

**TECHNICAL REPORT EPD 10-01**

**SEA TURTLE CONSERVATION PROGRAM  
BROWARD COUNTY, FLORIDA  
2009 REPORT**

Submitted by:

**Curtis Burney,  
Principal Investigator  
and  
Laura J. Wright  
Project Manager**

**Nova Southeastern University  
Oceanographic Center  
8000 North Ocean Drive  
Dania, Florida 33004**

For the:



**BROWARD COUNTY  
BOARD OF COUNTY COMMISSIONERS**

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The Hollywood Beach Maintenance Department, The Hallandale Beach Maintenance Department, The Fort Lauderdale Beach Maintenance and Public Works Department, Beach Rakers of Pompano Beach, Pompano Beach Maintenance and Public Works Department and the Parks and Recreation Department of Deerfield Beach.

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The Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute.

The Cities and Police Departments of Hallandale Beach Hollywood, Dania Beach, Fort Lauderdale, the Town of Lauderdale-By-The-Sea, Pompano Beach, Deerfield Beach, and the Town of Hillsboro Beach. Code Enforcement Departments in Deerfield Beach, Pompano Beach, Lauderdale-by-the-Sea, Fort Lauderdale and Hallandale Beach.

Fort Lauderdale and Pompano Volunteer Fire Departments for assisting with disoriented hatchling recovery from storm drains.

Pompano Animal Control for assisting with sea turtle strandings and disoriented hatchlings.

## **INTRODUCTION**

Since 1978, the Broward County Natural Resources Planning and Management Division (BCNRPMD) has provided for the conservation of endangered and threatened sea turtle species within Broward County. Broward County is within the normal nesting areas of three species of sea turtles: the loggerhead sea turtle (*Caretta caretta*), the green sea turtle (*Chelonia mydas*) and the leatherback sea turtle (*Dermochelys coriacea*). The loggerhead is listed as a threatened species, while the green and leatherback are listed as endangered under the U.S. Endangered Species Act, 1973, and Chapter 370, F.S.

Since these statutes strictly forbid any disturbance of sea turtles and their nests, conservation activities involving the relocation of nests from hazardous locations require permitting by the U.S. Fish and Wildlife Service (USFWS). In Florida, this permit is issued to the Florida Fish and Wildlife Conservation Commission (FFWCC), Imperiled Species Management Section, Tallahassee, Florida. This project was administered by the BCNRPMD and conducted by the Nova Southeastern University Oceanographic Center under Marine Turtle Permit #108 issued to the BCNRPMD by the FWCC. Volunteers assisting with night nest monitoring worked under Marine Turtle Permit #174, also issued to the BCNRPMD.

The BCNRPMD is especially concerned with any environmental effects of intermittent beach nourishment projects on shorelines and the offshore reefs. As a result, the BCNRPMD has maintained the sea turtle conservation program in non-nourishment years to provide a continuous database and for monitoring of completed nourishment projects. Nova Southeastern University received the contract to conduct the 2009 program.

In addition to fulfilling the requirements of the U.S. Endangered Species Act and Chapter 370. F.S., the purposes of the project were:

- 1) to relocate eggs from nests deposited in sites threatened by natural processes or human activities and thus maximize hatchling survival,
- 2) to accurately survey sea turtle nesting patterns to document historical trends and assess natural and anthropogenic factors affecting nesting patterns and densities,
- 3) to assess the success of sea turtle recruitment in terms of nesting success, hatching success and total live hatchling production,
- 4) to dispose of turtle carcasses, respond to strandings and other emergencies and maintain a 24-hour emergency cell phone for reporting of turtle incidents, and
- 5) to inform and educate the public about sea turtles and their conservation.

**MATERIALS AND METHODS**

Beach Survey

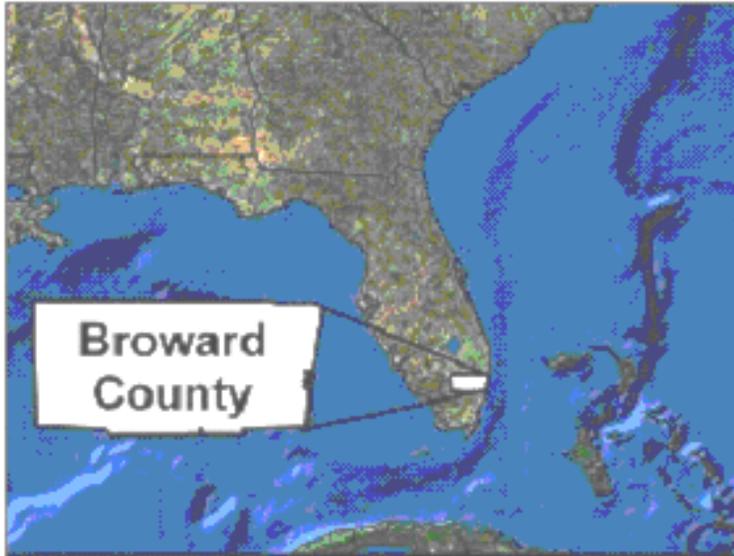
Daily beach surveys commenced one half hour before sunrise. For survey purposes the County was divided as follows:

**Table 1:** Broward County Survey Areas.

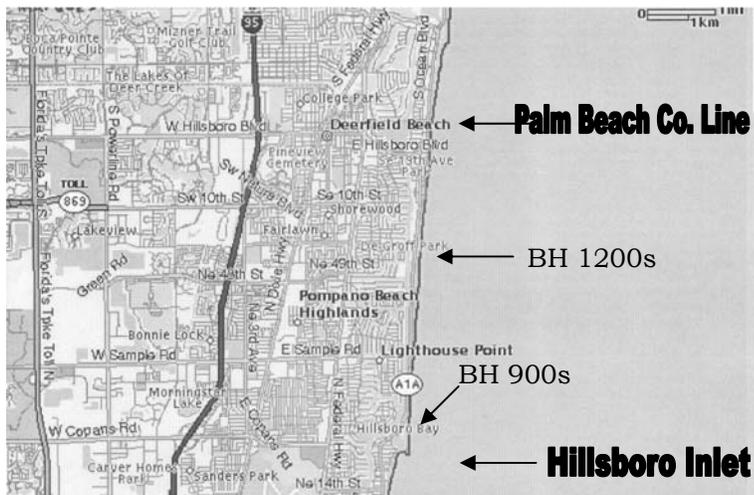
| BEACH   | BEACH LENGTH (km) | BOUNDARIES                                 | FDEP SURVEY MARKER # |
|---|-------------------|--|----------------------|
| Hillsboro-Deerfield Beach                     | 7.0               | Palm Beach Co. line to Hillsboro Inlet     | R1-24                |
| Pompano Beach Including Lauderdale-by-the-Sea | 7.7               | Hillsboro Inlet to Commercial Blvd.        | R25-50               |
| Fort Lauderdale                               | 10.6              | Commercial Blvd. to Port Everglades Inlet  | R51-85               |
| John U. Lloyd Park                            | 3.9               | Port Everglades Inlet to Dania Beach fence | R86-96               |
| Hollywood-Hallandale Including Dania          | 9.4               | Dania Beach fence to Miami Dade Co. line   | R97-128              |

The location of Broward County and the positions of the boundary lines above are shown in Figure 1 A-F.

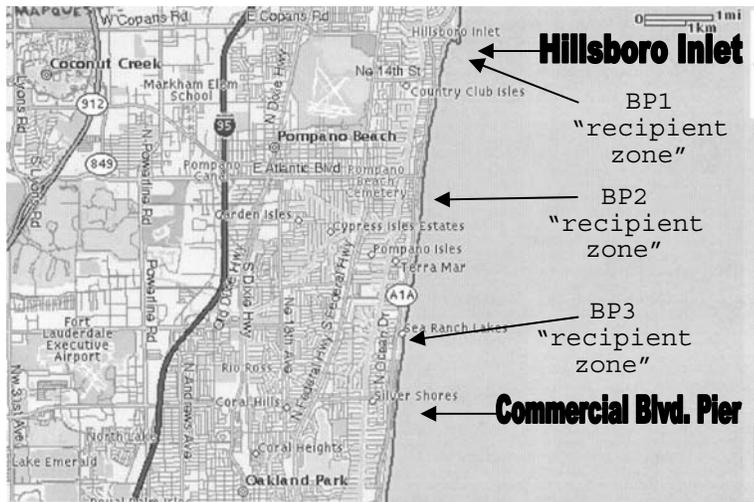
Daily surveys of Deerfield Beach, Hillsboro Beach, Pompano Beach, Lauderdale-by-the-Sea, Fort Lauderdale, Dania Beach, Hollywood Beach, and Hallandale Beach commenced on March 1, 2009. Surveys continued through September 30th. The beach at John U. Lloyd State Park (JUL) was patrolled by park personnel who provided the data from that area. Except in Lloyd Park, nest locations were referenced to Florida Department of Environmental Protection (FDEP) beach survey monuments numbered consecutively from R1 to R128 (N to S). Marker numbers



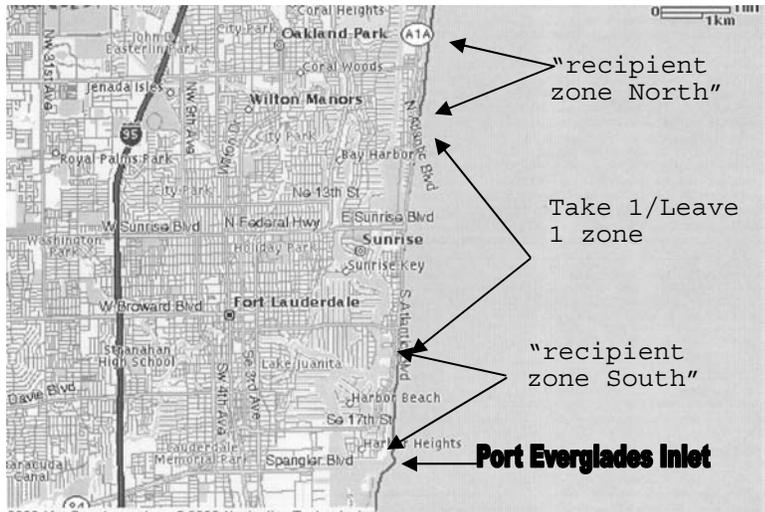
**Figure 1A:** The location of Broward County, FL



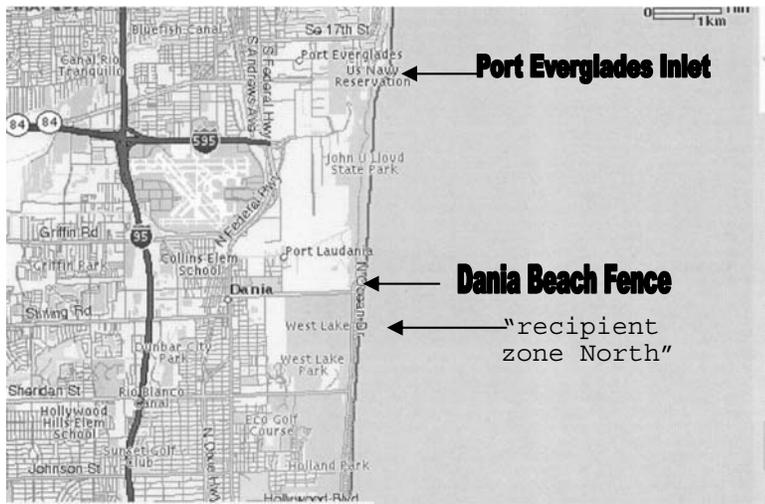
**Figure 1B:** Northern Broward County



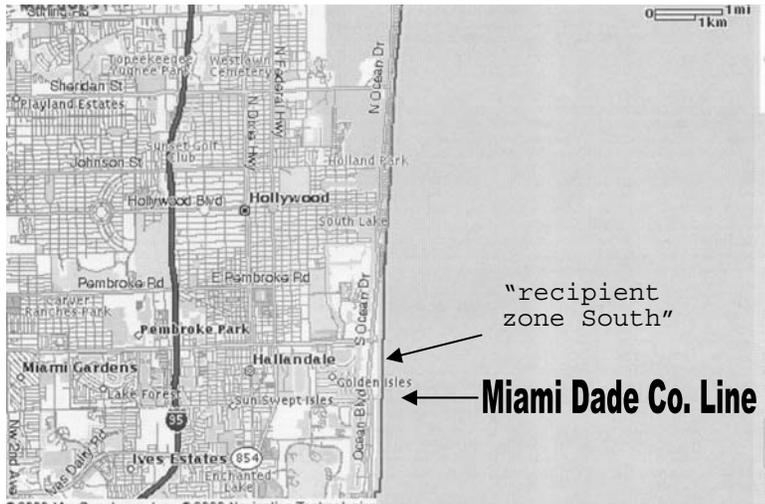
**Figure 1C:** North Central Broward County



**Figure 1D: Central Broward County**



**Figure 1E: South Central Broward County**



**Figure 1F: Southern Broward County**

corresponding to each beach area are listed in Table 1. Each nest location was initially recorded relative to the nearest building, street, or other landmark. These locations were later cross-referenced to the nearest survey marker. Nest and non-nesting (false) crawl locations were also recorded using Global Positioning System (GPS) receivers. All false crawls were recorded, but those that did not reach the previous high tide line were listed separately.

