

# Deepwater Horizon (MC-252) Incident

## MOBILE LOCATION

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Name of Plan:	Deepwater Horizon (MC-252) Sea Turtle Late-Term Nest Collection and Hatchling Release Protocols for the Florida Panhandle and Alabama in Response Plan (Ken Rice) Mobile Sector
Section:	Planning, Environmental/Ops Wildlife
Submitted By:	<i>Van Beausoleil</i> <i>Van 93</i> <i>18 JUN 10</i>
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**Approved by:**

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**This plan has also been reviewed and agreed by:**

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**Original Plan Submittal & Copy Distribution**

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Submitted By: (ICS Position, Signature & Date)	Planning, Environmental/Ops Wildlife

**Distributing Copies To:**  
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**Sea Turtle Late-Term Nest Collection and Hatchling Release Protocols  
for the Florida Panhandle and Alabama in Response to the  
Deepwater Horizon (MC-252) Incident  
Date Prepared: 16 June 2010**

**Background:**

In the Northern Gulf, approximately 700 nests are laid annually in the Florida Panhandle (5-year average from 2005-2009 = 699 nests) and up to 80 nests are laid annually in Alabama. Most nests are laid by loggerheads; however, some Kemp's ridley, green, and leatherback turtle nests have also been documented. Hatchlings begin emerging from nests in early to mid-July. In 2010, approximately 50,000 hatchlings are anticipated to emerge from Northern Gulf sea turtle nests. Based on current knowledge, loggerhead hatchlings from the Gulf coast are believed to spend a few months between the coast and the currents in the Gulf but eventually they enter major currents (i.e., Loop Current eddies and then eventually the Loop Current), which eventually transport many of them out of the Gulf. Therefore, we believe that most, if not all, of the 2010 Northern Gulf hatchling cohort would be at high risk of encountering oil during this period without intervention.

Based on this information, representatives from the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Florida Fish and Wildlife Conservation Commission recommend that nests produced on Florida Panhandle and Alabama beaches be collected near the end of incubation and transported to the Atlantic Coast of Florida for final incubation and subsequent release of hatchlings into the Atlantic. Although the loggerheads nesting and emerging from nests in the Florida Panhandle and Alabama are part of the Northern Gulf of Mexico Recovery Unit and differ genetically from loggerheads produced along the Atlantic Coast of Florida, they are part of the same currently proposed Distinct Population Segment (DPS). Evidence suggests that some portion of loggerheads produced on Northern Gulf beaches are transported into the Atlantic by currents. These turtles are assumed to make their way back to the Gulf of Mexico as subadults and adults. The option of moving Northern Gulf Coast nests to the Atlantic was selected as offering the highest probability of reducing the currently anticipated risks to hatchlings as a result of the BP Deepwater Horizon Oil Spill.

The activities identified in these protocols are extraordinary measures being taken in direct response to an unprecedented human-caused disaster. The protocols have been developed with careful consideration and examination of all relevant scientific information, balanced with the logistical requirements of relocating some 700-800 nests from the Gulf to the Atlantic. They involve significant manipulation of eggs and hatchlings and are

accompanied by definite but unquantifiable risks. These extraordinary measures and associated risks are not supportable under normal conditions. However, the continuing environmental disaster occurring in the Gulf of Mexico requires that we take extraordinary measures to prevent the loss of the entire 2010 cohort of hatchlings produced on Northern Gulf beaches. These protocols will apply to nests deposited on Florida Panhandle 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.

### **Summary of Planned Activities:**

All sea turtle nests in the Florida Panhandle and Alabama are currently being marked with stakes and flagging. Eggs will be allowed to incubate in situ until Day 51, 52, or 53\* of incubation (see details under Nest Collection below), at which time they will be excavated, relocated to Styrofoam boxes (to be provided), and flown to the Atlantic Coast of Florida. There they will be held in a secure facility at an off-beach location for the remainder of incubation. Upon emergence from nests, hatchlings will be released on Atlantic Coast beaches.

\*NOTE: The exact days of excavation are subject to change pending further analysis of historic nesting data.

