Nesting turtles give clues on oil spill's impact

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In this photo taken May 14, 2011, a Kemps ridley sea turtle with a tracking antennae applied to her shell with epoxy sits in the sand depositing eggs at Padre Island National Seashore National Park in south Texas. A year after an oil spill in the Gulf of Mexico, scientists and biologists are getting their first real idea of how much damage was done to the regionís population of sea turtles as the females begin heading to coastal shores to nest. The greatest concern has been for the Kemps ridley, the smallest sea turtle and the most endangered. (AP Photo/Pat Sullivan)

(AP) -- Nearly hidden by brownish sand, the Kemps ridley sea turtle digging furiously with her back flippers as she carved out a flask-shaped hole to lay her eggs wasn't aware of the excitement she was generating among the scientists, volunteers and beach-goers watching from a distance.

They included Donna Shaver, who has been working for more than two decades to save the endangered reptiles. Each spring, she counts their nests and collects the eggs for safe incubation before releasing the turtles' tiny offspring into the sea. Shaver knows this year that each nest

she spots has added significance: the turtle that created it survived the largest oil spill in U.S. history.

While scientists in several states are studying the effects of the oil spill on loggerhead and other sea turtles, the Kemps ridley have been of particular concern. The Deepwater Horizon explosion on April 20, 2010 happened when they typically would have been in the area. Most of the 456 visibly oiled turtles rescued by the U.S. Fish and Wildlife Service last year were Kemps ridleys.

"There is fear that some of the turtles that took the year off from nesting or after the turtles were done nesting during the 2010 year, that they entered the waters where the oil had been present," said Shaver, explaining that the reptiles often forage off the hard-hit Louisiana, Alabama and Mississippi coasts before or after nesting along the Texas Gulf Coast.

"There is concern that perhaps those turtles have been impacted from the oil and could then have problems with their reproduction," she added.

Because sea turtles don't reach reproductive age for at least a decade, the full effects of the oil spill might not be known for years.

But at the peak of nesting season, their numbers looked good. As of May 24, 155 Kemps ridley nests had been spotted on Texas shores - more than in all of last year and more than had been counted by that day in 2009 and 2008. The same is true for some other sea turtle species, although they have just started to nest so it might be too early to have confidence in those numbers.

The nesting season has long been used to estimate the size of sea turtle populations, and recovery plans for species are based on numbers tallied when females come ashore to lay their eggs. The goal for the Kemps

ridleys is to have 10,000 nesters a season by 2020. At that point, the smallest and most endangered sea turtle, could be upgraded to threatened.

Shaver and her volunteers have patrolled the Texas beaches since 1980, driving SUVs and all-terrain vehicles through heat and humidity to collect turtle eggs in plastic foam boxes and bring them to the National Park Service's lab at Padre Island National Seashore. When hatching begins, Shaver sleeps on a cot in her office, caring for the tiny turtles as though they were her babies, making sure to release them into the sea at exactly the right moment.

The turtles' population has long been on the path to recovery. Monitored incubation protects the eggs from coyotes, raccoons, fire ants, vultures and other predators, and netting covering the silver-dollar-sized hatchlings as they make their way from the beach to the water keeps them safe from birds. Only after they reach the water are the tiny turtles left to contend with the elements on their own.

The program has been so successful, some believed the 2020 goal could be reached early.

And so, the oil spill and its potential effects have been even more heart-wrenching. Shaver worries a severe drought that has dried Texas' sand and made turtle tracks disappear quickly will make it more difficult for her and her helpers to find and protect this year's eggs. She thinks about whether oil contamination may decrease survival rates for the hatchlings.

To get an idea of what may come, scientists are collecting extra information this year. Along with counting nests, they're gathering blood from nesting females and tissue samples from dead embryos and sampling hatchlings to see whether oil contamination is being passed from mother to offspring. Toxicologists and contaminant experts will

help biologists analyze the information.

Scientists also are keeping tabs on the turtles' habitat, noting that if the crabs or herring they consume are irreparably harmed by the oil, it will in turn hurt the turtles.

Blair Witherington, a marine biologist and sea turtle expert with the Fish and Wildlife Conservation Commission in Florida, noted such effects are sometimes so subtle that they go undetected for years. In the Chesapeake Bay, for example, the horseshoe crab population has been so severely depleted that loggerhead turtles now eat fish dumped overboard by shrimp trawlers and other fishing boats - a diet biologists believe is less nutritious and slowing growth, he said.

"We don't know though what the long-term impact of the oil will be," Witherington said.

While scientists are collecting information on nesting turtles, they said it's difficult to assess the total population because the animals are difficult to track at sea and some of them, such as juveniles, rarely come ashore.

"It takes 20 years for them to reach sexual maturity. It may take that long to determine whether the population has been affected," said Roger Zimmerman, director of the National Marine Fisheries Service laboratory in Galveston. "Unfortunately, future scientists may be making those determinations."

The oil-covered turtles found last year were cleaned and rehabilitated. A group of some 30 young ones was released off a boat in late May in an area about 50 nautical miles south of Venice, La. - right around where they were found swimming in oil, Witherington said. Others are still being cared for.

Andre Landry, director of the Sea Turtle and Fisheries Ecology Research Lab at Texas A&M in Galveston, worries about the juveniles he knows were foraging, living and playing in Grand Isle, La., just as oil was washing ashore.

Their fate has yet to be determined - or researched.

"It's a void," Landry said.