Surveyors used four-wheeled all-terrain vehicles (ATVs) that could carry up to six turtle egg clutches per trip in plastic buckets if needed. However, only loggerhead nests in designated donor zones were relocated, as mandated by FFWCC. When relocation was necessary, the usual method was to mark and record nests and false crawls on the first pass along the beach and then dig and transport nests in danger of negative impacts on the return pass. Nests were relocated to adjacent “safe zones” or “recipient sites” in a random manner to avoid clustering nests within the recipient zones. After recording all pertinent information, the crawl marks were obliterated to avoid duplication.

Nests in danger of negative impacts were defined as follows:

- 1) a nest located within 10 feet of the previous evening wrack line or,
- 2) a nest located in a “donor zone”, which was pre-determined by the FFWCC and located in a highly illuminated area.

Nests located in Fort Lauderdale, Lauderdale-by-the-Sea, and Pompano were relocated if they were deposited in a donor site or were within 10 feet of the previous evening wrack line. Donor sites for these beaches were designated by FFWCC and included zones R85, R54-49, and R35-32. All other zones were designated recipient and *in situ* sites.

In Fort Lauderdale, Lauderdale-by-the-Sea, and Pompano recipient and *in situ* sites included zones R31-25 (referred to as BP1), R41-36 (BP2), R48-42 (BP3), and R64-57. All nests that were relocated from zones R77-65 were moved to R64-57. Relocated nests from R85, R79 and R78 were moved into zones R84-80. Nests needing to be relocated from zones R54-49 were relocated to R48-42 (BP3, Lauderdale-by-the-Sea). All relocated nests from zones R35-33 were moved to R41-36 (BP2) and R32 were moved to R31-25 (BP1). Zones R79-65 were designated as a take 1/leave 1 area. This protocol was mandated by FFWCC. Here, half of all loggerhead nests deposited were left *in situ*, while half were relocated to zones R84-80 and R64-57. Donor zones and their associated recipient zones are summarized in Table 2.

Nests in danger of negative impacts at Hillsboro Beach were individually relocated to safer nearby locations (designated BH) or they were moved to open beach locations adjacent to homes with house numbers in the 900s through the 1200s on Highway A1A. These locations were designated BH900s, BH1000s, BH1100s and BH1200s, respectively. The locations of the most southerly and northerly limits of this area (BH900s and BH1200s, respectively) are shown in Figure 1B. All loggerhead nests deposited in zones R6-1 (Deerfield Beach) were relocated to zones R23-7.

Hollywood Beach was divided into donor and recipient/*in situ* sites. Donor sites included zones R123-107 and R101-97. Nests relocated from zones R101-97 were moved to R106-102. Nests relocated from zones R114-R107 were moved to R106-102, and nests from R123-115 were moved to R128-124. These donor and recipient zones are summarized in Table 3. All green turtle nests were left *in situ* except for those laid less than 10 feet from the high tide line. Only 1 green turtle nest was relocated, while 68 were left in place.

| <b>Table 2:</b> Destinations for Relocated Nests in Pompano, Lauderdale-by-the-Sea, and Fort Lauderdale. March 1-Sept 30 |                 |
|--|-----------------|
| Donor Zones  | Recipient Zones |
| R85, R79-78  | R84-80          |
| R77-65   | R64-57          |
| R54-49   | R48-42          |
| R35-33   | R41-36          |
| R32  | R31-25          |

| <b>Table 3:</b> Destinations for Relocated Nests in Dania, Hollywood, and Hallandale. March 1-Sept 30 |                 |
|---|-----------------|
| Donor Zones   | Recipient Zones |
| R123-115  | R128-124        |
| R114-107  | R106-102        |
| R101-97   | R106-102        |

Nests to be relocated were carefully dug by hand, and the eggs were transported in buckets containing sand from the natural nest chamber. The depths of the natural egg chambers were measured and recorded. The eggs were then transferred to hand-dug artificial egg chambers of similar dimensions and lined with sand incorporated from the natural nest. Care was taken to maintain the natural orientation of each egg, to minimize possible injury to the embryos. These relocated nests were marked off on the beach using 1 signed stake and 2 unsigned stakes forming a triangle around the egg chamber.

A total of 1300 nests that were not in danger of negative impacts or were located in recipient sites, were marked with stakes bearing yellow 5.5" X 8.8" sea turtle nest warning signs (Appendix 3), surrounded by 4 additional stakes and a 10 foot diameter circle of caution tape and left *in situ*. The only exception was in Fort Lauderdale (R79-64), where half of the loggerhead nests were intentionally left *in situ*, the egg chamber located and marked off with one signed stake and 3 additional stakes installed, forming a diamond. When half of these nests reached 45 days of incubation, restraining cages were placed over the egg chambers to avoid hatchling disorientation.

After hatching, 785 *in situ* nests (60 percent) were excavated for post emergence examination. The number of hatchlings released from each nest was determined as the total number of eggs minus the number of hatchlings found dead in the nest (DIN), dead pipped eggs with partially emerged hatchlings (DPIP), and unhatched eggs showing visible (VD) or no visible development (NVD). The number of hatchlings alive in the nest (LIN) and live pipped eggs (LPIP) were included in the number of hatchlings released but were subtracted from this number to determine the number which naturally emerged from each nest. Hatchling production success was defined as the number of released hatchlings divided by the total number of eggs.

Workers also located, assessed and recorded hatchling disorientation events and sent a FFWCC Marine Turtle Hatchling Disorientation Incident Report Form for each event to FFWCC. As in the past two years, Marine Turtle Permit 174 was utilized for additional support for the management of disorientation events. A volunteer training session was held on April 8 to educate the volunteers about the Broward County Sea Turtle Program and the effects of artificial lighting on the behavior of nesting and hatchling sea turtles. Volunteers were trained and permitted to rescue disoriented hatchlings and record information for the preparation of disorientation

reports. Their efforts helped to ensure safe passage of hatchlings to the ocean and provided valuable information about disorientation events throughout the County. The volunteers monitored nests from June 10 to October 30.

### Data Analysis

The data were compiled, analyzed and plotted with Quattro Pro, version 8 (Corel Corp. Ltd.) and Statistica, release 6 (StatSoft, Inc.). The countywide yearly nesting densities from 1981 to 2009 for the three species were plotted and trends were assessed by linear regression and correlation analyses. Seasonal nesting patterns and nesting densities were calculated for each beach (nests per km) and the beaches were compared using 1-way analysis of variance (ANOVA) and Newman-Keuls (NK) tests at the 0.05 significance level. The total number of nests deposited by each species in the beach segments corresponding to each FDEP survey marker, was tabulated and plotted. GPS positions for nests and false crawls were also plotted on the Broward County Coastline Aerial Shore Line Map using the ArcView Geographic Information System (GIS).

Total nesting success (nests/total crawls) for each species at each beach was computed and the mean daily nesting success of loggerheads and greens at each beach were compared by ANOVA and NK analyses. The average nesting success in each zone was also plotted versus its FDEP survey number. The numbers of eggs and live hatchlings of each species in relocated and evaluated *in situ* nests were recorded and the hatchling release successes were determined. The overall hatchling release successes of all eggs from relocated and *in situ* nests were plotted from 1981 through 2009. The frequency distribution of the hatching success of relocated and *in situ* loggerhead nests were plotted and compared with the Mann-Whitney U-test. The mean hatching percentages and proportions of the post-hatching egg

categories (LIN, LPIP, DIN, DPIP, VD and NVD) were tabulated by species from nests deposited or relocated at each of the individual beaches or relocation sites.

The number of hatchling disorientation incidents in 2009, and the estimated number of disoriented hatchlings involved were tabulated and compared to data from 2008.

### PEM Project

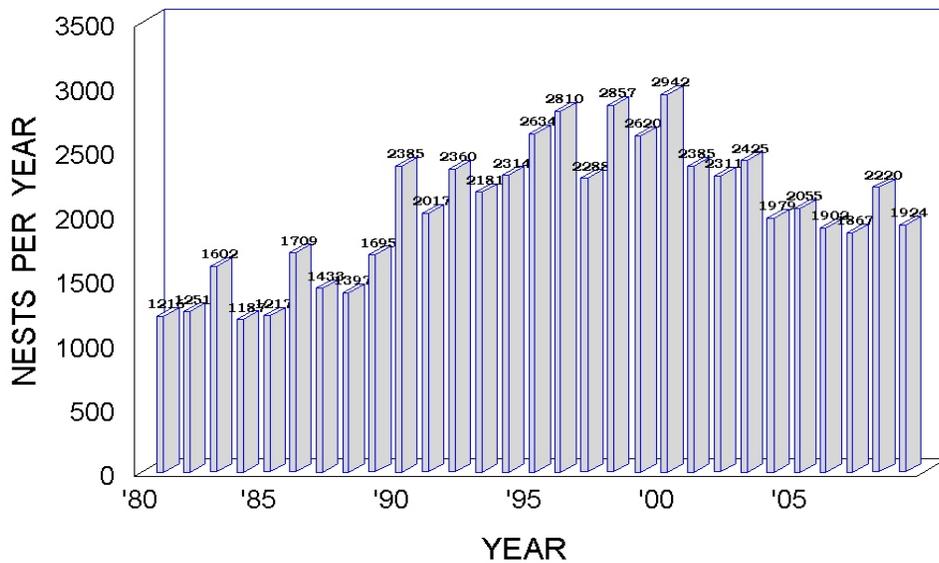
On February 25, 2008 a series of Pressure Equalizing Modules (PEMs) was installed in Hillsboro Beach by EcoShore Inc. in zones R9 through R12. These consisted of 6 ft x 2.5 in. dia. hollow perforated plastic tubes placed vertically with the tops about 1-3 ft. beneath the surface of the sand. The purpose was to lower the water table of the beach by allowing water to drain to deeper beach levels, thereby reducing the back swash by allowing more water to drain into the sand. This should allow more sand carried onto the beach by the up swash to remain there, and cause increased beach accretion. This report contains turtle data from the second year of monitoring of this project. Nesting, nesting success and hatchling emergence success were separately plotted and analyzed for this beach section as well as for zones R5-6 and R13-14 serving as controls. Temperature and humidity sensors were also placed in the beach to see if the project caused changes in sand temperature that could potentially affect hatchling sex ratios. These results will be presented separately.

