

ANNUAL PROJECT REPORT

Kiawah Island Turtle Patrol 2007

Assembled by Joe Pezzullo

I. Nesting

A. Coverage

1. Nesting teams patrolled the beach each morning at first light in a four-wheel-drive Dodge Dakota truck with extended cab.
2. Each nesting team consisted of a driver and usually three other volunteers. A team was on duty for four consecutive days and on those days patrolled the full length of the beach, this year a distance of about 14 kilometers. Volunteers served one term of four days each, and drivers two such terms.

B. Locating/Relocating

1. Upon locating a crawl, the team made a visual analysis of the site, noting the incoming and outgoing crawls, and using the five standard nest criteria. When the most likely nest position had been determined, the driver or another experienced person carefully probed the area using a standard probe. When a soft area was located, the presence of eggs was verified by carefully digging with the hands.
2. A nest was relocated only if it was a) seaward of the spring high tide line, which had been marked at that time by the numbered distance posts, located at 0.2 mile intervals, and by white posts midway between these distance posts; b) in an area of heavy foot or vehicle traffic; or c) in the zones at the extreme ends of the island, which experience has shown to be subject to a fatally high water table in the event of heavy rains. The coincidence of strong storms and high tides prior to 2002 caused severe erosion at the eastern end of the island causing the total loss of a number of nests from that area. During the year 2002, policy was adopted to relocate all nests from the two miles at the eastern end to the areas west of the Kiawah Island Beach Club. This policy was continued this year.
3. If possible, the artificial nest location was chosen near the original nest site, above the marked spring tide line, on a gently sloping dune face, and in an area as free as possible of vegetation. Nests from the erosion area at the east end were relocated to the remaining six zones as evenly as possible to ease the load on hatching patrol volunteers.

C. Methods of marking nests

1. Each nest was marked with a 2"x2"x 4' post, consecutively numbered and located two feet to the east of the nest center on a line parallel to the shore.

The top of each post was painted orange and carried a laminated notice: "Turtle Nest. Do Not Disturb". This year every nest was screened with a 4' x 4' plastic screen. All identified nests were screened.

2. A 2.5" x 3.5" red plastic flag on a 15" wire stake was placed five feet directly landward of the nest post and labeled with the nest number. Other pertinent information was recorded in a permanent notebook.
3. If the analysis of the crawl suggested that a nest had been laid but none could be located by probing, the most likely spot was marked by a 1"x 2"x 18" numbered stake, painted orange on top and carrying the laminated notice: "Turtle Nest. Do Not Disturb".

D. Nest monitoring methods

1. Nests were monitored daily by the nesting patrol until the time that hatching patrols began their checking, and after that by the hatching patrols themselves. Problems noted by the nesting patrol are recorded in the daily logbook. Problems noted by the hatching patrol are listed on their daily log and weekly report.
2. If any depredation was observed, a count of the number of eggs destroyed and the type of the predator was recorded. The nest was then screened if not previously done.
3. The date and appraisal of the extent of any over wash was noted.

II. Hatching

A. Determining emergence activity

1. Forty five days after the first nest was laid, the hatching patrols began checking the nests daily, usually beginning at dawn. These foot patrols also watch for wild nests as well as for predation of any nests along the route.
2. Hatching of a nest was indicated by hatchling tracks coming from the nest. In the absence of visible tracks because of wind or rain, the exit crater could often be seen. A red flag was placed behind the exit hole. If emergence was not detected, an inventory of the nest was made after 75 or more days from the date the nest was laid.

B. Method used to inventory nests

An attempt was made to inventory all nests. At least three days after hatching was seen, the team members carefully dug down into the nest by hand – often wearing rubber gloves for protection. A count was made of hatched eggshells, unhatched eggs, dead hatchlings and live hatchlings.

C. Time of day inventories performed

Nest inventories usually were performed during hatching patrols that began soon after dawn.

III. Problems

A. Predators

Predation of nests this year was so minimal that no written reports were provided by the patrols. Ghost crabs and ants were present and can only be described as nuisances and not problems. Raccoons were present, as tracks were repeatedly found near the nests. Screening all nests this year greatly contributed to this situation.

B. Lighting

There was only one (1) report of lights remaining on during overnight hours. It was found to be a home of a part-time resident, who was contacted by TOKI personnel. The management company responsible for that property resolved the situation the same day. The report was received from members of the hatching patrol responsible for that zone.

TOKI and all public organizations on the island as well as real estate rental companies support the “lights out for turtles” program by actively advertising it to all visitors to the island.

C. Over wash and erosion

Erosion was minimal this year, as the renourishment project has stabilized the East end of the island. Patrols went as far eastward as was possible each morning, searching for tracks and nests. Few were found. Our policy of relocating all nests out of that region was successful in avoiding damage to nests.

One nest was washed out completely during a late spring storm. Efforts were made utilizing GPS data to locate that site to no avail. A few other nests were over washed, due to extremely high tides, but it did not seem to effect the incubation and hatching process.

D. Crowd management

1. Observers during both nesting and hatching were generally considerate of the need not to interfere with the patrols. No problems were encountered.
2. Usually the volunteer teams were large enough that one member could be talking to the observers while the other members completed the tasks required.
3. No general information was made available on nests due to emerge or be inventoried. When inquiries were made by phone (usually by friends or family of patrol members) or by visitors on the beach, information about nest to be inventoried was supplied.

E. Stranding

There were 3 strandings reported this year. The first one was on March 1st, the second on April 28th and the third on May 2nd.

Two patrol members are permitted by DNR to examine, report to Ft. Johnson and complete the paperwork required to document species location, condition and final disposition. Burial on the beach is accomplished by Beach Patrol personnel after the carapace is painted.

