us to new insights about their lives in the vastness of the South Atlantic and provide possible clues related to the die-off."

Growing up to 55 feet in length and weighing up to 60 tons, the southern right whale is the most abundant species of the world's three species of right whale. Unlike the North Atlantic and North Pacific right whales (both Endangered), southern rights have managed to rebound from centuries of commercial whaling, with populations that have grown by as much as approximately seven percent annually since 1970. Of the estimated total population of southern right whales found throughout the entire Southern Hemisphere, around one third use the protected bays of Península Valdés as a breeding and calving habitat between the months of June and December.

Provided by Wildlife Conservation Society

Citation: Scientists employ satellite tags to solve whale-sized mystery (2014, November 18)  
retrieved 10 April 2024 from

<https://phys.org/news/2014-11-scientists-satellite-tags-whale-sized-mystery.html>

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