## **RESULTS**

Figure 2 shows the historical trend in the total number of sea turtle nests deposited in Broward County since 1981. A total of 1924 nests were documented in 2009, which was 296 fewer than 2008, but there has been no significant change in total nest counts since 2004 ( $P = 0.44$ ).

Figure 3 shows the yearly nesting trends of loggerhead, green and leatherback sea turtles. Loggerheads deposited 1809 nests in 2009, which

### SEA TURTLE NESTING HISTORY ALL SPECIES COMBINED

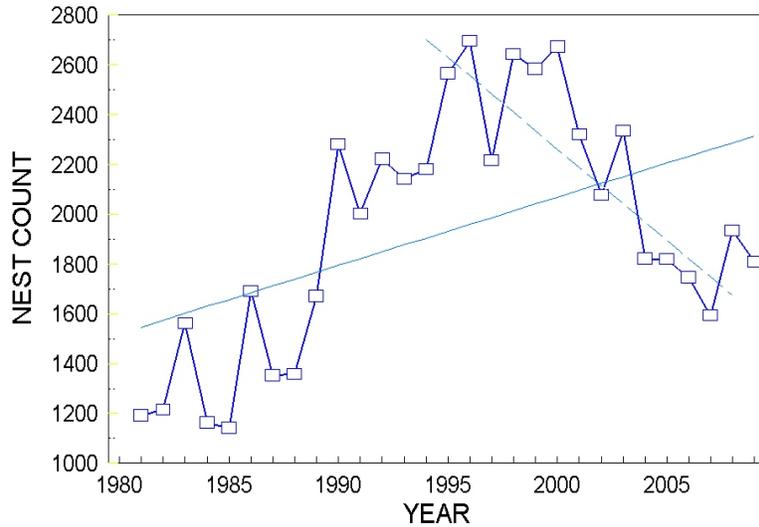


**Figure 2:** The pattern of total sea turtle nesting in Broward County since full surveys commenced in 1981.

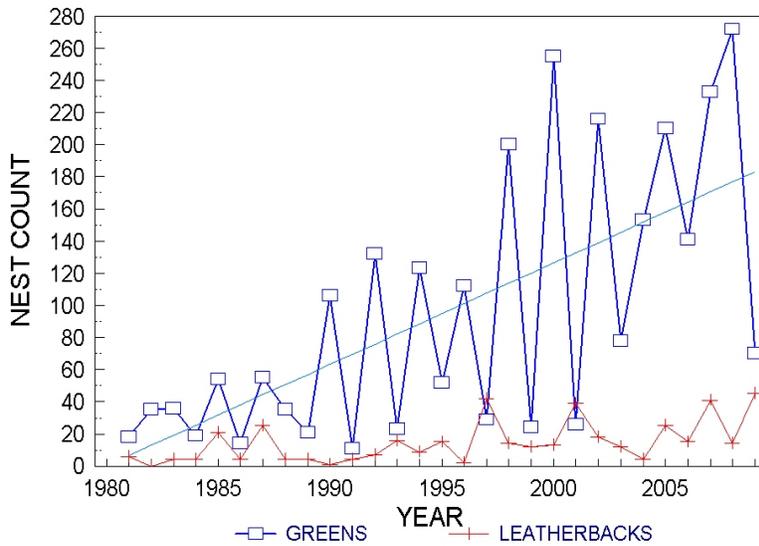
was 125 less than in 2008. While the overall loggerhead nesting trend is still positive ( $P=.004$ ), the trend since 1995 is still

### BROWARD LOGGERHEAD NESTS

Overall  $P=.004$ ; Since 1995  $P<<.001$



### GREENS AND LEATHERBACKS



**Figure 3:** Historical nesting patterns of loggerhead, green and leatherback sea turtles in Broward County since 1981.

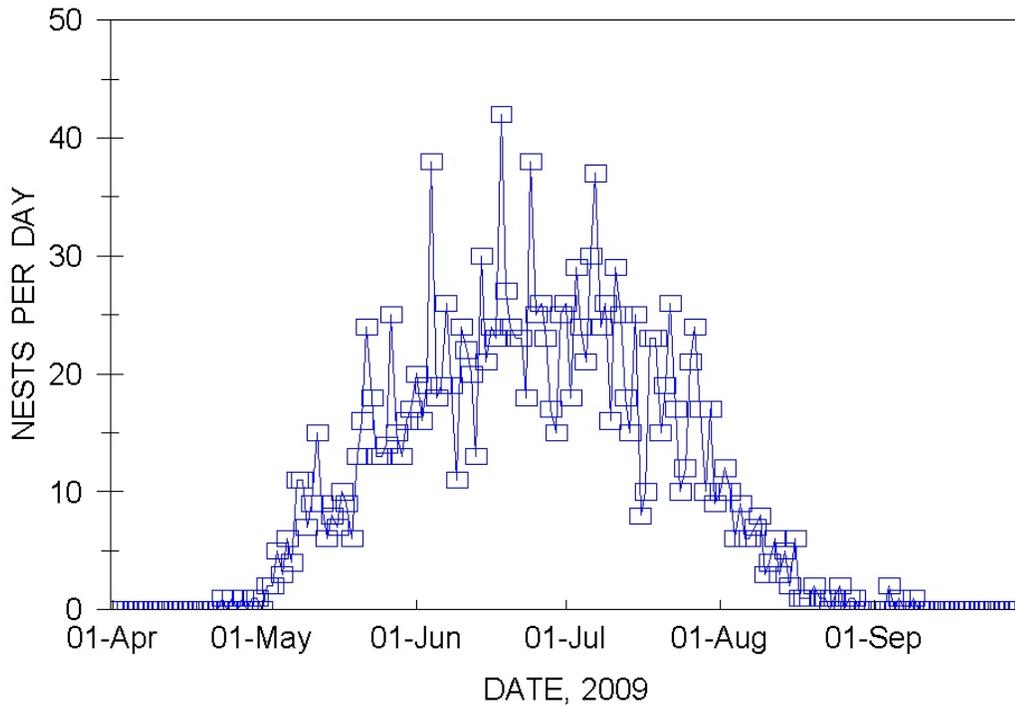
strongly negative ( $P<<.001$ ), indicating an average decline of 73.9 nests per year. However, the slope of the trend line from 2004 to 2009 is not significantly different from zero ( $P = 0.55$ ).

Green turtle nesting (Fig. 3) showed a huge 202 nest (74%) decline from 2008. Given the very large fluctuations in green turtle nesting during the last 20 years (Fig. 3) and the record nest count last year, this year's drop reflected previous trends. There was an even larger decrease of 229 nests (90%) between 2000 and 2001. Despite the large fluctuations, the slope of the overall trend line for green turtle is significantly greater than zero ( $P < .001$ ), indicating an average increase of 6.3 nests per year. Leatherbacks deposited a record 45 nests in 2009, which exceeded the previous record set in 1997 by 3 nests. Leatherback nesting has also shown large year-to-year fluctuations, but there is a significant overall positive trend ( $P = 0.001$ ), indicating an increase of 0.8 nests per year.

Figure 4 shows the countywide loggerhead seasonal nesting pattern. The first and last nests were deposited on April 23 in Pompano Beach and on September 9 in Fort Lauderdale, respectively. Table 4 and Figure 5 give the total loggerhead nesting densities and seasonal patterns for the five beaches. Nesting densities (mean daily nests/km) were again highest in Hillsboro Beach, followed by Fort Lauderdale, Pompano Beach, Lloyd Park and Hollywood. For the previous 6 years, Pompano Beach has ranked second to Hillsboro Beach, but this year Fort Lauderdale had 2.4 more nests per kilometer than Pompano Beach. Table 4 shows that mean daily nesting per kilometer was significantly highest in Hillsboro Beach and not significantly different in Pompano Beach and Fort Lauderdale. Lloyd Park was significantly lower than Pompano Beach and Fort Lauderdale, but significantly higher than Hollywood.

The countywide seasonal nesting patterns of greens and leatherbacks are shown in Figure 6 and for the individual beaches in Figure 7. The first and last leatherback nests were deposited on 25 February and 27 June, in Hillsboro Beach and Lloyd Park, respectively. The first green turtle nest was

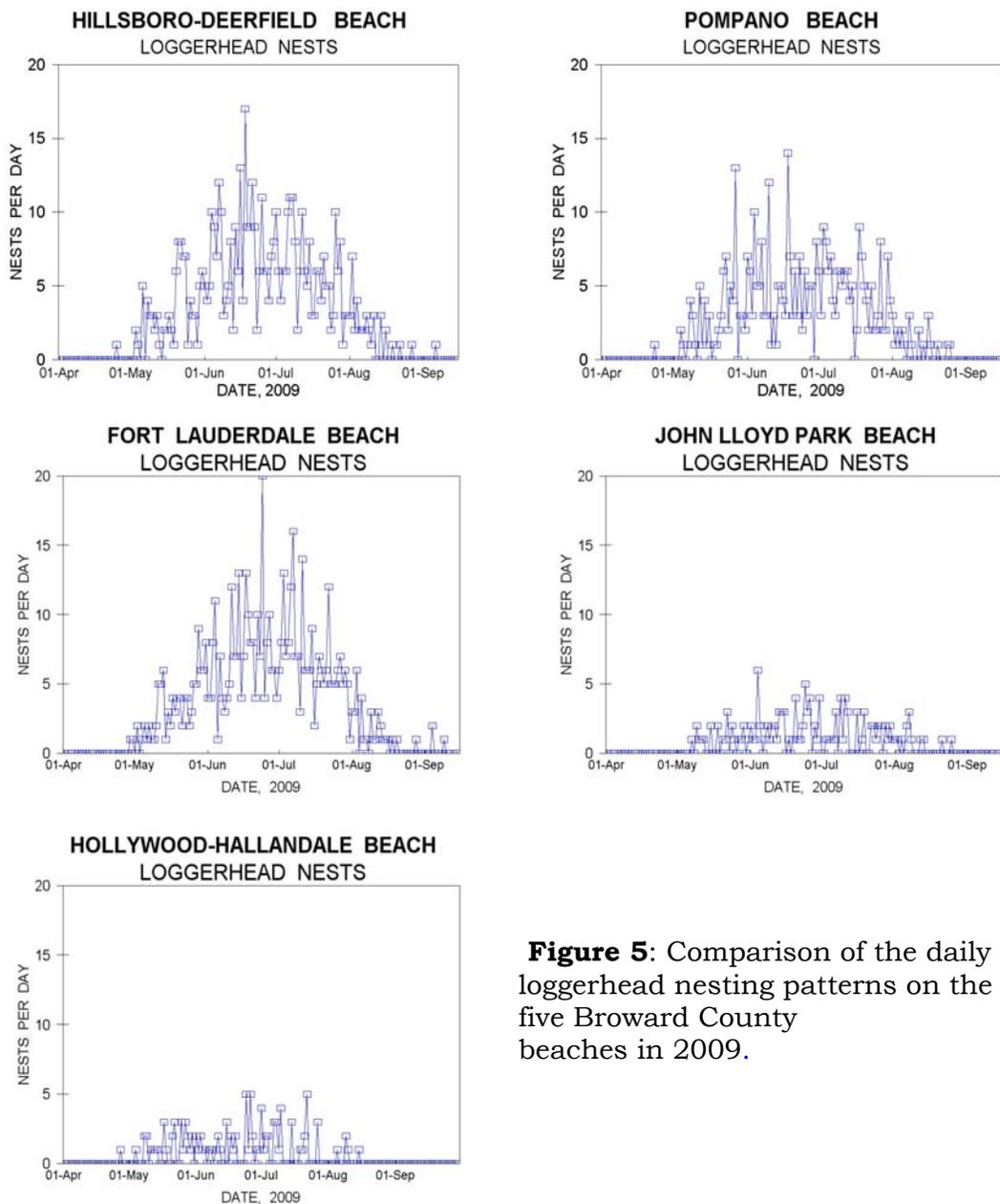
## LOGGERHEAD NESTS



**Figure 4:** The seasonal pattern of daily loggerhead nesting in 2009.

**Table 4:** Total loggerhead nests and nesting densities expressed as nests-per-kilometer for the 2009 season. Beaches with the same NK designation letters were not significantly different in a Newman-Keuls test ( $\alpha = .05$ ) of mean daily nesting per km (1 Apr-15 Sep). Beaches with different NK letters had significantly different nesting densities.

