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Dolphins in Volusia, Brevard waters are rebounding after mass deaths

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Deaths and strandings of bottlenose dolphins in Volusia and Brevard counties this winter have finally slowed to a trickle from the flood of deaths seen over the last two years.

Only five dolphins have stranded since January 1. And that is very good news for a trio of Hubbs-SeaWorld Research Institute biologists who keep tabs on the dolphins that live and die in much of the two-county area.

Together, they're responsible for recording marine mammal strandings in most of the Indian River Lagoon system, from Sebastian Inlet to the northern boundary of Volusia

County. Under permits from the National Oceanic and Atmospheric Administration, they examine every dolphin that dies in the area, assist with a regional network that rescues and responds to stranded marine mammals, and maintain a photographic database of all the dolphins that live in the lagoon system and Halifax River.

For a while in 2013 and 2014, calls to respond to stranded dolphins were coming in faster than ever before. Dolphins in the Indian River Lagoon system first were attacked by a mysterious ailment. Then a measles-like virus spreading through dolphins along the nation's East Coast reached this area and began striking dolphins on the beach and in the lagoon system.

Nearly all the dolphins were either dead or had to be euthanized. Over 18 months, the team conducted nearly 200 necropsies.

"It was horrific," said Wendy Noke, one of the Institute's three local researchers.

That pace has finally slowed, much to the relief of Noke and her colleagues, Megan Stolen and Teresa Jablonski, who know some of the dolphins personally after years of monitoring them.

In one case they were able to rescue and rehabilitate one dolphin, a glimmer of light in what had become a tunnel of darkness, said Noke. "To have those few and far between cases where you're able to actually help the dolphin survive for years to come, that's what keeps us going in the really bad times."

If there was anything positive to be gleaned from the many deaths, it was the volume of information the trio was able to gather during the necropsies.

"Our standard is above and beyond," said Jablonski. They try never to pass up an opportunity to learn something more, even from animals that are very decomposed.



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Wendy Noke, left, a research biologist with Hubbs-SeaWorld Research Institute, and Becky Nichols examine dolphins in Ponce deLeon Inlet. Noke and others at Hubbs maintain a photo-identification database on the bottlenose dolphins in the northern end of the Indian River Lagoon system in Brevard and Volusia counties.

“Even if it’s a skull, we examine it,” said Stolen. “The only time we don’t examine is if we see a (dead) calf being pushed by its mother.”

Those cases are particularly heart-rending. Female bottlenose dolphins will sometimes keep pushing dead calves with their noses, trying to keep them afloat, for a week, said Jablonski. “Dolphins have a very strong maternal instinct.”

CAUSE OF DEATH

When marine mammals strand, NOAA relies on good researchers to maximize the information collected, said Lance Garrison, a research biologist at NOAA’s Southeast Fisheries Science Center. It’s important for conservation of the species, Garrison said.

“It means a lot when you have very strong groups like Hubbs, who have a lot of scientific viability and motivation and bring a lot to the table,” he said.

Using data gathered during necropsies, the Hubbs researchers and a team of scientists with NOAA and the Florida Fish and Wildlife Conservation Commission and elsewhere, are still working to unravel what caused the death of the lagoon dolphins in 2013. They suspect it was related to a massive seagrass die-off. A working group of scientists also continues to study the morbillivirus.

The institute began in San Diego in 1963 as a research arm of SeaWorld. It has since become an independent research affiliate, with its own, separate non-profit board. Stolen, Noke and Jablonski all graduated from the University of Central Florida and did their graduate work at Sea World. Together they have more than 40 years experience.

Their charge is to find out why each animal died, Stolen said. But they also look for contamination and how human interaction affects the dolphins. They take photos. They note what the dolphin ate, and have a stunning assortment of items they’ve found in stomachs, including fish bones and fishing lures. They might take hundreds of samples from one animal, including teeth, bits of skin and tissue and anything that could be useful.

A dolphin’s tooth, for example, is a “permanent record,” said Stolen. It can reveal how old the dolphin was when it died. And it doesn’t need refrigeration.

They set aside samples for other research, such as mercury, fungal disease, age and reproduction. They can even tell what age a dolphin became reproductively mature.

Samples are shared with NOAA and other labs across the country. They’ve collected samples from hundreds of dolphins over the years, and their work has been referenced in dozens of studies.

DECADES OF RESEARCH

The laboratory, overlooking the Indian River in Brevard County, is a trove of statewide dolphin information, with teeth dating back to the 1970s, all stored in a collection of cabinets and freezers.

“The most valuable tissue goes into an 80-below freezer,” Stolen said, to preserve biological information such as viruses that might have caused the death. For example, a previous Hubbs scientist, Dan O’Dell went back into some of the older samples and found that dolphins in 1982 suffered from morbillivirus, she said. The Hubbs researchers suspect that might be why the lagoon’s dolphins have not been as devastated by the latest morbillivirus as they feared. Some of them may have developed a resistance.

“We've watched animals that looked really bad, making weird respiratory noises that actually a few months later look to be in decent health,” said Noke. “We're happy there's a light at the end of the tunnel.”

The researchers are hopeful new technologies developed in the coming years might yield other opportunities for research on samples they've preserved, said Stolen. “The truth is, 20 to 50 years down the road, there will be people smarter than us who will be able to test for new things.”

Much of the biological and scientific information the institute collects feeds into computer models and stock assessments NOAA uses to evaluate the status of animal populations, for example to keep an eye on whether the dolphin population in the lagoon needs further protection.

“We need to know how long they live, how many kids they're producing, what's normal, what's not, to make sure the population is stable, that they're living as long as they're supposed to,” said Stolen. “We worry about individual animals, but the goal is to preserve the population as a whole.”

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