IV. Education

A. Types of educational programs conducted

Kiawah Island Resort sponsors two programs through the Nature Center that are presented by the Kiawah Island Turtle Patrol. The first, a slide presentation and talk about sea turtles, with a description of turtle patrol activities, was conducted weekly on Tuesdays at 9:30 AM from June thru August at the Nature Center. Two members from the Turtle Patrol gave these talks, attended by from 5 to 25 island visitors and residents. Concerns about lighting and beach activity were also discussed.

The second program was a nesting demonstration conducted weekly at 7:30 AM on the beach. A faux nest is dug and eggs (ping-pong balls) are placed in it. A simulated crawl to the nest is made to demonstrate its appearance. Following a description of nesting activity, the beach and nest markers, the nest is probed and the eggs removed, usually with help from the observers. An explanation of post-hatching activity of the hatchlings concluded the demonstration.

B. Types of printed materials produced

The Town of Kiawah Island produces a printed brochure, “THE LOGGERHEAD TURTLE”, which is available to visitors at the Town Hall, the Nature Center and through the rental agencies. It is also handed out by the turtle patrol to observers on the beach.

C. Types of media articles and TV spots produced

During turtle season, regular updates of the nesting and hatching activities were provided on two websites (www.WelcomeToKiawah.com and www.KiawahTurtles.com).

During the turtle season a column appears in “Kiawah Island Talk”, a monthly publication from the Kiawah Property Owners Group.

D. Number of public awareness turtle walks/watches and hatchling emergences conducted

In addition to the presentations and beach demonstrations described in item A above, nesting and hatching patrol volunteers interact regularly with interested beachgoers. Topics discussed range over the entire lifecycle of sea turtles.

V. Project Organization

A. Level of training

An operating committee of nine experienced members of the patrol organized the operation for the year. Each of these nine was responsible for some phase of the program.

Thirty seven percent of the 145 volunteers were new this year. The more experienced members range from 4 to 18 years of experience. A new volunteer is always accompanied by at least one experienced patrol member, and learns by participating and studying the SCDNR Guidelines. A new volunteer becomes 'experienced' in the judgement of the zone captain(s) and senior members of the team with whom he/she patrols. This 'promotion' seldom happens in less than two years and frequently extends longer depending on the level of turtle activity, the variety of situations experienced by the new volunteer and the abilities of the individual.

B. Level of involvement

On nesting patrols all members are routinely watching for crawls, and all participate in the analysis of the crawl. Probing is done by the driver or by a highly experienced team member. All participate in moving eggs, under supervision of the driver. On hatching patrols a new volunteer is always accompanied by at least one experienced patrol member and learns to notice signs of emergence and to inventory nests by reading the guidelines and participating under supervision. Analysis of data and writing of the report was done by the five members of the operating committee.

VI. Concerns and Recommendations

A. Technical concerns and needs

Our program is generously supported by the Town of Kiawah, which fills our technical needs completely.

VII. Other Issues and Comments

Our volunteer count increased by fifty individuals this year. While this is an improvement over the prior year where a loss of volunteers was experienced, the low level of nesting/hatching activity put a damper on the spirits of many volunteers which may lead to a decrease of returnees in 2008. In addition, a number of experienced individuals reduced their amount of time available on the beach which increased the time requirements for other volunteers. This has put an unusual burden on some of the more willing volunteers. While this may not continue to be a problem in the future, we need to continue to step up our efforts to recruit additional volunteers to cover our patrol requirements.

VIII. Supplemental Information

Sections I through VII constitute the information required by SCDNR, according to the outline required by them. However, there are additional data which may be of interest to volunteers.

- A. The first nest was laid on May 16, 2007 and the last one on August 13, 2007. Nest #13, laid on June 2, 2007 had shells so thin, they were transparent. During relocation, 28 eggs were lost, however; 56 hatchlings did emerge for a total number of 121 eggs. A total of 96 nest sites were identified and numbered. Two wild nests were also located by the patrol for a total of 98—88 of which emerged.

MARKER DETAIL
Figure 1

<u>PATROL ZONES</u>	<u>MARKER NUMBER</u>	<u>FOUND NESTS/MARKER</u>	<u>TOTAL NESTS/MARKER</u>
Zone 1	E of 1	0	0
	1	1	0
	2	0	0
	3	4	0
Zone 2	4	3	0
	5	2	1
	6	1	0
	7	3	0
	8	0	0
Zone 3	9	3	0 + 1 W
	10	1	3
	11	4	9
	12	2	2
	13	0	0 + 1 SS
Zone 4	14	2	2 + 1 SS
	15	5	9 + 1 W
	16	2	4
	17	0	0
	18	1	2
Zone 5	19	2	2
	20	0	0
	21	1	2 + 1 SS
	22	2	2
Zone 6	23	0	0
	24	0	0
	25	3	3
	26	1	1
	27	0	0
Zone 7	28	1	2
	29	0	0
	30	2	2
	31	1	1
	32	1	1
Zone 8	33	4	4
	34	2	2
	35	2	2
	36	1	1
	37	0	1
	38	0	0 + 1 SS
	39	0	0
W of 40	1	0	
Totals		<u>found</u> 58	<u>total</u> 64

ZONE DETAIL
Figure 2

<u>PATROL ZONES</u>	<u>FOUND NESTS</u>	<u>TOTAL NESTS</u>
Zone 1	8	0
Zone 2	9	1 + 1 W
Zone 3	9	16 + 2 SS
Zone 4	10	17 + 1 W
Zone 5	3	4 + 1 SS
Zone 6	5	6
Zone 7	10	10
Zone 8	3	4 + 1 SS
West of Zone 8	1	0
	<u>found</u> 58	<u>total</u> 64