| Beach           | Total Nests | Beach Length (km) | Nests per km | Mean Daily Nests per km with NK Designation Letter |
|-----------------|-------------|-------------------|--------------|--|
| Hillsboro Beach | 560         | 7.0               | 80.0         | .459 A   |
| Ft. Lauderdale  | 592         | 10.6              | 55.8         | .312 B   |
| Pompano Beach   | 411         | 7.7               | 53.4         | .324 B   |
| Lloyd Park      | 136         | 3.9               | 34.9         | .208 C   |
| Hollywood       | 110         | 9.4               | 11.7         | .068 D   |
| OVERALL         | 1809        | 38.6              | 46.9         |  |

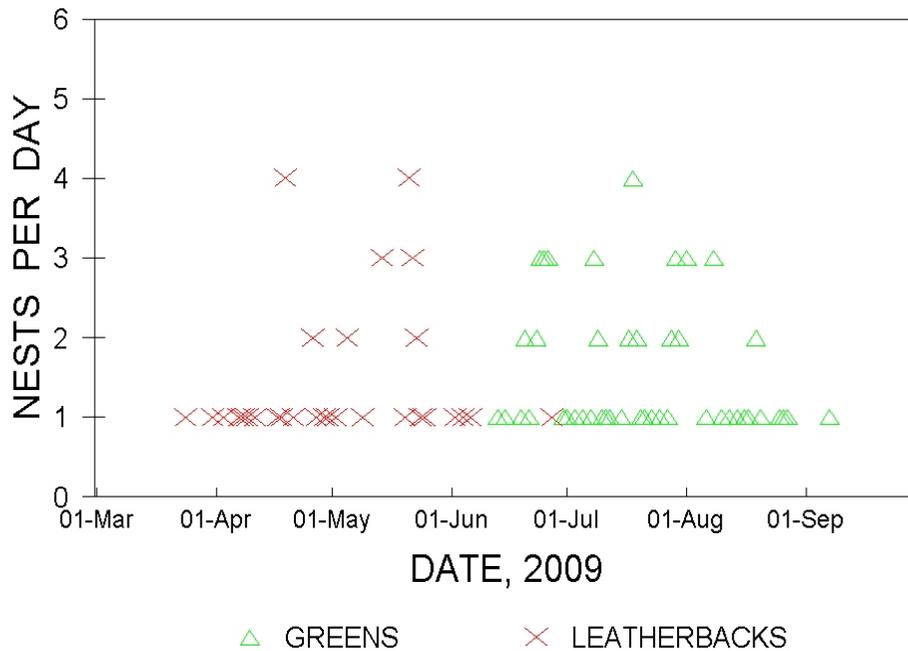


**Figure 5:** Comparison of the daily loggerhead nesting patterns on the five Broward County beaches in 2009.

laid on 13 June and the last was on 7 September, both in Hillsboro Beach.

Nesting densities for greens and leatherbacks are shown in Tables 5 and 6, respectively. The Newman-Keuls test showed that densities of green turtle nests again were significantly higher in Hillsboro Beach, with lower, statistically equivalent densities in Fort Lauderdale and Lloyd Park.

Pompano Beach and Hollywood received no green nests this year, but both of these beaches had one green false crawl. Leatherbacks nested on all



**Figure 6:** The seasonal pattern of daily green and leatherback nesting in Broward County in 2009.

beaches, with the heaviest nesting in Hillsboro Beach and lower but statistically equivalent nesting in Pompano Beach. The more southerly beaches were much lower and not statistically different (Table 6).

Figure 8 shows nest counts for each species in each 1000-foot zone of Broward County beach (3280 ft zones in Lloyd Park) during 2009. As in previous years, there was lower nesting in zones R2, R24, R34 and R50, near the Deerfield Beach Pier, the Hillsboro Inlet, the Pompano Beach Pier and the Commercial Boulevard pier, respectively. The beach along the Fort Lauderdale strip (R65 to R78) and the entire beach south of R100 was also lightly nested, although nesting was moderate in R72. Loggerheads again nested heavily in zones R18-23 in southern Hillsboro Beach, in zones R55-57 on the Galt Ocean Mile and zone R83 in southern Fort Lauderdale.

Figure 9 and Table 7 show the countywide nesting successes of the three species. This year was unusual because there were no significant differences in the nesting successes of loggerhead and green turtles on the five beaches and the only difference was at Lloyd Park where the nesting

success of leatherbacks was significantly lower than the other beaches. Although there was no significant overall north-to-south trend in loggerhead nesting success calculated for each zone (Fig. 9) regression analysis showed some significant smaller-scale trends. There was a significant ( $p < 0.001$ ) downward trend between zone R14 in Hillsboro Beach and R52 in northern Fort Lauderdale, with nesting successes declining from 62 percent(R14) to 33% (R52). Between R52 and R53, nesting success increased from 33 to 69% and then declined significantly ( $P < 0.001$ ) to 23% in R85 in southern Fort Lauderdale. Correlation analysis showed no significant relationship between zonal nesting and nesting success.

Figure 10 shows the trends in loggerhead nesting success for the 5 beaches since 2000. Prior to 2004, false crawls were counted only if they extended above the previous high tide line. Since then, false crawls that did not reach the previous high tide line were also counted, but were listed separately. The closed symbols give the nesting success with these crawls included.

Table 8 gives the number of nests for each species that were relocated or left *in situ*. Overall, 486 nests were relocated 1300 were left *in situ*. Because of the directive to leave all green and leatherback nests *in situ* unless they faced certain destruction, only 1 green and 2 leatherback nests were relocated.

Table 9 lists the number of eggs and released hatchlings from evaluated *in situ* and relocated nests. The numbers of predated nests and

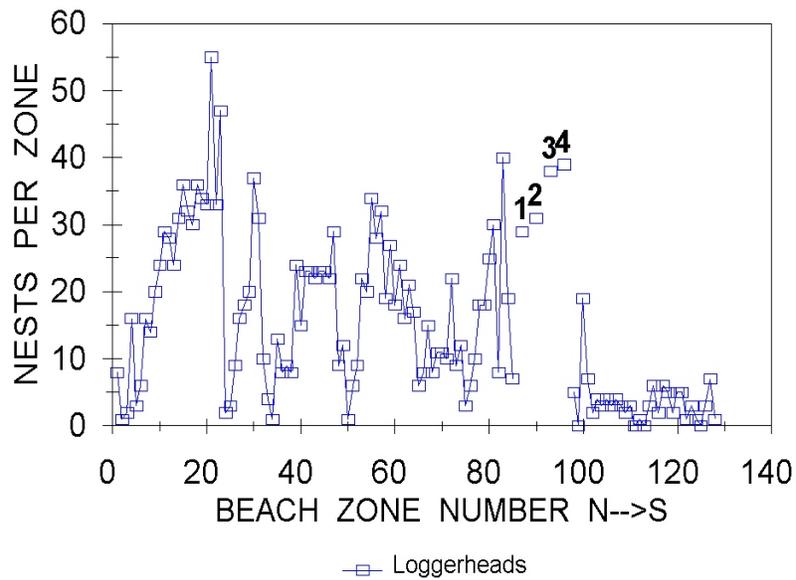


**Table 5:** Total green turtle nests and nesting densities expressed as nests-per-kilometer for the 2009 season. Beaches with the same NK designation letters were not significantly different in a Newman-Keuls test (alpha = .05) of mean daily nesting per km (1 May-30 Sep). Beaches with different NK letters had significantly different nesting densities.

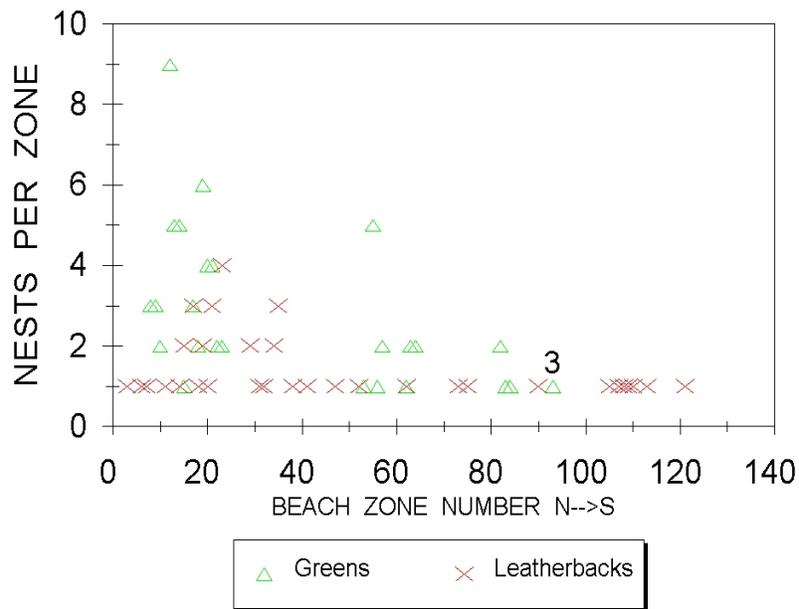
| Beach           | Total Nests | Beach Length (km) | Nests per km | Mean Daily Nests per km with NK Designation Letter |
|-----------------|-------------|-------------------|--------------|--|
| Hillsboro Beach | 51          | 7.0               | 7.3          | .048 A   |
| Ft. Lauderdale  | 18          | 10.6              | 1.7          | .011 B   |
| Lloyd Park      | 1           | 3.9               | 0.3          | .016 B   |
| Pompano Beach   | 0           | 7.7               | 0            | 0  |
| Hollywood       | 0           | 9.4               | 0            | 0  |
| OVERALL         | 70          | 38.6              | 1.8          |  |

**Table 6:** Total leatherback nests and nesting densities expressed as nests-per-kilometer for the 2009 season. Beaches with the same NK designation letters were not significantly different in a Newman-Keuls test (alpha = .05) of mean daily nesting per km (1 March-15 Sep). Beaches with different NK letters had significantly different nesting densities.