### **Logistics Coordinators:**

One permitted contractor for the Florida Panhandle and one permitted contractor for Alabama will serve as Logistics Coordinators. Duties will include maintaining a list of nests laid in each State, respectively, date each nest was laid, sub-foot GPS coordinates for each nest, and the date each nest will reach Day 51, 52, or 53\* of incubation. The Logistics Coordinators will contact local permit holders to ensure each nest in their area that meets the Nest Collection criteria below is scheduled for collection and collected by 10 a.m. on the target date. The Logistics Coordinators will assist with nest collections as necessary and be responsible for ensuring that all targeted collections have taken place.

\*NOTE: The exact days of excavation are subject to change pending further analysis of historic nesting data.

### **Nest Collection:**

On Mondays, Wednesdays, and Fridays, nests will be collected according to the following criteria:

Monday - collect all nests that are at Days 52 and 53\* of incubation

Wednesday - collect all nests that are at Days 52 and 53\* of incubation

Friday - collect all nests that are at Days 51, 52, and 53\* of incubation

\*NOTE: The exact days of excavation are subject to change pending further analysis of historic nesting data.

The contents of a nest will be excavated by a designated sea turtle permit holder or permitted contractor. To collect a nest, find the location of the egg chamber by gently and systematically digging by hand, and probing with fingers only. Never use shovels or any other tools for either digging or probing. Once the eggs are located, carefully remove the sand from around the top eggs. Individual eggs should be gently lifted from the egg chamber and their existing orientation in the nest must be maintained as described below.

The contents of the nest will be placed into prepared Styrofoam boxes (to be provided) that are soaked, washed with water, allowed to completely dry, and drilled with appropriate air circulation holes before eggs are placed in them (see Appendix). Eggs should not be placed in boxes that have not been properly prepared. Eggs are to be shaded if collected after sunrise. The easiest way to do this is to lay an open umbrella on its side or place a towel over the top of the Styrofoam box holding the eggs.

Kemp's ridley clutches with 100 eggs or less should be placed into one Styrofoam box. Clutches from all other species, as well as Kemp's ridley clutches with more than 100 eggs, should be split into two boxes with an approximately equal number of eggs in each box.

A 3-inch layer of moist sand from the nest cavity or vicinity of the nest site should be placed into the bottom of each Styrofoam box. When moving eggs, be sure to maintain each egg's original orientation; do not rotate eggs in any direction and avoid abrupt movements. Place the eggs in the Styrofoam boxes by gently transferring them one at a time while continuing to maintain each egg's original orientation. **Take extreme care not to rotate the eggs in any way during handling.** As eggs are placed in a Styrofoam box, be sure they do not roll.

Each egg should be counted and placed in a row in the box. Care must be taken to ensure that the eggs are not packed too tightly. Eggs should be placed and stacked so that a 1-inch gap exists between the eggs and the side walls of the box (Figures 1 and 2). Do not put layers of sand between eggs when stacking.

The Logistics Coordinators will be responsible for selecting a sample of 40 nests over the nesting season to outfit with temperature probes. For these 40 sample nests, after

approximately half of the eggs have been placed in a Styrofoam box, a thermocouple probe will be placed through the side hole of the box. The probe should lie flat and be placed in the middle of the box between two rows of eggs and should be taped both on the inside and outside of the box (Figures 3 and 4). Be extremely careful not to disturb any of the eggs while inserting the probe. Leave at least 6 inches of the male connector end of the probe outside of the box so that it can be attached to the female end of the probe (which will be attached later at the incubation facility). If less than 6 inches of the male probe is outside the box, the probes may not reach each other, negating the possibility to monitor temperatures.

After the eggs are placed in a Styrofoam box, additional moist sand from the nest cavity should be added between the egg mass and the box walls. A 2 to 3-inch layer of moist sand should be placed on top of the eggs.

The sea turtle permit holder or permitted contractor that collects a nest will be responsible for preparing and attaching an identification tag to each Styrofoam box. The beach name, County, nest number, species, date laid, number of eggs, name of the collector, and the date of nest collection shall be written in permanent ink on a waterproof tag, which shall be placed in a ziplock bag and tied to the Styrofoam box with an electrical tie. A back-up label will be placed inside the Styrofoam box as well.

### **Ground Transport of Nests to Designated Airports:**

The Logistics Coordinators or their designees will be responsible for picking up nests from the permitted individuals collecting nests. The Logistics Coordinators or their designees will transport the nests in a climate-controlled vehicle to protect them from extremes of heat and cold (for simplicity, since transporters will likely not be measuring temperatures inside the vehicles they are driving, nests should be in a temperature controlled vehicle that is controlled to a temperature comfortable for a human; at no time shall the nests be left in an unattended vehicle). Styrofoam boxes must be carefully handled and not be tilted for any reason. Each scheduled morning's collection of nests must be delivered by 1:00 pm to a designated airport (to be identified) for air transport to the Atlantic Coast of Florida.

