Sea Turtle Late-Term Nest Collection and Hatchling Release Plan

Frequently Asked Questions

Updated: 07/28/2010

photo: USFWS/Robin Rickel - hatchling

photo: USFWS/Bonnie Strawser - relocating sea turtle eggs

Q: What are you doing to plan for oil spill impacts to sea turtle nests along the northern Gulf Coast?
A: All sea turtle nests laid along the northern Gulf coast are being visibly marked to ensure that nests are not harmed during oil spill cleanup operations that are undertaken on these beaches. In addition, a sea turtle late-term nest collection and hatchling release plan specifically developed for the response to the Deepwater Horizon/BP oil spill is being implemented to provide the best possible protection for sea turtle hatchlings from nests in Alabama and the Florida panhandle.

Q: Who developed the plan and protocols?
A: The plan was developed by the U.S. Fish and Wildlife Service (Service), NOAA's National Marine Fisheries Service (NOAA Fisheries), and Florida Fish and Wildlife Conservation Commission (FWC) in consultation with leading sea turtle scientific experts and review of the available literature.

Q: What do the plan and protocols do?
A: The plan takes a proactive approach toward minimizing the anticipated oil-spill impacts by ensuring nests are marked in a manner that will prevent damage from beach clean-up operations and by coordinating the collection of nests at a point in the incubation cycle where transport of the incubating eggs is less likely to result in the loss of viable eggs. These nests are handled under a very strict protocol, packed in specially prepared Styrofoam boxes, and then transported by FedEx Custom Critical (FCC) trucks to the east coast of Florida. Once there, the nests are held in a secure, climate controlled facility at the Kennedy Space Center (KSC) until incubation is complete. Here the nests are monitored by Innovative Health Applications, LLC (IHA) biologists and staff, and as hatchlings emerge, they are collected each night and transported and released near the surf line on an east central Florida beach where they are allowed to make their way to the ocean. Additionally, release locations are varied so as to not allow predators to key in on the releases at a specific location. The hatchlings are monitored to ensure all released turtles make it into the surf.

Q: What steps are taken to protect the nests from predation while waiting for hatchlings to emerge?
A: IHA biologists worked closely with KSC's environmental department and others to first ensure no predators, such as raccoons or snakes, were within the structure. They removed anything that would provide hiding places for such predators. They are placing the nest containers on tables versus the floor to facilitate monitoring and make predator access more difficult. They also replace the foam lids with heavy acrylic lids with ventilation holes. The transparent lids allow nest activity (emergence) monitoring without constantly having to lift lids and disturbing hatchling activity, as well as make predator access more difficult.

Q: What other options were considered before deciding on the current course of action?
A: A number of options and variations of options were considered throughout the eight weeks of plan development. The most frequently mentioned option in e-mails, blogs and letters to the editor is caging of the nests and collection of the hatchlings as they emerge. Variations included holding the hatchlings in aquariums until the threat of oil is past then releasing them back into the Gulf or until they were older then transported elsewhere for release.

This was among the options considered. If only a small number of nests were involved such an option would perhaps be viable and even preferred. However, this is not the case and the logistical requirements associated with caging and providing 24-hour monitoring of hundreds of nests by qualified, permitted staff