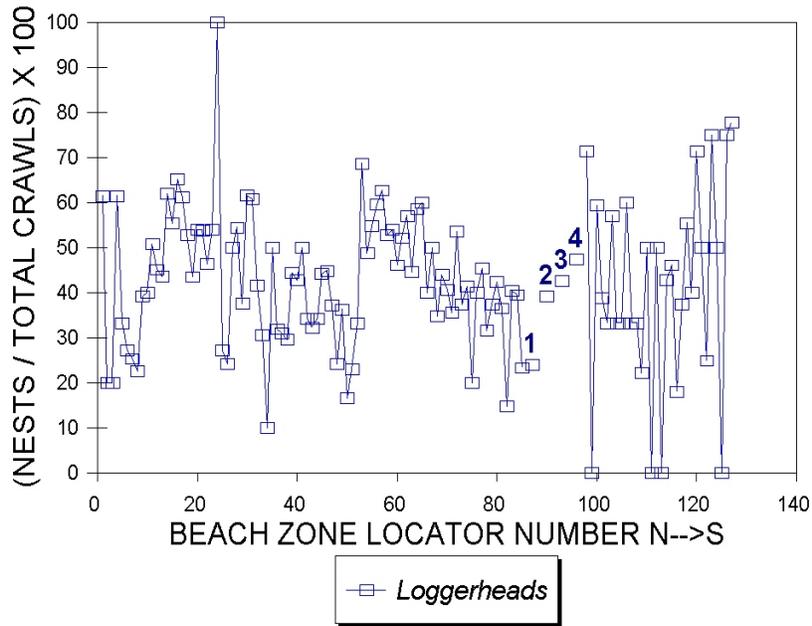
| Beach           | Total Nests | Beach Length (km) | Nests per km | Mean Daily Nests per km with NK Designation Letter |
|-----------------|-------------|-------------------|--------------|--|
| Hillsboro Beach | 21          | 7.0               | 3.0          | .022 A   |
| Pompano Beach   | 12          | 7.7               | 1.6          | .013 AB  |
| Hollywood       | 7           | 9.4               | 0.7          | .002 B   |
| Ft. Lauderdale  | 4           | 10.6              | 0.4          | .003 B   |
| Lloyd Park      | 1           | 3.9               | 0.3          | .002 B   |
| OVERALL         | 45          | 38.6              | 1.2          |  |



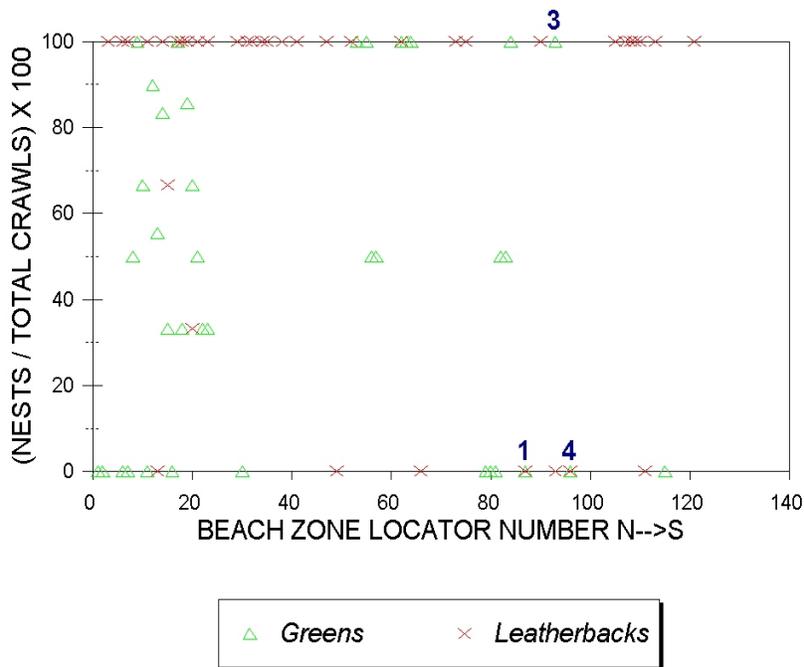
**Figure 8a:** Locations of loggerhead nests in Broward County in 2009. Numbers 1-4 indicate the four beach zones of John Lloyd Park.



**Figure 8b:** Locations of green and leatherback nests in Broward County in 2009.



**Figure 9a:** Loggerhead nesting success across Broward County in 2009. Numbers 1-4 indicate the four beach zones of John Lloyd Park.



**Figure 9b :** Green and leatherback nesting success across Broward County in 2009.

**Table 7:** Total nests, false crawls (FC) and percent nesting success (NS) for three sea turtle species on each of five Broward County beaches during 2009. One-way ANOVA detected no significant differences in mean nesting successes of loggerheads and greens. The mean nesting success of leatherbacks was significantly lower at Lloyd Park but not different at any of the other beaches.

| BEACH           | Loggerheads |      |      | Greens |    |      | Leatherbacks |    |      |
|-----------------|-------------|------|------|--------|----|------|--------------|----|------|
|                 | Nests       | FC   | NS   | Nests  | FC | NS   | Nests        | FC | NS   |
| Pompano Beach   | 411         | 610  | 40.3 | 0      | 1  | 0    | 12           | 1  | 92.3 |
| Hillsboro Beach | 560         | 616  | 47.6 | 51     | 44 | 53.7 | 21           | 4  | 84.0 |
| Ft. Lauderdale  | 592         | 759  | 43.8 | 18     | 10 | 64.3 | 4            | 1  | 80.0 |
| Lloyd Park      | 136         | 235  | 36.7 | 1      | 3  | 25.0 | 1            | 7  | 12.5 |
| Hollywood       | 110         | 136  | 44.7 | 0      | 1  | 0    | 7            | 1  | 87.5 |
| OVERALL         | 1809        | 2356 | 43.4 | 70     | 59 | 54.3 | 45           | 14 | 76.3 |

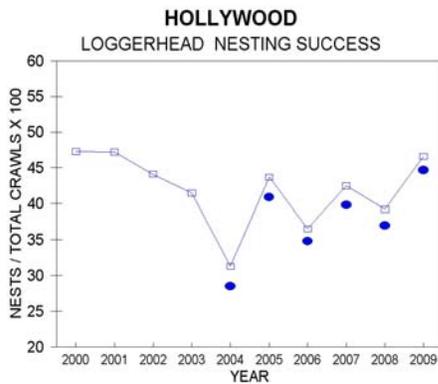
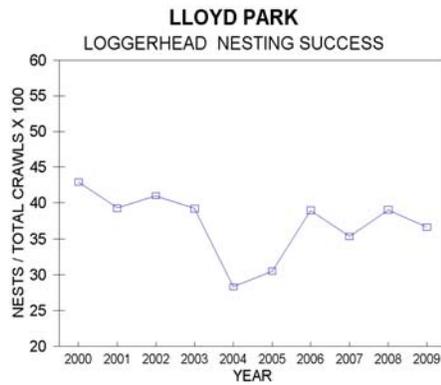
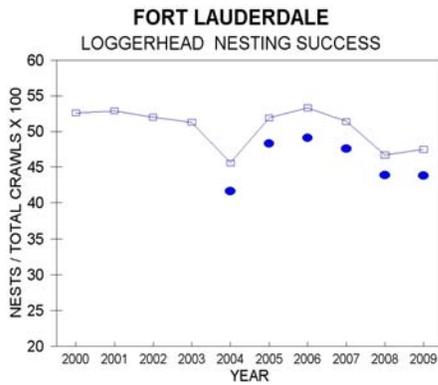
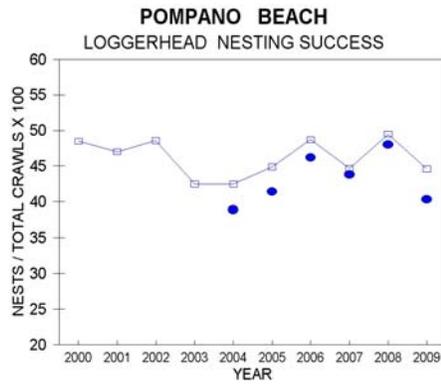
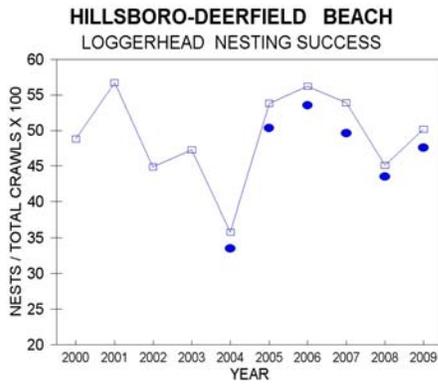


Figure 10: Loggerhead nesting success trends since 2000. Open symbols; nests / total crawls that extended above the high tide line. Closed symbols include false crawls that did not extend above the high tide line.

62.0 percent, respectively. No relocated green nests and only one relocated leatherback nest were evaluated.

Figure 11 illustrates the historical patterns of yearly release success for all evaluated *in situ* and relocated sea turtle nests since 1981. Rates for

**Table 8:** Total Number of loggerheads, greens, and leatherback nests relocated or left *in situ* in 2009. Individually relocated nests in Hillsboro Beach, Pompano Beach, Fort Lauderdale and Hollywood are listed as BH, BP, BFT and BHo, respectively

|                   | Loggerheads | Greens | Leatherbacks | Totals |
|-------------------|-------------|--------|--------------|--------|
| <b>RELOCATED</b>  |             |        |              |        |
| <u>Open Beach</u> |             |        |              |        |
| Hillsboro Beach   |             |        |              |        |
| BH                | 11          | 0      | 0            | 11     |
| BH900s            | 47          | 0      | 1            | 48     |
| BH1000s           | 22          | 0      | 0            | 22     |
| BH1100s           | 24          | 0      | 0            | 24     |
| BH1200s           | 16          | 1      | 0            | 17     |
| Pompano Beach     |             |        |              |        |
| BP                | 4           | 0      | 0            | 4      |
| BP1               | 31          | 0      | 0            | 31     |
| BP2               | 23          | 0      | 1            | 24     |
| BP3               | 15          | 0      | 0            | 38     |
| BP3P              | 24          | 0      | 0            | 24     |
| Fort Lauderdale   |             |        |              |        |
| Strip             | 0           | 0      | 0            | 0      |
| BFT               | 4           | 0      | 0            | 4      |
| BFTN              | 100         | 0      | 0            | 100    |
| BFTS              | 36          | 0      | 0            | 36     |
| BP3Ft             | 45          | 0      | 0            | 22     |
| Hollywood Beach   |             |        |              |        |
| BHo               | 0           | 0      | 0            | 0      |
| BHoN              | 48          | 0      | 0            | 48     |
| BHoS              | 33          | 0      | 0            | 33     |
| TOTALS            | 483         | 1      | 2            | 486    |
| <b>IN SITU</b>    |             |        |              |        |
| Hillsboro Beach   | 440         | 50     | 20           | 510    |
| Pompano Beach     | 314         | 0      | 11           | 325    |
| Ft. Lauderdale    |             |        |              |        |
| Strip             | 87          | 0      | 0            | 87     |
| BFT               | 320         | 18     | 4            | 342    |
| Hollywood Beach   | 29          | 0      | 7            | 36     |
| TOTALS            | 1190        | 68     | 42           | 1300   |
| GRAND TOTALS      | 1673        | 69     | 44           | 1786   |