Any nests that do not arrive in time for the day's scheduled flight will be kept in a designated quiet, shaded, non-air conditioned, and well-ventilated location protected from extremes of heat and cold (not above 90°F and not below 50°F) until the next day's flight of nests to the Atlantic Coast. The holding location must be able to be secured from vandalism and be predator-proof, including ensuring the nest is secure from ant or other insect invasion. The Logistics Coordinators will be responsible for ensuring all nests awaiting the

next day's flight are appropriately tended overnight and for ensuring they get placed on the next day's flight.

### **Air Transport to the Atlantic Coast of Florida:**

Each day's collected nests will be air transported in a single aircraft to the Atlantic Coast of Florida. Air transport should be timed to arrive at the Atlantic coast airport (to be identified) no later than 5:00 pm each day. A designated sea turtle permit holder, FWC, FWS, or NOAA personnel, or permitted contractor will accompany the nests on each flight to ensure nests are carefully handled and securely placed inside the aircraft. Styrofoam boxes must not be tilted for any reason. Nests will be transported in a climate-controlled environment so as to protect them from extremes of heat and cold (not above 90°F and not below 50°F).

### **Transfer of Nests from the Atlantic Coast Airport to the Incubation Facility:**

Upon arrival at the Atlantic Coast airport, a permitted contractor will meet the plane and transport the nests directly to the designated incubation facility. Nests will be transported in a climate-controlled vehicle to protect them from extremes of heat and cold (for simplicity, since transporters will likely not be measuring temperatures inside the vehicles they are driving, nests should be in a temperature controlled vehicle that is set to a temperature comfortable for a human).

### **Final Incubation of Nests:**

Upon arrival at the designated incubation facility, Styrofoam boxes holding nests will be off-loaded and placed in a building that can be secured from vandalism and be predator-proof, including ensuring the nest is secure from ant or other insect invasion. The building must provide a quiet, shaded, non-air conditioned, and well-ventilated environment protected from extremes of heat and cold (not above 90°F and not below 50°F). A designated sea turtle permit holder or permitted contractor will be responsible for tending to these nests. Styrofoam boxes containing nests must be outfitted with enclosure screens or otherwise outfitted to ensure emerged hatchlings cannot escape the container or be harmed in any way.

Styrofoam box lids should be kept open once they are placed in the incubation facility. Nests will be lightly sprinkled with water from a watering can as needed to keep sand moist, but not wet. Fans and spritzers should be used if the air temperature gets too high. Vaseline should be strategically placed to make sure ants or other crawling insects do not

get into the Styrofoam boxes; no Vaseline will be placed on the Styrofoam boxes themselves.

Nests will be checked at least once each night (optimal time to be determined) for signs of impending emergence or to assess emergence progress. Nests will also be checked at least once during the daytime to assess the condition of all nests. Unhatched eggs will continue to be held in the Styrofoam boxes, which will continue to be checked for hatchlings twice a day for 72 hours after the first sign of emergence occurs in the box.

### **Nest Inventories:**

The permitted contractor responsible for tending to nests will also be responsible for completing a nest inventory following hatchling emergence. A nest inventory may only be conducted 72 hours after the first sign of emergence. A nest inventory form shall be completed and shall include all information contained on the nest tag that is attached to the incubation container (beach name, County, nest number, species, date laid, name of the collector, and the date of nest collection). Information to be recorded will include the number of live hatchlings, dead hatchlings, pipped live, pipped dead, and unhatched eggs.

### **Hatchling Releases:**

Due to the short duration of the hatchling frenzy period, hatchlings shall be released as soon as possible following emergence. All hatchlings found during darkness are to be released immediately. Otherwise, hatchlings must be left in their incubation container and released the following night. Hatchlings collected from excavated nests should never be held in water. The lid of the container should be placed loosely over the top to provide a near-dark environment. Emerged hatchlings being held in their incubation container should not be handled or disturbed until they are ready for release. Activity causes increased expenditure of limited energy stores.