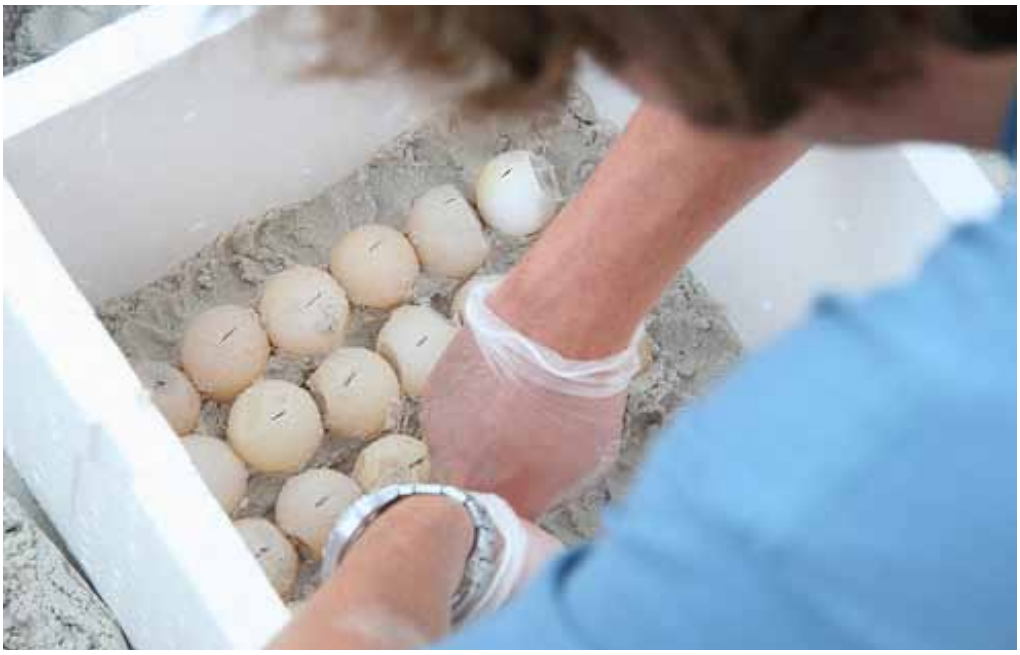

photo: USFWS/Bonnie Strawser - relocating sea turtle eggs

over a three-month period was deemed impractical. The biological risks included concerns that hatchlings would expend too much of their limited energy stores before or during the collection process, and those emerging during the day would be at the additional high-risk for dehydration.

"Head starting" variations – collecting hatchlings and raising them until they are older before releasing them - were also suggested by some members of the public. However, head starting is thought by many sea turtle experts as needing further scientific study, and it was determined not to be an appropriate action at this time.

Q: Are there plans to use this as a research opportunity and tag or otherwise mark the hatchlings?
A: No. The nest translocation effort is not a scientific experiment, but rather an extraordinary rescue effort to keep high risk northern Gulf hatchling turtles from swimming into oil. Trustee agencies have made it clear that the actions being taken would not be supportable under normal conditions, and that they do not intend to implement this plan elsewhere or in future years under normal conditions. Therefore, information gained from a marking experiment would have limited value for future management decisions. Risks associated with this effort have been acknowledged, including the potential for reduced hatching success and interference with imprinting on natal beaches. Although the marking of hatchlings would offer the potential to recapture at least some of the turtles at a later date to determine their fate, the anticipated low rate of recaptures would not allow for a statistically meaningful assessment of survival or evaluation of whether the nest translocation effort was successful.

Federal and State sea turtle biologists gave serious consideration to marking the hatchlings produced from the rescued nests and determined that it is not scientifically supportable. Marking of approximately 50,000 hatchlings is highly unlikely to provide sufficient information to ascertain success or failure of the nest translocation rescue effort; the marking method would be highly invasive to the hatchlings; the level of pain likely to be experienced by the hatchlings is unknown; the conditions under which marking would occur could create a risk of infection; the time needed to assess impacts to each hatchling after marking could delay their release; and the effect of the marking on hatchling survivorship is unknown. Additionally, the increased logistics that would be required to conduct the marking cannot be accommodated without taxing an already logistically difficult effort.