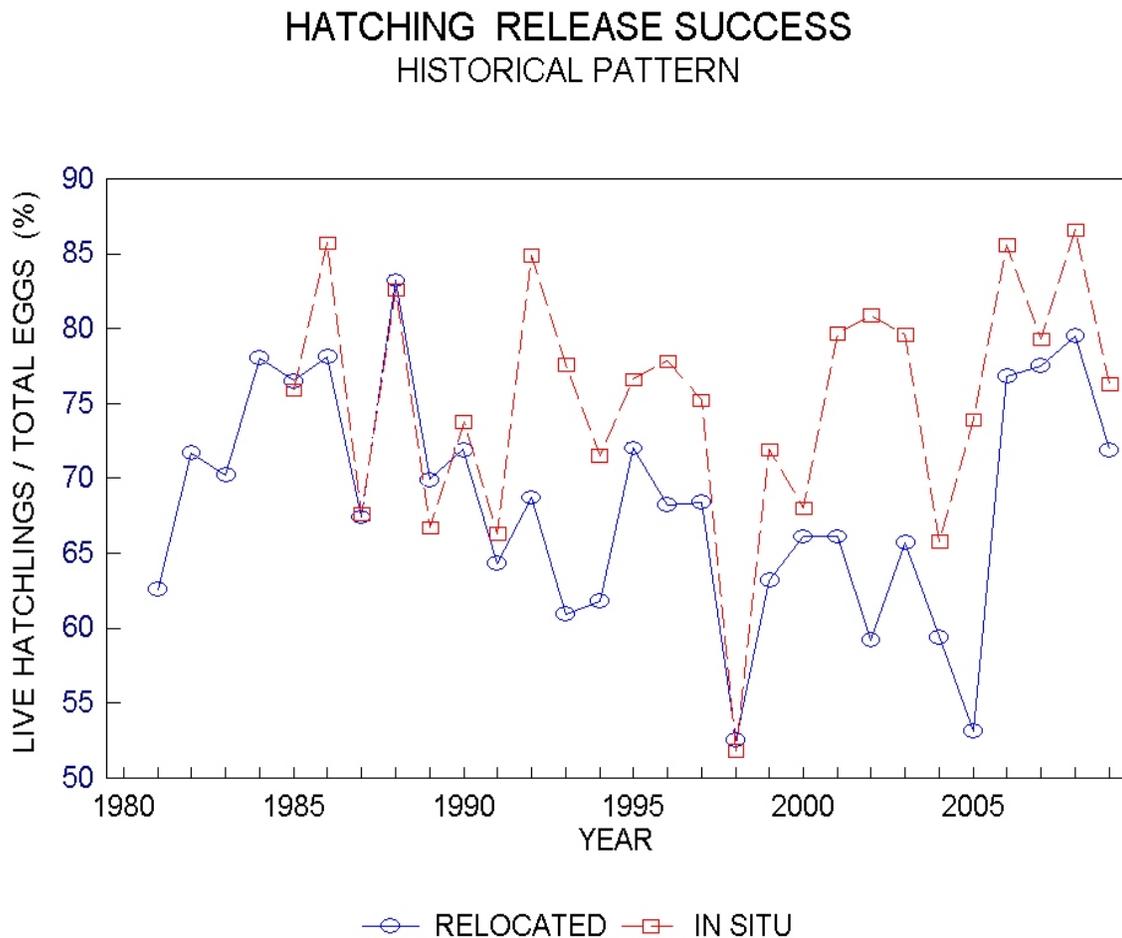
**Table 9:** Total egg counts, released hatchlings and overall release successes for *in situ* and relocated nests of loggerheads, greens and leatherbacks in 2009, with the numbers of nests and eggs predated, lost and unevaluated.

| Species  | Number of Eggs | Eval. Nests | Hatchlings Released | Release Success Percent |
|--|----------------|-------------|---------------------|-------------------------|
| <b><i>In situ</i> Nests</b>                    |                |             |                     |                         |
| Loggerhead                                     | 80112          | 748         | 61258               | 76.5                    |
| Green  | 1983           | 17          | 1607                | 81.0                    |
| Leatherback                                    | 1661           | 20          | 1029                | 62.0                    |
| Total  | 83756          | 785         | 63894               | 76.3                    |
| <b>Relocated Nests</b>                         |                |             |                     |                         |
| Loggerhead                                     | 44961          | 424         | 32309               | 71.9                    |
| Green  | 0              | 0           | 0                   | -                       |
| Leatherback                                    | 89             | 1           | 63                  | 70.8                    |
| Total  | 45050          | 425         | 32372               | 71.8                    |
| <b>Overall</b>                                 |                |             |                     |                         |
| Loggerhead                                     | 125073         | 1172        | 93567               | 74.8                    |
| Green  | 1983           | 17          | 1607                | 81.0                    |
| Leatherback                                    | 1750           | 21          | 1092                | 62.4                    |
| TOTAL  | 128806         | 1210        | 96266               | 74.7                    |
| <b>Predated and Unevaluated Nests and Eggs</b> |                |             |                     |                         |
|  | Pred. Nests    | Pred. Eggs  | Uneval Nests        | Uneval Eggs             |
| <b><i>In Situ</i></b>                          |                |             |                     |                         |
| Loggerhead                                     | 94             | 0           | 348                 | -                       |
| Green  | 10             | 0           | 41                  | 123                     |
| Leatherback                                    | 4              | 18          | 18                  | -                       |
| <b>Relocated</b>                               |                |             |                     |                         |
| Loggerhead                                     | 34             | 3960        | 25                  | 2658                    |
| Green  | 0              | 0           | 1                   | 123                     |
| Leatherback                                    | 1              | 105         | 0                   | 0                       |

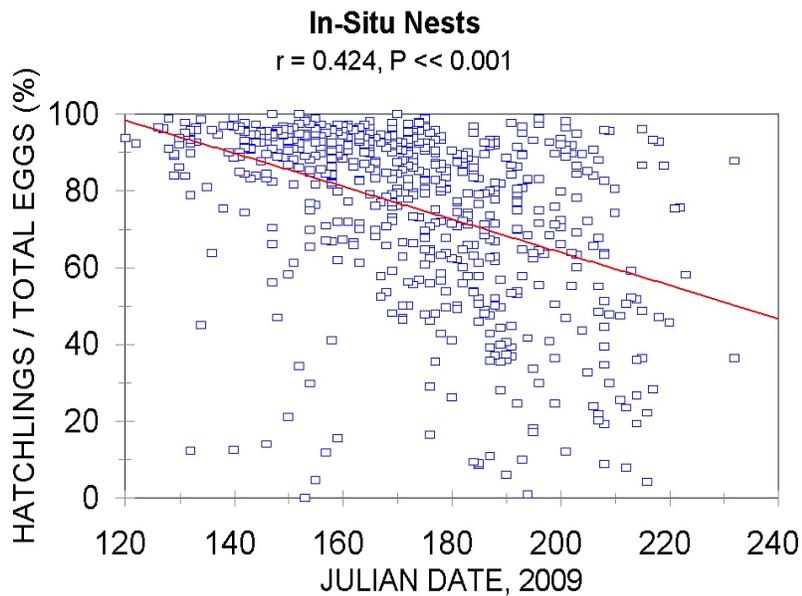
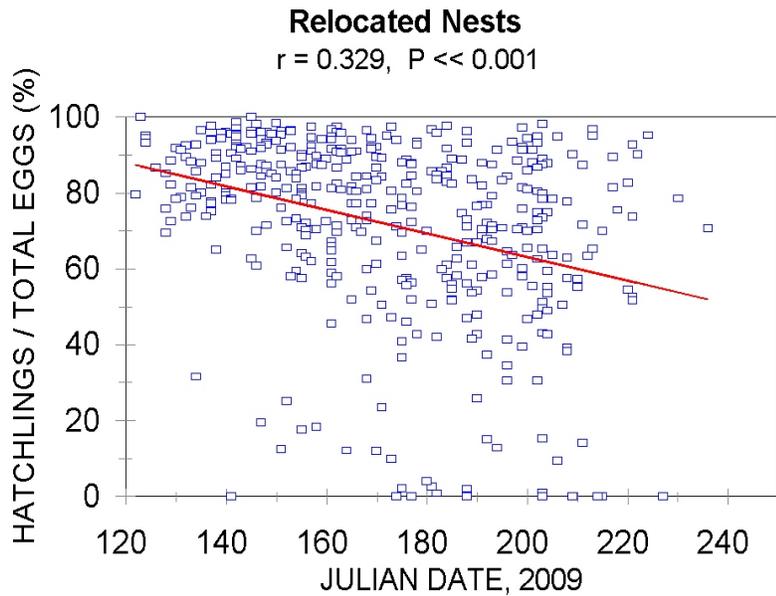
relocated and in-situ nests showed one-year declines of 7.6 and 10.3

percentage points, respectively. The decline for *in situ* nests was larger than for nests that were relocated.

Figure 12 shows the live hatchling production percentages of *in situ* and relocated loggerhead nests plotted versus Julian date of deposition. The success of relocated nests and *in situ* nests showed the usual significant seasonal declines ( $P < .001$ ) and this year but the slope of the trend line for *in situ* nests was slightly (but significantly,  $P = 0.019$ ) steeper than for relocated nests.

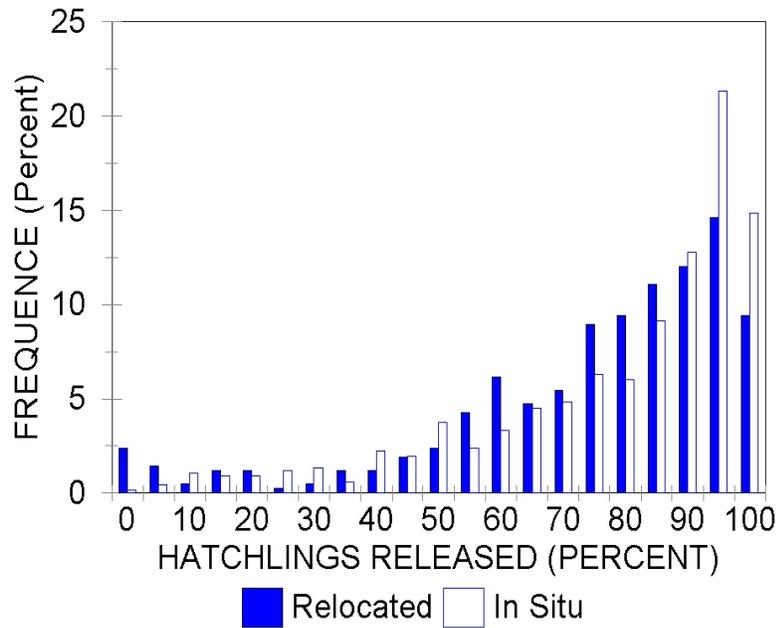


**Figure 11:** The historical patterns of yearly hatching release success for all evaluated *in situ* and relocated sea turtle nests, since 1981.



**Figure 12:** Comparison of seasonal hatching release success for relocated and *in situ* loggerhead nests during 2009.

Figure 13 shows the frequencies (percentages) of relocated and *in situ* nests that produced from 0 to 100 percent live released hatchlings. Medians were 78.7 percent and 84.6 percent for relocated and *in situ* nests, respectively. A Mann Whitney U test indicated a significant difference in the medians of these distributions ( $Z = 3.86, P < .001$ ). Although the proportions



**Figure 13:** The frequencies of nests producing from 0 to 100 percent live released hatchlings for *in situ* and relocated loggerhead nests in 2009.

of nests with successes above 90 percent were higher for *in situ* nests, the overall success rates of relocated nests was still quite good and the proportions of relocated nests producing less than 50 percent live hatchlings were minimal. We did notice a slightly higher frequency of total nest failures in relocated nests this year. Most eggs from these nests showed no visible development.

