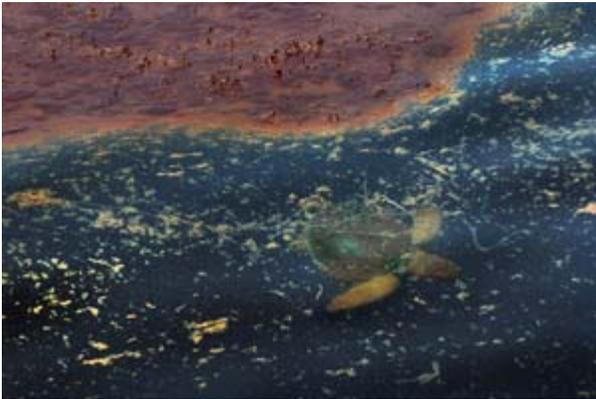


NOAA Joins Forces with Partners to Protect Sea Turtles in Face of Oil Spill



A sea turtle swims near oiled Sargassum algae.

[High resolution](#) (Credit: Carolyn Cole/LA Times)

In the days following the April 20 explosion of the Deepwater Horizon oil rig that killed 11 people, scientists at NOAA's Fisheries Service feared the Gulf of Mexico's sea turtles would be in danger. What became the worst oil spill in our nation's history threatened the deep and nearshore waters where sea turtles live and feed and the beaches where they lay their eggs.

Young Kemp's ridley, green, hawksbill and loggerhead sea turtles live and feed in thick mats of Sargassum algae that form in convergence zones where currents meet and oil was collecting. Loggerhead sea turtles were about to lay their eggs on northern Gulf of Mexico beaches, endangering hatchlings entering oil-contaminated waters.

Sea turtle experts at NOAA and among its federal, state, local and nongovernmental partners recognized they needed to work together to monitor for stranded sea turtles, rescue turtles from oiled waters, rehabilitate oiled turtles, and investigate turtle deaths. To prepare, NOAA and its partners readied four primary de-oiling and rehabilitation facilities and secondary facilities.

Sea turtles mired in oiled sargassum

Scientists knew they needed to conduct surveys in offshore waters where the oil was spreading to search for and rescue some of the most vulnerable sea turtles, those in their young life stages found in Sargassum algae convergence areas. As oil concentrated in some of these floating mats of algae, sea turtles were found coated in oil here, some had ingested oil, and many were exposed to extreme temperatures as the sun heated up oil at the ocean's surface.

Sea turtle experts from the Florida Fish and Wildlife Conservation Commission, Georgia Department of Natural Resources, Riverhead Foundation, Inwater Research Group, and NOAA headed out 40 to 50 miles offshore in charter fishing boats to search for juvenile turtles about the size of a salad plate and rescue as many as possible. They also documented what they saw so that this information could be used to estimate the damage the oil was causing sea turtles at this vulnerable stage of life. The rescue effort grew to include vessels that went into the Gulf daily, depending on weather, from Venice, La, Orange Beach, La., and Destin, Fla. The partner agencies that joined in this mission included the Louisiana Department of Wildlife and Fisheries and the U.S. Fish and Wildlife Service.



Rescue teams used dip nets to lift oiled sea turtles from the Gulf of Mexico.

[High resolution](#) (Credit: Carolyn Cole/LA Times)

Teams would head out early in the morning and, guided by information from airplane over flights, would locate convergence areas to search for turtles. Oiled turtles were captured by hand using dip nets and brought aboard the vessel. Scientists swabbed samples of the oil from the turtles and conducted an initial cleaning. By evening, the vessel crews would return to shore to pack the turtles in a truck to be driven to the closest primary de-oiling and rehabilitation facility.

Wildlife veterinarians and veterinary technicians at Audubon Nature Institute outside New Orleans, who took in some of the first oiled turtles, cleaned the remaining oil from the turtles' bodies, using toothbrushes to clean oil from the skin folds. The turtles were fed mayonnaise to help move ingested oil through their digestive systems. As operations expanded, the Institute for Marine Mammal Studies in Gulfport, Miss., Gulf World in Panama City, Fla., and Gulfarium in Fort Walton Beach, Fla., took in turtles to de-oil and rehabilitate. Sea World, Disney Living Seas, Clearwater Aquarium, Florida Aquarium, and Mote Marine Laboratory, all in Florida, also stepped in as secondary rehabilitation facilities.



