

Sedatives used to free whale from fishing line

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In this Dec. 2010 photo provided by the Florida Fish and Wildlife Conservation Commission, a disentanglement team works to cut free more than 150 feet of rope entangled around a North Atlantic right whale off the coast of Daytona Beach, Fla. Researchers succeeded on Jan. 15, 2011 in using sedatives fired from a dart gun to calm down and free an endangered North Atlantic right whale tangled in fishing line.(AP Photo/Florida Fish and Wildlife Conservation Commission)

(AP) -- Researchers have a new tactic to save endangered whales tangled in fishing line: Get them to calm down with sedatives shot from a dart gun so they can pull closer and cut the potentially fatal gear away.

The method was used Jan. 15 off the Florida coast to free a young North Atlantic right whale from about 50 feet of line wrapped through its mouth and around its flippers. A satellite monitor attached to the whale during the rescue attempt this month shows it survived.

"It's a big step for us," said Michael Moore, a senior research specialist at the Woods Hole Oceanographic Institution in Massachusetts who was on the rescue team. The same team has tried the technique during one other rescue of a free-swimming whale.

Wildlife authorities for years have tried different ways to save [whales](#) tangled in gear that cuts their flesh, restricts feeding and causes infection and starvation.

It's a major threat to the 300 to 400 critically endangered North Atlantic right whales that remain. They generally migrate seasonally from the Lower Bay of Fundy in Canada during the summer to calving grounds off the Florida coast in the fall and winter.

At least two North Atlantic right whales are known to have died from entanglement between 2005 to 2009, although 28 were observed tangled in that same period. Experts say those numbers only include dead or tangled whales that have been spotted, meaning other whales may die unseen.

"It's a very slow, painful death," said Michael Walsh, assistant director of the Aquatic Animal Health Program at the University of Florida. The former SeaWorld veterinarian helped develop the sedative mixture.

Once tangled whales are found, rescue teams generally tie boats and buoys to lines trailing from the animal to slow it down and restrict its movement. Crews then use pole-mounted knives to cut off entangling gear.

The techniques are imperfect. Staying behind a whale is a safe for humans, but it's difficult to reach gear wrapped around the front of the animal. Success rates, which vary by species and tangle, are low for right whales, especially those with lines caught around their flippers and jaws.

When boats get close, right whales tend to flee or dive underwater.

"They're likely in a lot of discomfort," said Jamison Smith, who oversees the freeing of large, tangled whales in the Atlantic for the National Oceanic and Atmospheric Administration. "They don't want to be ... harassed by a small boat."

The idea of sedating whales traces back to 1999 when NOAA asked other scientists for help freeing a badly tangled right whale swimming off New England and in the Canadian Bay of Fundy. NOAA officials asked researchers whether it was possible to give the animal antibiotics.

In response, they devised a syringe mounted on a pole roughly 30 feet long. Dropped from the front of a boat, the needle was meant to strike the whale and inject sedatives.

Jamison said rescuers tried using the system in 2001 to sedate a badly tangled whale southeast of Nantucket, Mass. It didn't work. Any movement from the animal or the boat would bend the needle, restricting the flow of sedatives. And without much research to draw on, scientists didn't use the best mix of drugs, Jamison said.

Brainstorming sessions followed. Paxarms, a New Zealand-based company with experience taking tissue samples from whales and remotely drugging sheep, built the team an airgun capable of hurling a 2-foot dart at a whale. The system comes with a distance finder, so the force of the shot can be adjusted depending on range. Once a dart strikes, the pressurized drugs are injected within seconds. Each dart is attached to a buoy that creates drag. As the whale swims, the buoy gradually pries the needle free.

There is a risk that too much medication could cause a whale to become disoriented and possibly drown. But scientists say that [right whales](#) are

more buoyant than some other species and they started experimenting with low doses of drugs that can be reversed.

After testing on carcasses and beached whales, researchers first used the dart gun on a whale initially spotted off the Georgia coast in January 2009. The first two attempts failed. On a third try, boat crews said the whale was less hostile, allowing boats to get close and cut line.

A second test began on Christmas Day when a 2-year-old right whale was spotted tangled off Florida. Trained responders from Georgia and Florida's wildlife agencies cut away 150 feet of rope from the whale using traditional techniques. But they still could not free the whale from a severe tangle wrapping around its mouth and its flippers. Scientists decided to try sedation.

Leaving by boat from Port Canaveral, Fla., they reached the whale in about an hour, attached a satellite tag to its skin and shot the whale with sedatives.

"There was a noticeable decrease in speed," Jamison said of the whale. "There was a noticeable decrease in boat evasiveness."

Boat crew cut away line from both side of the mouth. While a small piece was left in the whale's mouth, the animal will hopefully spit it out as it feeds. Satellite data show the whale is heading north and they hope it will reach the nutrient-rich waters of New England.

Online:

NOAA: <http://www.nero.noaa.gov/whaletrp/index.html>

Sedation research paper:

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0009597>

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