Table 10 compares emergence success and the percentages of hatchlings and eggs in the post-hatching evaluation categories for relocated

**Table 10:** Accounting of the status of all hatched and unhatched eggs in evaluated *in situ* and relocated loggerhead nests during 2009.

| Location                      | Total Eggs   | Total Nests | Emerged (%) | LIN (%)    | DIN (%)    | PIP Live (%) | PIP Dead (%) | VD (%)     | NVD (%)     |
|-------------------------------|--------------|-------------|-------------|------------|------------|--------------|--------------|------------|-------------|
| <b><i>In situ</i> Nests</b>   |              |             |             |            |            |              |              |            |             |
| Hillsboro Beach               | 18902        | 180         | 61.2        | 9.8        | 3.2        | 0.8          | 7.5          | 8.7        | 8.7         |
| Pompano Beach                 | 22699        | 216         | 67.0        | 6.6        | 2.6        | 0.6          | 5.6          | 9.0        | 8.7         |
| Ft. Lauderdale                |              |             |             |            |            |              |              |            |             |
| Strip Caged                   | 986          | 9           | 57.5        | 6.0        | 1.7        | 0.4          | 11.8         | 9.3        | 13.3        |
| Strip Uncaged                 | 6771         | 66          | 76.5        | 4.4        | 2.5        | 0.6          | 3.5          | 4.3        | 8.1         |
| BFT                           | 28373        | 255         | 73.9        | 5.7        | 2.4        | 0.3          | 4.4          | 7.3        | 5.9         |
| Hollywood Beach               |              |             |             |            |            |              |              |            |             |
| BHo                           | 2381         | 22          | 82.3        | 2.1        | 1.0        | 0.2          | 1.3          | 5.8        | 7.3         |
| <b>Overall <i>In situ</i></b> | <b>80112</b> | <b>748</b>  | <b>69.2</b> | <b>6.7</b> | <b>2.6</b> | <b>0.5</b>   | <b>5.4</b>   | <b>7.8</b> | <b>7.6</b>  |
| <b><i>Relocated</i> Nests</b> |              |             |             |            |            |              |              |            |             |
| <u>Hillsboro Beach</u>        |              |             |             |            |            |              |              |            |             |
| BH                            | 735          | 8           | 71.7        | 3.8        | 1.2        | 0.5          | 2.0          | 2.4        | 18.3        |
| BH900s                        | 2681         | 24          | 65.0        | 5.8        | 1.6        | 2.6          | 5.6          | 8.1        | 11.3        |
| BH1000s                       | 1694         | 16          | 65.8        | 2.7        | 2.6        | 1.1          | 5.7          | 5.1        | 17.1        |
| BH1100s                       | 1819         | 16          | 61.1        | 5.3        | 2.6        | 0.7          | 10.6         | 7.8        | 11.9        |
| BH1200s                       | 1541         | 15          | 61.1        | 7.5        | 4.7        | 1.2          | 10.2         | 5.2        | 10.1        |
| Overall Hillsboro             | 8470         | 79          | 64.2        | 5.2        | 2.5        | 1.5          | 7.2          | 6.4        | 13.0        |
| <u>Pompano Beach</u>          |              |             |             |            |            |              |              |            |             |
| BP                            | 424          | 4           | 64.4        | 6.1        | 2.4        | 0            | 8.0          | 4.0        | 15.1        |
| BP1                           | 2955         | 29          | 55.9        | 14.1       | 1.6        | 3.7          | 11.4         | 3.8        | 9.5         |
| BP2                           | 2238         | 22          | 56.4        | 5.5        | 2.4        | 1.7          | 11.2         | 9.6        | 13.2        |
| BP3                           | 4035         | 37          | 64.2        | 4.7        | 2.1        | 1.6          | 7.6          | 7.6        | 12.0        |
| BP3P                          | 2117         | 22          | 67.1        | 4.4        | 1.5        | 1.4          | 7.8          | 5.0        | 12.7        |
| Overall Pompano               | 11769        | 114         | 61.2        | 7.2        | 1.9        | 2.1          | 9.3          | 6.4        | 11.8        |
| <u>Fort Lauderdale</u>        |              |             |             |            |            |              |              |            |             |
| BFT                           | 278          | 3           | 62.9        | 12.2       | 0.4        | 6.5          | 7.6          | 2.9        | 7.6         |
| BP3FT                         | 2116         | 20          | 72.2        | 3.7        | 1.8        | 0.4          | 7.0          | 5.0        | 9.9         |
| BFTN                          | 10108        | 96          | 69.7        | 4.4        | 2.4        | 0.9          | 5.3          | 4.4        | 12.9        |
| BFTS                          | 3516         | 33          | 70.1        | 7.7        | 0.7        | 1.1          | 5.4          | 2.8        | 12.1        |
| Overall Ft. Laud.             | 16018        | 152         | 70.0        | 5.2        | 1.9        | 1.0          | 5.6          | 4.1        | 12.2        |
| <u>Hollywood Beach</u>        |              |             |             |            |            |              |              |            |             |
| BHo                           | 0            | 0           | -           | -          | -          | -            | -            | -          | -           |
| BHoN                          | 4753         | 46          | 60.5        | 3.3        | 1.9        | 0.8          | 5.6          | 5.1        | 22.7        |
| BHoS                          | 3951         | 33          | 65.2        | 4.0        | 2.8        | 0.5          | 10.1         | 8.1        | 9.1         |
| Overall Hollywood             | 8704         | 79          | 62.6        | 3.6        | 2.3        | 0.7          | 7.6          | 6.5        | 16.5        |
| <b>Overall</b>                | <b>44961</b> | <b>424</b>  | <b>65.2</b> | <b>5.4</b> | <b>2.1</b> | <b>1.3</b>   | <b>7.3</b>   | <b>5.6</b> | <b>13.1</b> |

**Table 11:** Accounting of the status of all hatched and unhatched eggs in investigated *in situ* and relocated green sea turtle nests during 2009.

| Location                      | Total Eggs  | Total Nests | Emerged (%) | LIN (%)     | DIN (%)    | PIP Live (%) | PIP Dead (%) | VD (%)     | NVD (%)    |
|-------------------------------|-------------|-------------|-------------|-------------|------------|--------------|--------------|------------|------------|
| <b><i>In situ</i> Nests</b>   |             |             |             |             |            |              |              |            |            |
| Hillsboro Beach               | 771         | 7           | 74.4        | 13.6        | 1.2        | 0.4          | 3.4          | 4.3        | 2.7        |
| Ft. Lauderdale                | 1212        | 10          | 63.4        | 12.3        | 1.8        | 0.6          | 3.9          | 9.6        | 8.4        |
| <b>Overall <i>In situ</i></b> | <b>1983</b> | <b>17</b>   | <b>67.7</b> | <b>12.8</b> | <b>1.6</b> | <b>0.5</b>   | <b>3.7</b>   | <b>7.5</b> | <b>6.4</b> |
| <b>Relocated Nests</b>        |             |             |             |             |            |              |              |            |            |
| No evaluated nests            |             |             |             |             |            |              |              |            |            |

**Table 12:** Accounting of the status of all hatched and unhatched eggs in investigated *in situ* and relocated leatherback nests during 2009.

| Location                      | Total Eggs  | Total Nests | Emerged (%) | LIN (%)     | DIN (%)    | PIP Live (%) | PIP Dead (%) | VD (%)     | NVD (%)     |
|-------------------------------|-------------|-------------|-------------|-------------|------------|--------------|--------------|------------|-------------|
| <b><i>In situ</i> Nests</b>   |             |             |             |             |            |              |              |            |             |
| Hillsboro Beach               | 902         | 11          | 52.7        | 14.6        | 12.1       | 0            | 1.2          | 2.9        | 16.5        |
| Pompano Beach                 | 379         | 4           | 53.2        | 5.0         | 1.8        | 0            | 0.3          | 9.8        | 29.8        |
| Ft. Lauderdale                | 144         | 2           | 56.9        | 5.6         | 4.2        | 0.7          | 6.3          | 4.9        | 21.5        |
| Hollywood Beach               | 236         | 3           | 33.1        | 11.9        | 0.8        | 1.7          | 9.3          | 12.3       | 30.9        |
| <b>Overall <i>In situ</i></b> | <b>1661</b> | <b>20</b>   | <b>50.4</b> | <b>11.2</b> | <b>7.5</b> | <b>0.3</b>   | <b>2.6</b>   | <b>6.0</b> | <b>22.0</b> |
| <b>Relocated Nests</b>        |             |             |             |             |            |              |              |            |             |
| Pompano Beach                 |             |             |             |             |            |              |              |            |             |
| BP2                           | 89          | 1           | 50.6        | 20.2        | 12.4       | 0            | 5.6          | 0          | 11.2        |

and *in situ* loggerhead nests. No post-hatching data were obtained for Lloyd Park. The park staff reports these data separately. Tables 11 and 12 give the same results for greens and leatherbacks, respectively. In Tables 10-12, emergence success is the percentage of hatchlings that emerged from the nests on their own, and should not be confused with live hatchling production success in Table 9 and Figures 11-13.

Hatchling Disorientation Events

Table 13 summarizes the number of hatchling disorientation events and the minimum and maximum estimates of the numbers of disoriented hatchlings in 2009 estimated by the morning patrols working under TP# 108 and night patrols working under TP#s 192 and 193, compared to estimates from 2006-2008.

**Table 13:** Comparison of the number of disorientation incidents (nests) and the minimum and maximum estimates of the numbers of disoriented hatchlings in Broward County municipalities from 2006 to 2009.

| Municipality                         |       | 2006  | 2007  | 2008 | 2009  |
|--------------------------------------|-------|-------|-------|------|-------|
| Hillsboro +<br>Deerfield<br>Beach    | Min.  | 657   | 639   | 190  | 183   |
|                                      | Max.  | 739   | 699   | 190  | 218   |
|                                      | Nests | 16    | 16    | 3    | 7     |
| Pompano<br>Beach                     | Min.  | 4769  | 5052  | 1885 | 1689  |
|                                      | Max.  | 5277  | 5826  | 2030 | 1844  |
|                                      | Nests | 102   | 101   | 42   | 38    |
| Lauderdale<br>By The Sea             | Min.  | 6153  | 5287  | 2984 | 3986  |
|                                      | Max.  | 7566  | 6254  | 3124 | 4036  |
|                                      | Nests | 167   | 122   | 53   | 104   |
| Fort<br>Lauderdale                   | Min.  | 3979  | 4221  | 3372 | 3143  |
|                                      | Max.  | 4559  | 4970  | 3777 | 3647  |
|                                      | Nests | 78    | 94    | 64   | 79    |
| Hollywood +<br>Dania +<br>Hallandale | Min.  | 974   | 1031  | 251  | 267   |
|                                      | Max.  | 1114  | 1171  | 281  | 292   |
|                                      | Nests | 22    | 23    | 8    | 5     |
| Totals                               | Min.  | 16532 | 16230 | 8682 | 9268  |
|                                      | Max.  | 19255 | 18920 | 9402 | 10037 |
|                                      | Nests | 385   | 356   | 170  | 233   |

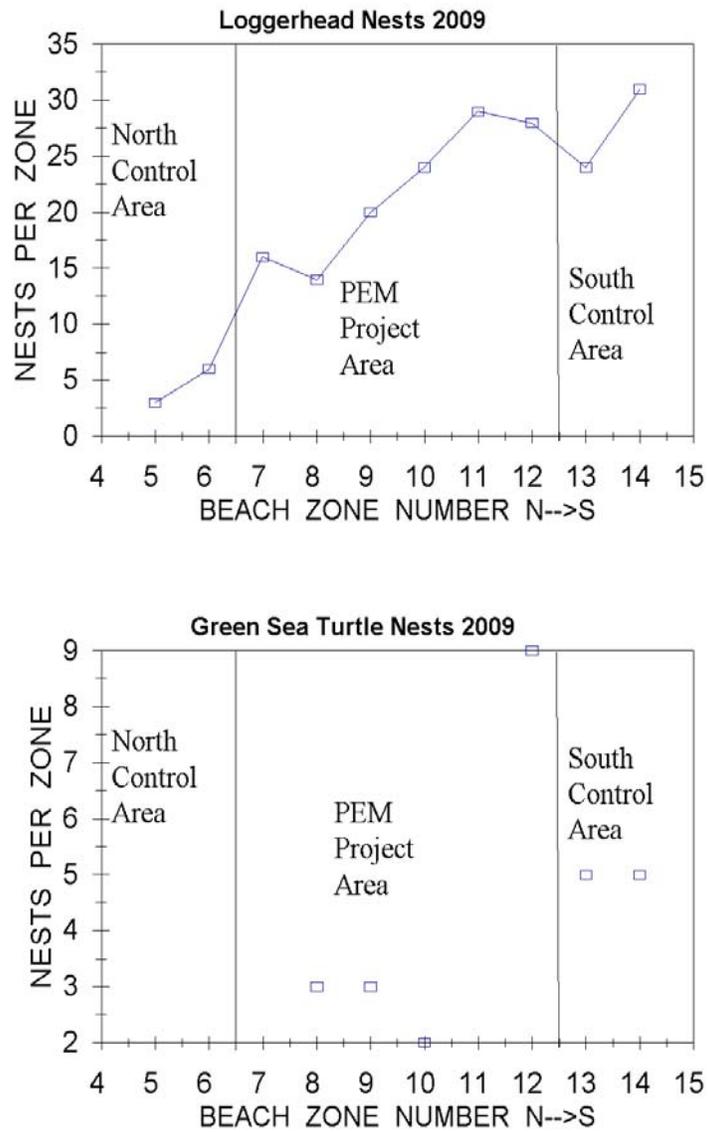
Compared to 2008, the number of nests experiencing some disorientation increased by 4 in Hillsboro Beach and by 15 in Fort Lauderdale, but decreased by 4 nests in Pompano Beach and by 3 in Hollywood. The numbers of disorientation incidents at these beaches were all lower in 2009 than in 2006 and 2007. The minimum and maximum estimates of the numbers of disoriented hatchlings increased slightly from last year in Hillsboro Beach, and Hollywood and declined slightly in Pompano Beach and Fort Lauderdale, but these were all less than 230 hatchling differences and the 2009 estimates were also lower than in 2006-2007.