Audubon Nature Institute veterinary technician uses a toothbrush to clean oil from a juvenile Kemp's ridley sea turtle.

[High resolution](#) (Credit: Sylvia Wright/Univ. of Calif. at Davis)

NOAA and the Fish and Wildlife Service worked as part of the Unified Area Command to help reduce some of the negative effects to sea turtles and other wildlife caused by the oil spill response. These efforts included developing and putting in place, where possible, measures to reduce harm from skimming oil, cleaning oil from beaches and controlled burns of oil on the surface of the Gulf. These measures included avoiding turtle nests during beach cleaning, placing trained observers on certain surface cleanup vessels and requiring turtle excluder devices on trawl nets used to skim for oil. These devices are a grid within a net with an escape opening that allows turtles to swim free.

Stranded turtles washing ashore

While efforts were underway offshore to search for and recover oiled turtles, hundreds of dead sea turtles were being recovered in coastal waters or on beaches in Mississippi, Alabama, Louisiana and, to a lesser extent, the Florida panhandle. Each carcass was collected, recorded, analyzed visually for injuries and oil evidence, and put in a freezer to store until it could be necropsied as part of an investigation into the causes of death. While nearly all the more than 450 turtles rescued alive from the deeper Gulf waters had oil on them, only a few of the dead stranded turtles found on shore and in nearshore waters had external evidence of oil.



Dr. Brian Stacy, NOAA sea turtle veterinary pathologist, works with Jennifer Muller, an assistant, to examine a dead sea turtle.

[High resolution](#) (Credit: NOAA.)

As of Oct, 4, 2010 Dr. Brian Stacy, the lead sea turtle veterinarian for NOAA's Fisheries Service, had examined 301 of approximately 600 dead turtles collected from the Florida panhandle to the Louisiana/Texas border from late April through September. The carcasses of 236 turtles were fresh enough to evaluate their digestive tracts and approximately 80 percent of those turtles were found to have been eating fish or shrimp. Since fish and shrimp are not a natural part of the sea turtle diet, this finding suggests that these turtles were feeding in areas that had high discard of bycatch from fishing operations or they were

feeding inside shrimp trawls. Additional information gathered during necropsies also suggest that many of these turtles were likely caught in fishing nets where they drowned when they were unable to surface to breath. Each year, sea turtles die from drowning in fishing operations. Fishermen and scientists have worked for years to develop and put in place turtle excluder devices to protect sea turtles. Not all trawl fisheries are required to use these devices and compliance with existing regulations is not 100 percent.



VIDEO: Rescued, Rehabilitated Sea Turtles Released Back into the Gulf.

[Video Link](#) (Credit: NOAA)

Protecting turtle nests and hatchlings

Another major part of the effort to protect sea turtles during the spill focused on turtle nests and hatchlings. Scientists from the Fish and Wildlife Service worked with NOAA, the Florida Fish and Wildlife Conservation Commission, NASA, non-governmental organizations, and private industry to lead a massive relocation of 278 turtle nests from the northern Gulf to the east coast of Florida. The goal was to prevent young sea turtles from entering the oiled waters of the northern Gulf.

The turtle nest transport captured the imagination of Americans young and old. FedEx took a leading role, donating the services of its employees, its trucks and its knowledge of how best to transport delicate packages safely. FedEx trucked more than 25,000 turtle eggs across the Gulf to the eastern shore of Florida. Passionate truck drivers spoke about how important it was for them to take part in the rescue mission.

To hear Ronald Shellito describe his work trucking sea turtle nests go to:

<http://citizenshipblog.fedex.designcdt.com/node/823>

The nests were trucked to the Kennedy Space Center in Cape Canaveral, Fla., where they were cared for by biologists from Innovative Health Applications, a NASA contracting organization. The nests were kept in climate-controlled coolers and monitored by biologists until the hatchlings emerged and could be released on Florida beaches, where the tiny turtles scrambled down the sand into the Atlantic Ocean. The project

involved primarily loggerhead sea turtle nests with some green sea turtle nests and a few Kemp's ridleys nests. As of early October, more than 14,000 hatchlings had been released.



Coast Guard Adm. Thad Allen, incident commander for the oil spill, and NOAA Administrator Jane Lubchenco release young Kemp's ridley sea turtles in Florida.