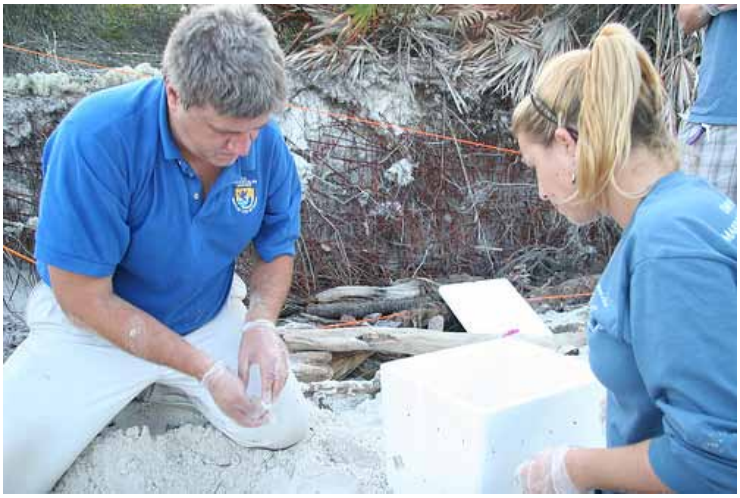

photo: USFWS/Jennifer Strickland - relocating sea turtle eggs

Q: How many nest or hatchlings are estimated to be in the plan's target area?
A: In the northern Gulf area, approximately 700 nests are laid annually in the Florida Panhandle and up to 80 nests are laid annually in Alabama. Most nests are made by loggerhead sea turtles; however, a few Kemp's ridley and green turtle nests have also been documented in 2010. Hatchlings begin emerging from nests in early to mid-July. In 2010, approximately 50,000 hatchlings are anticipated to be produced from northern Gulf sea turtle nests.

Q: How do you know which nests to relocate?
A: Trained and permitted sea turtle nest surveyors are conducting nesting activity surveys and monitoring the nests daily. As new nests are found, they are flagged, dated, and logged, and GPS coordinates are taken and entered into a central database. Collection of nests during the end of the incubation period can then be timed based on this information and ongoing monitoring.

Q: Are there sufficient resources available to implement the plan?
A: There are sufficient resources to fully implement the plan and FedEx is donating the cost of ground transportation and logistics support. However, implementing this plan requires a significant coordinated and sustained effort by all agencies and partners over an approximately four-month period to accomplish the goals.

Q: What are your expectations of success?
A: In developing this plan, we realized early that our expectations for success must be rooted in the knowledge that doing nothing would most likely result in the loss of most, if not all, of this year's northern Gulf of Mexico hatchling cohort. Translocating such a large number of nests late in incubation has never been attempted, and some additional mortality beyond natural levels must be expected. However, translocating these nests will give the greatest number of hatchlings the best opportunity to survive and contribute to the ongoing recovery of their species.

Q: Are there risks to the eggs and hatchlings associated with this plan?

A: The plan is not without risks. While these risks may not be acceptable under normal conditions, the current situation in the Gulf of Mexico requires that we take extraordinary measures and associated risks to prevent hatchling turtles produced on northern Gulf beaches from swimming into oil.
The single greatest risk in executing this plan is the movement of the eggs and the possible dislodging of the membranes that attach the turtle embryo to the eggshell, which could cause death. Thus, any excessive movement, rotation or vibration places the embryo at risk. It is for this reason the protocols developed are extremely specific on how a nest is uncovered and individual eggs transferred. This is also the reason once eggs are transferred into the containers they remain there through the remainder of incubation rather being re-buried on Florida's east coast beaches.

In addition, project partner FedEx has taken extensive precautions to provide safe transportation of the turtle eggs, including using a unique air-ride suspension, thermal-mapped and temperature controlled vehicle with a customized packing solution for the containers.

The protocols were developed with careful consideration and examination of all relevant scientific information, consultation with leading experts from multiple disciplines, and balanced with the logistical requirements of collecting and translocating some 700-800 nests from the northern Gulf to the Atlantic. They involve significant manipulation of eggs and hatchlings and are accompanied by definite, but unquantifiable risks.

Q: Isn't it excessive to use a 53 foot trailer to transport only a few nests?
A: The safe delivery of the eggs is our top priority. FedEx explored all transportation options and determined FedEx Custom Critical (FCC) ground transportation to be the safest, most efficient transportation method based on the conditions required. FedEx Custom Critical will provide a temperature-controlled environment with minimal handling and movement to meet the critical delivery time and needs. FedEx strives to use cutting-edge technology and innovation and is using a low-emission, diesel fuel FCC truck and trailer for the transport. FedEx reports that of the semi-trucks on the road today, this FCC truck is among the lowest in emissions and carbon consumption. There is no better vehicle in their fleet to safely transport the eggs, regardless of the nest numbers.