Hatchling releases shall occur at designated locations (to be determined). Release locations shall be on a relatively dark beach without light sources directly visible from the beach. Recent studies have shown that in-water predators will shift locations to areas of higher hatchling prevalence, resulting in unnaturally high concentrations of predators and increased probability of hatchling mortality. In order to prevent this type of increased risk, release locations shall be varied regularly.

At the time of release, hatchlings should be placed just landward of the surf zone and allowed to crawl the short distance to the water on their own. Artificial lights shall not be used during hatchling releases. This applies to any members of the public observing such



releases, as well as all permitted personnel involved in the release. A quick check of the release area with a small red LED flashlight a short time after release will insure that all hatchlings have reached the water. Occasionally, individual hatchlings may need assistance in reaching the water. In such cases, they may be moved closer to the water's edge or placed in the shallows and allowed to swim off on their own. Individuals conducting the hatchling release should conduct a brief search of the surf zone and shallow water adjacent to the beach 10-15 minutes following the release to ensure that all hatchlings have departed.

## FIGURES



Figure 1. Excavating a nest.

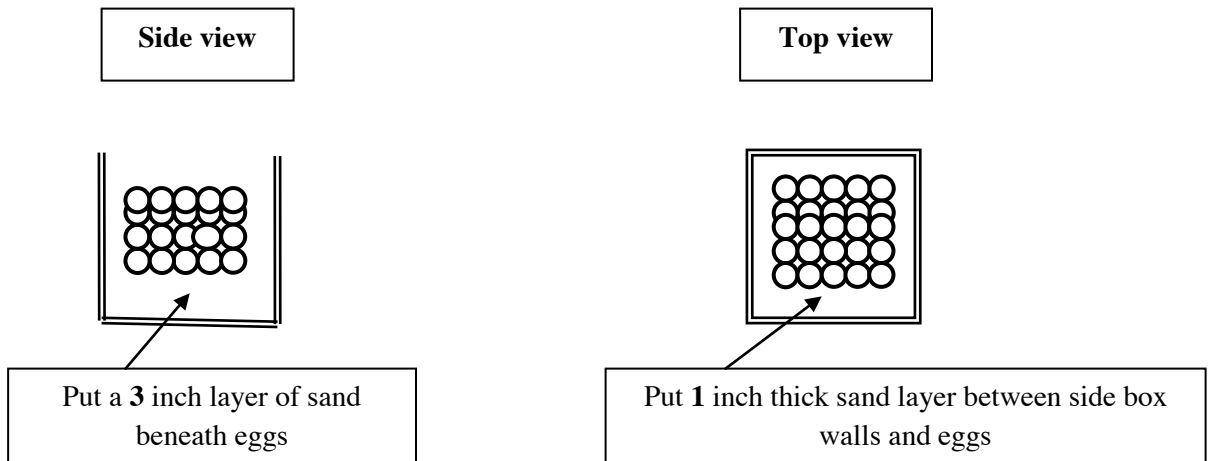


Figure 2. Arrangement of sand and eggs in the Styrofoam box from side view (A) and view from top of box (B).



Figure 3. Eggs packed with probe.



Figure 4. Styrofoam box showing placement of temperature probe (••••) from side view (A) and view from top of box (B).

## APPENDIX

### Incubation Boxes

You will need:

- Foam coolers
- Electric drill
- 3/16" drill bit
- Ivory soap & bottle brush
- Utility knife (to remove handles)
- Leatherman

Directions:

- 1) Fill boxes with water and allow to soak overnight.
- 2) Carefully pour out water as the weight may break the cooler and allow to air dry (DO NOT leave boxes outside overnight to dry).
- 3) Using a utility knife and/or Leatherman, remove all handles and clips (to ensure no one attempts to use the handles with a nest enclosed).
- 4) Drill holes in boxes using 3/16" drill bit.
  - Drill 10 holes (two rows of 5 holes) on each 14" side of the box (see left diagram below).
  - Drill 9 holes (one row of 4 holes and one row of 5 holes) on each 11" side of the box (see center diagram below).
  - Drill 12 holes (three rows of 4 holes) on the lid and the bottom of the box (see right diagram below).
- 5) Scrub boxes with Ivory soap with a clean bottle brush and rinse well.
- 6) Allow boxes to air dry (DO NOT leave boxes outside overnight to dry).
- 7) Store boxes in a cool/dry area.