[High resolution](#) (Credit: AP.)

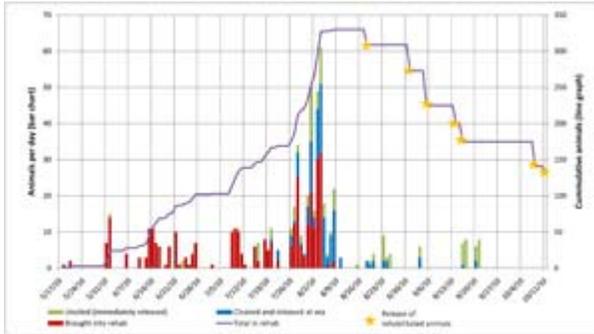
The tide begins to turn

On July 15, the oil well was successfully capped after leaking for three long months. NOAA's sea turtle scientists knew it was too early to declare the crisis over. All of the efforts to search for turtles offshore and on shore, including the nest relocation effort continued. Over the next weeks, rescue teams working offshore began to see less and less oil in the Sargassum algae convergence areas. They captured fewer and fewer heavily or moderately oiled turtles. Some turtles showed no signs of oil on their bodies. Others could be thoroughly wiped of oil and placed back into clean Sargassum in the Gulf of Mexico. By early September, criteria were met to scale back the offshore surveys and then, final criteria were met to discontinue this part of the effort. In late August, federal scientists and their partners stopped moving turtle nests. The risks involved in moving eggs to the east coast of Florida now outweighed the risks to hatchlings entering the northern Gulf of Mexico.

On Aug. 18, the first rescued sea turtles were deemed healthy and were returned to the wild. NOAA Administrator Jane Lubchenco and Admiral Thad Allen, the National Incident Commander of the Unified Command for the spill, helped release 23 Kemp's ridley sea turtles into the Gulf of Mexico near Cedar Key, Fla.. Scientists chose Cedar Key because it is an area known to support a healthy population of young Kemp's ridleys that is rich in crabs, the primary food for this species. Releases have continued regularly, bringing the number of healthy sea turtles returned to the Gulf to more than two thirds of the approximately 500 turtles rescued during the spill. NOAA estimates that all but a few of the rescued sea turtles will be returned to the wild by mid-November.

Gulf Sea Turtle Numbers (as of Oct. 8, 2010)

	Alive			Dead			Total	Released
	Oiled	Not oiled	Undetermined	Oiled	Not oiled	Undetermined		
Stranded	11	68	0	13	308	274	674	37
Directed Capture	445	11	0	4	0	1	461	325
Total	456	79	0	17	308	275	1135	362



Sea turtle graph showing the steady increase of turtles brought in and then the decline in numbers as the habitat improves and turtles are being released.

[High resolution](#) (Credit: NOAA)

Unfinished work

As the remaining sea turtles in rehabilitation centers are released and the turtle hatchlings scramble down the beaches into improving Gulf of Mexico waters, scientists note that there is much work remaining to do. Scientists continue to document the damages of the spill to sea turtles and their habitat. There is also the scientific question of what was lost that could not be seen. How many turtles died at sea, sinking to the bottom because they were covered in oil and weakened by eating oil? What long-term effects might oil in the ecosystem have on the creatures that sea turtles depend on for food? These and other questions are part of the natural resource damage assessment that comes next.

Scientific understanding of sea turtle physiology, ecology, and behavior has guided the multi-pronged effort to rescue, rehabilitate, relocate, and minimize the harmful effects of the oil spill on sea turtles. The heightened scrutiny of Gulf waters and coasts since April also exposed and helped document the existing problem of sea turtles caught in fishing nets. Regulations requiring turtle excluder devices are on the books, however there are some fisheries that do not require such devices and there is a need for more enforcement of existing regulations to prevent healthy sea turtles from drowning in fishing gear. "The worst fears that we might lose most of an entire sea turtle species did not occur," said Barbara Schroeder, NOAA Fisheries National Sea Turtle Coordinator. "But the observed and unobserved mortalities, including those both caused and brought to light by the spill, are significant for these already endangered and threatened animals. We must redouble our efforts to address the most significant human threats to the sea turtles of the Gulf of Mexico and their habitat to put these animals back on a more secure path to recovery."

Posted Oct. 20, 2010 