Q: Video of nest collection activities show egg collectors marking each egg with a line, why is this done and does this add an unnecessary additional risk to the hatchling?
A: No. Sea turtle eggs have mild elastic properties so marking the eggs with a non-toxic wax marker does not place the eggs at risk. Doing so does give those transferring the eggs from the nest to the transport container an orientation reference. This reduces the chance of inadvertently rolling the eggs which could result in dislodging the membranes that attach the turtle embryos to the eggshells.

Q: Is releasing the hatchlings on the east coast a problem for the hatchlings?
A: Careful review of existing scientific literature and discussions with experts suggest that some portion of loggerheads produced on northern Gulf beaches are transported naturally into the Atlantic by currents. The plan by-passes a portion of this passive migration process and places the hatchlings in a safer environment for their growth and development.

Q: What are the genetic risks of relocating hatchlings from the northern Gulf to the east central Florida coast?
A: Review of existing scientific literature and discussions with experts during plan development indicated that some portion of loggerheads produced on northern Gulf beaches migrate to the Atlantic and spend potions of their life cycle away from the Gulf of Mexico. This is based on the presence of some loggerheads with a northern Gulf of Mexico genetic signature in the Atlantic. While there may be a risk of possible increased gene flow across loggerhead recovery units, it is not outside the proposed Northwest Atlantic Distinct Population Segment and would likely not be on a scale of conservation concern.

Q: Are you going to develop and implement similar plans for nesting beaches along Florida's southwest coast? If not, why?
A: This plan applies to nests deposited on northwest Florida and Alabama beaches during the 2010 nesting season only. We do not intend to implement these protocols elsewhere or in future years in this area.

The 2010 cohort in the northern Gulf area is at the highest risk for encountering oil after entering the ocean.

Based on what is known to date regarding the projected path of the oil spill and our understanding of movement of hatchlings emerging from nests laid on southwest Florida beaches, we believe the threat to hatchlings emerging from nests along this coastline is not likely to result in loss of the entire 2010 hatchling cohort. In addition, the loggerhead turtles produced on southwest Florida beaches are part of a larger subpopulation that also nests on Florida's Atlantic Coast beaches and, therefore, the likelihood that all or a significant portion of the 2010 cohort of this nesting subpopulation would be lost is highly improbable.

Q: Considering the recent success in temporary capping of the well and a possible permanent solution to be executed in the near future, is there any consideration of ceasing the translocation of nests from the northern Gulf coast to Florida's east coast?
A: We are cautiously optimistic with the response success in stemming the flow of oil into the Gulf, and will continue monitoring the situation, and should things change we are prepared to consider additional options, including but not limited to allowing hatchlings in some areas to emerge naturally.

Q: Where can I find the plan?

A: The plan is available online at http://www.fws.gov/northflorida under the Emergency Section 7 consultation link.

Q: What can I do to help or volunteer?
A: If you observe or find a sea turtle that appears oiled or injured, please immediately call 1/866/557 1401. Individuals are urged not to attempt to help injured or oiled sea turtles, but to report the sightings to the toll-free number. If you are interested in volunteering to aid in the recovery effort, call 1/866/448 5816. Four Gulf-coast states have also setup websites for volunteers; those are available at our website at: http://www.fws.gov/home/dhoilspill/whatyou.html.

Q: Can I donate money to help in the sea turtle oil-spill response?
A: Please review the information on the state volunteer websites for information on donating funds for wildlife oil-spill response.

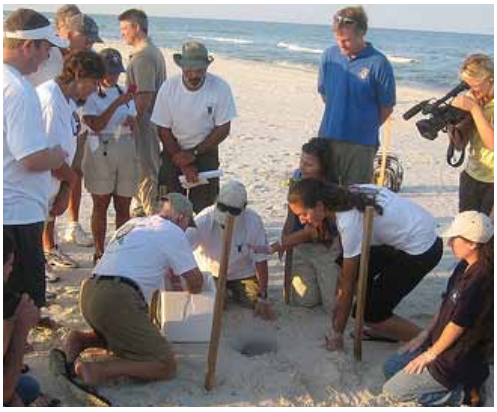

photo: USFWS/Denise Rowell - relocating sea turtle eggs