

# KIAWAH ISLAND

## 2012 Annual Turtle Patrol Project Report

### I. Nesting

#### A. Coverage

1. Kiawah Island – The beach on Kiawah Island is patrolled each day by a team of four (4) members using a Town vehicle. This year's patrolling began May 14 and continued to the end of August. The patrol enters the beach via the Beachwalker County Park vehicle access, travels west to Captain Sam's Inlet, turns and travels east past the Ocean Course Clubhouse as far as the truck can safely go. The first nest of the year was a Leather Back nest laid on April 17. This is only the 2<sup>nd</sup> recorded Leatherback nest on Kiawah.
2. The nesting patrol members locate, investigate and log every track found each day. Nesting patrols are expected to begin as soon as it is light enough to safely drive on the beach. Members are randomly assigned a 4-day tour. Nests are marked in accordance with Department of Natural Resources (DNR) guidelines. When necessary to relocate a nest, the original location and new location are entered in the daily log and are further marked with a GPS reading.
3. The driver is an experienced member of the patrol and has the responsibility to ensure all procedures are followed. Drivers are assigned a minimum of two 4-day tours. Final location of each nest and nest screening are decisions made by each driver in accordance with patrol guidelines.

#### B. Located/Relocated Nests

1. All tracks are examined. Crawls are followed to potential nest sites/body pits. All crawls and nest sites receive a GPS reading. Nests are marked and numbered consecutively. All false crawls are recorded and have a GPS reading. A numbered short stake is used when all signs indicate a nest exists, but one is not found. A large number of abnormal high tides throughout the season hampered efforts to find tracks and body pits. In addition, the beach was covered with large amounts of wrack, complicating locating tracks and nests. Many more wild nests than in previous years were discovered.
2. When deemed necessary, nests are relocated. Department of Natural Resources (DNR) guidelines were followed. The team driver supervised the relocation procedure from removal of eggs from the original site, preparation of the nest chamber and properly placing the

eggs in the new nests. Each relocated nest was marked, screened (if required) and GPS recorded.

3. For the third year, an egg was removed from each nest for DNA purposes. A total of 227 nests were recorded – the fifth highest total for Kiawah Island. Eggshells and/or dead hatchlings were recovered from wild and short stake nets for DNA study. Five (5) nests located by DNR personnel were counted in the total number.

### **C. Method of Marking Nest**

1. Once the nest was found/relocated, a numbered post was placed two (2) feet east of the center of the nest chamber. If the nest was screened, the post was placed at to edge of the screen two (2) feet east of the center. Only the nest number is on the post, black numerals on a white background below the orange painted top of the post. This was year one (1) in our plan to replace the wood nest stakes with white PVC posts. One hundred fifty (150) posts were replaced along with short stake PVC posts. It is anticipated this effort will reduce annual maintenance efforts.
2. All relevant information is entered in the log book, which is maintained daily by the driver. The log is transferred to each driver in turn. Each day's information is provided to the patrol member responsible for entering it in the computer database.

### **D. Nest Monitoring Method**

1. Nest monitoring is performed each day. The nesting patrol is responsible until approximately thirty (30) days after the first nest is located and marked. These patrol members are assigned a zone of one (1) mile have the responsibility to check and maintain each net and short stake on a daily basis. The assignment is for a seven day period. A log entry is completed for each day for each and every nest. The log book is passed on to the next team. The beach has six (6) well defined zones.
2. Depredation of any type is observed and noted within twenty four hours, as each nest is checked daily. Recorded data includes what, when, to what extent and what actions were taken to repair/restore the nest to its pre-depredated condition. This information will be included in the nest history data base.
3. The individual nest card is annotated with information about over wash, if it occurs. Information includes when, how often, and whether there was damage to the nest chamber.

## **II. HATCHING**

### **A. Determining Emergence Activity**

1. The patrol hatching teams begin thirty (30) days after the first nest is located and marked. This activity continues until the last nest in each zone is evaluated.
2. Emergence activity is determined by seeing hatching tracks and a nest chamber depression/crater. Incubation time is also referenced on the nest card maintained for each nest.

#### **B. Method Used to Inventory Nests**

All nests are evaluated. Most inventories are conducted three (3) days after emergence activity has occurred. If such activity is not observed, the inventory will be conducted seventy-five (75) days after the nest was located and entered into the patrol report. Inventories are conducted in accordance with DNR guidelines.

#### **C. Time of Day Inventories Performed**

Inventories are conducted as soon as possible after daybreak.

### **III. PROBLEMS**

#### **A. Predators**

1. Ghost crabs, raccoons and fire ants are the natural predators in that order. For the first time, nest predation was the result of Bobcat or Coyote activity. Some predated nests were extensively damaged and were a total loss.
2. Predation by ghost crabs = 0 nests were lost to ghost crabs – many had crab activity.  
  
Predation by raccoons = 1 nest  
  
Predation by fire ants = 0 nests  
  
Predation by bobcats or coyote = 7 nests
3. Some nests are screened. Plastic 4" x 4" screens allow hatchlings to emerge without difficulty. Screens were utilized on predated nests, when tracks were found and predation could occur and when a nest was in an area of heavy beach activity.
4. No measures were taken to control fire ants.

#### **B. Lighting**

1. This was not a problem. During the PGA Tournament, a report was made to DNR (individual not identified) of hatchlings on the golf course. When the report was relayed to the patrol, no follow-up was

feasible as no specific information or location was given for verification.

2. If the patrol is notified, the location is visited. If the location is rental property, the rental agency is also contacted. Handout information can be found in rental units and is provided by the agencies.
3. The Town of Kiawah Island has a local ordinance addressing turtle season lighting rules. Enforcement is handled by the Town Code Enforcement personnel working together with patrol members.

**C. Over Wash and Erosion**

1. Beach erosion was categorized as slight overall with moderate erosion in one part of the island.
2. Twenty-two (22) nests were noted as being over washed multiple times.
3. The beach is maintained in a natural state with no physical actions taken.

**D. Crowd Management**

1. No problems/difficulties occurred this season.
2. Crowd control has not been a problem. Patrol members have maintained order without difficulty. On-lookers have been polite, attentive, and responsible when directed by patrol members.
3. Information is provided by patrol members. The Town of Kiawah Island and the Beach Patrol direct inquiries to committee members of the patrol. Information on nest evaluations is provided upon request.

**E. Beach Obstructions**

N/A

**IV. EDUCATION**

- A. No formal education activities were conducted. Every opportunity at nest evaluations is taken to respond to on-lookers questions. Many times these informal activities last well beyond the evaluation activities.
- B. The Town of Kiawah Island Environmental Committee has provided materials about island wildlife, which includes sea turtles. This information is available at the Town Hall and a supply is carried on the truck.
- C. N/A

D. Information is provided at every opportunity during nesting and hatching activities. Nest evaluations always draw on-lookers, who may number as many as 25-30. A quilt, sewn by the parent of a committee member was raffled off with the money donated to the SC Aquarium Sea Turtle Hospital. The quilt was made from twenty (20) tee shirts from past years patrols.

## V. PROJECT ORGANIZATION

A. Training is on-going; the eight member committee meets five to six times a year. Its experience level ranges from eleven (11) to nineteen (19) years. They also are drivers/team leaders for nesting and zone captains for hatching activities. New members join each year. Each team has one or more experienced leader and each leader is responsible for training and supervising newer members in accordance with DNR guidelines and regulations. This season the number of volunteers reached 192.

### B. Level of Involvement

1. The team driver is responsible for analyzing crawls, probing activity, determining relocation, preparing new chambers, gathering data and submission of data on a daily basis. He/she supervises team members in all these activities.
2. The beach is patrolled each day for crawls. Discovery of and information about crawls is also reported to patrol members by the Town of Kiawah Island Beach Patrol and residents and beach goers. Each and every report is investigated. Probing, marking and re-location of nests is accomplished by patrol members.
3. Nest inventories were completed for each nest to include wild nests. Experienced members are responsible for this activity and will instruct newer, inexperienced members. Training is supervised by zone captains and/or committee members.
4. A nest card is maintained for each nest until that nest is inventoried. All information is submitted to the individual responsible for data entry to SEATURTLE.ORG or DNR. This submission begins with the discovery of tracks and marking of the nest to the conclusion of the nest inventory. Data entry is the responsibility of the permit holder and his computer geek.
5. This year members of the Beach Patrol were trained by DNR personnel in stranding activities. This was a logical progression as these individuals are usually the one to find and report a stranding and also are responsible for burying the strandings on the beach.

## VI. CONCERNS AND RECOMMENDATIONS

N/A

**VII. OTHER ISSUES AND CONCERNS**

**N/A**