However, the number of disoriented hatchlings at Lauderdale-by-the-Sea increased by about 31 percent and the number of disoriented nests almost doubled compared to last year. These increases were due to the efforts of the night patrols, which searched the beaches (except Hollywood) and reported the rescue of 3408 live hatchlings from Lauderdale-by-the-Sea, where most of their effort was focused. Even with this increased effort, the 2009 values were still lower than in 2006 and 2007.

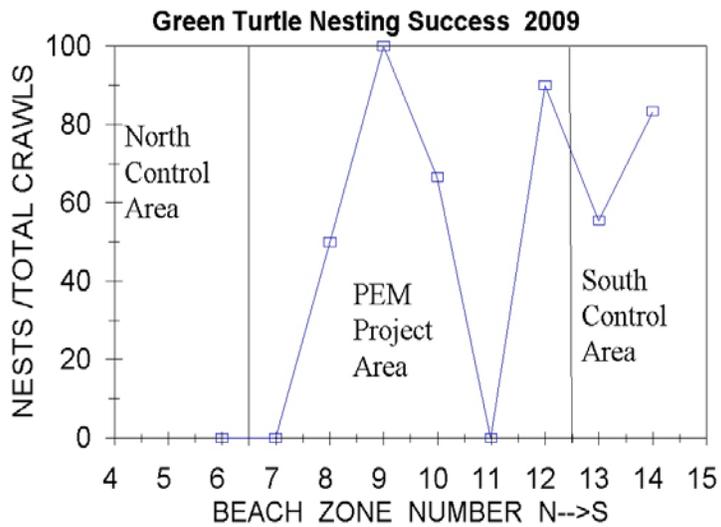
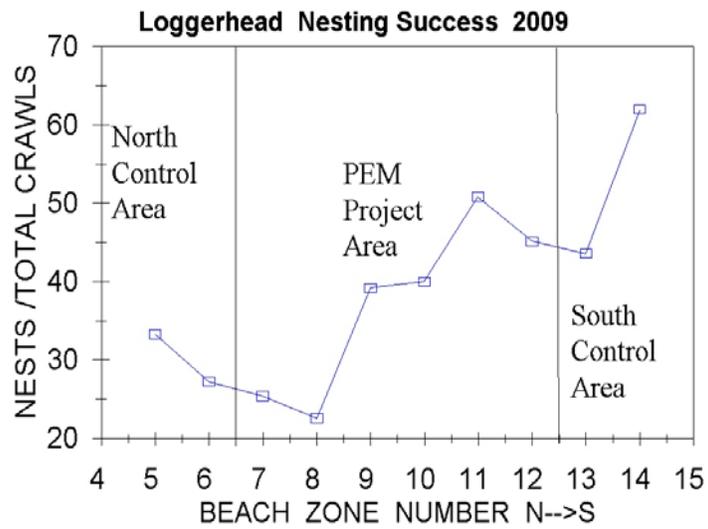
#### PEM Project

Figure 14 shows the numbers of loggerhead and green nests per zone in the PEM project area and the two adjacent control areas. Nesting is historically low in the north control zone so the south control area is more representative. Loggerhead nest counts increased from the north control area through the PEM area to the south control zones. Nest numbers from the south half of the PEM area and the south control area averaged 27 and 27.5 nests per zone, respectively. Green turtle nesting was minimal in the project and control areas. Figure 15 gives nesting success results for the PEM and control areas. Loggerhead nesting success generally increased from north to south through the PEM area to values similar to the Hillsboro Beach average of 47.6 percent (Table 7). The nesting success of green turtles was highly

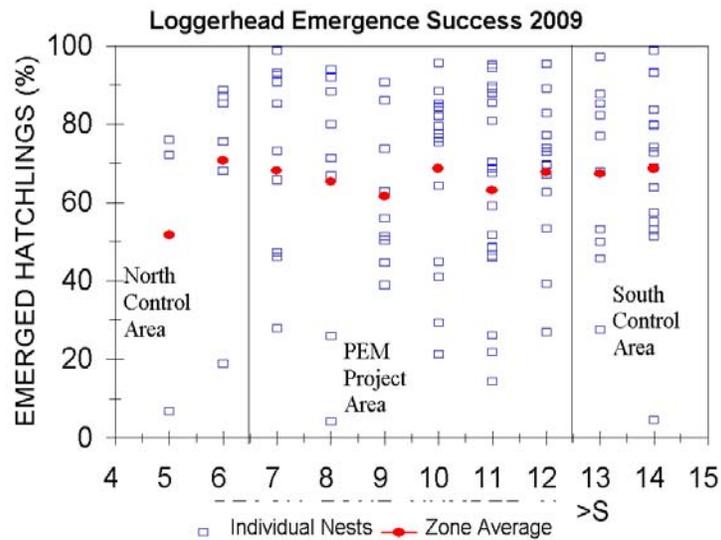
variable in the PEM area. Zones R 7 and R11 had zero values, which resulted from one false crawl and no nests in those areas. However, R9 received 3 nests with no false crawls, and R12 had 9 nests with 1 false crawl



**Figure 14:** Numbers of loggerhead and green turtle nests deposited per zone in the PEM and North and South Control Areas.



**Figure 15:** Nesting success of loggerhead and green turtles in the PEM and North and South Control Areas.



**Figure 16:** Emergence success of each evaluated loggerhead nest in the PEM and control areas with averages in each zone.

Figure 16 illustrates hatchling emergence rates for each evaluated loggerhead nest in the PEM and control areas. The zone averages are shown in red. A one-way ANOVA showed no significant differences throughout the project and control areas ( $P = 0.98$ ). There were only 4 evaluated green nests in the PEM area and none in the control areas. The average emergence rate in the PEM zones was 71 percent. Only two leatherback nests were evaluated in R 7 and R 11, which had emergences of 91 and 70 percent, respectively.

## **DISCUSSION**

### Yearly Nesting Trends

The slight increase in loggerhead nesting seen in 2008 was not sustained this year, but the decline was relatively small and the lack of any downward trend since 2004 suggests that whatever caused the steep decline beginning in 2001 may have abated. Totals from the Florida Index Nesting Beach Survey Program (Fish and Wildlife Research Institute, 2009) show a pattern very similar to our data, with a moderate increase in 2008, followed by a smaller decline this year and an essentially flat overall trend since 2004.

The large decline in green turtle nesting this year was almost expected, due to their history of alternate-year nesting migrations (Fig. 3). The regular alternating pattern was interrupted in 2005 when nesting began a general increase, with a small interruption in 2006, reaching the project high in 2008. After this unprecedented sustained nesting increase, we were not surprised that the bulk of the nesting population did not migrate to the beaches this year. Even so, this year's nest count almost tied the maximum for a low-nesting year observed in 2003. We expect a very large nesting increase next year. The Florida Index Beaches (Fish and Wildlife Research Institute, 2009) also showed a large decline this year, but the total was still high for a low-nesting year. The statewide trend is still strongly positive as it is in Broward County.

Leatherback nesting set new records for Broward County and also for the Index Beaches this year. Although there is a significant positive nesting trend in Broward County since 1982, nesting continues to fluctuate and does not show the strongly increasing statewide trend seen in the Index Beach totals (Fish and Wildlife Research Institute, 2009).

### Seasonal Nesting Patterns

The seasonal loggerhead-nesting pattern (Fig. 4) was very similar to 2008 (Burney and Wright, 2009). The curve again was quite symmetrical with the midpoint of the season in late June. The highest daily nest count (43) was recorded on June 24, slightly before mid season.

Seasonal nesting at the individual beaches (Fig. 5) was also very similar to previous years. Loggerhead nesting densities throughout Broward County again were highest in the north, declined significantly toward the south and were much lower in Hollywood (Table 4). The only slight difference this year was that Fort Lauderdale had a slightly higher nesting density than Pompano Beach. This order has been reversed in the previous 5 years.

The seasonal pattern of green turtle nesting in 2009 (Fig. 6) showed no obvious abnormalities for a low-nesting year. A maximum of 4 nests were deposited in the county on July 18. Leatherbacks again nested earlier in the season, with the first nest laid in Hillsboro Beach on February 25 and the last deposited later than usual on June 27 in Lloyd Park.

As in previous years, green turtles nested most densely in Hillsboro Beach (Table 5; Fig.7), possibly due to the reduced beachfront lighting and nocturnal human activity. Hillsboro Beach received 73 percent of the total green turtle nests deposited in the county, which was 10 percentage points higher than last year. Fort Lauderdale was the next most densely nested beach and nesting in Lloyd Park was unusually low. Green turtle nesting densities in Lloyd Park are generally second only to Hillsboro Beach. Leatherbacks preferred Hillsboro Beach, followed by Pompano Beach. While green turtles completely avoided Pompano Beach, leatherbacks seemed to prefer this beach, second only to Hillsboro Beach (Table 6; Fig. 7).

#### Countywide Nest Distribution

The distribution of loggerhead nests in the 128 survey zones (Fig. 8) continues to correlate with shoreline features identifiable since 1981. This pattern has been discussed previously (Burney and Mattison, 1992; Mattison et al., 1993). Low nested zones are generally characterized by high levels of artificial lighting and nocturnal human activity (Mattison, 2002). Green turtles again demonstrated their preference for Hillsboro Beach, which has darker beaches with less public access (Fig. 8). Comparison of the loggerhead nesting pattern to last year showed several close similarities. In addition to the usual low nested areas near piers and inlets and along most of Hollywood beach, the high areas were very similar, with comparable nesting in Hillsboro Beach, the Galt Ocean Mile, south Fort Lauderdale and extreme northern Hollywood. The only obvious difference this year was higher nesting in north Pompano Beach between the Hillsboro Inlet and the Pompano pier (R23-R33).

### Nesting Success

This year, there was no significant countywide north-south trend in loggerhead nesting success per zone (Fig. 9) and no statistical differences between the 5 beach survey areas (Table 7), but there were smaller scale down trends from R14 in Hillsboro Beach to R52 in Lauderdale by the Sea, and from R53 to R85 covering most of Fort Lauderdale and extending through the high-nested south Fort Lauderdale area. There was a large increase in nesting success from between R52 and R53, which is clearly evident in Figure 9. The cause of these trends is unknown.

Unlike last year, there was no significant correlation between loggerhead nesting success and nest counts from R1-R85 in 2009. Figure 10 shows that the yearly trends in loggerhead nesting success on the 5 beaches showed relatively slight changes from 2008 values. Hillsboro Beach and Hollywood showed slight increases and Fort Lauderdale and Lloyd Park

remained virtually unchanged. The only substantial decline was in Pompano Beach, that also had an unusually high number of false crawls, which did not extend above the previous high tide line. As usual, Lloyd Park remained well below the countywide average, probably because of the severe beach erosion south of the Port Everglades jetty. Loggerhead nesting and nesting success both increased steadily from zone 1 near the jetty to zone 4, about 3.5 km to the south where beach erosion is minimal (Figs. 8 & 9).

### Hatchlings Released

The percentage of live hatchlings released from relocated loggerhead nests declined 7.7 percent from the very high 2008 level, but still remained quite high at 71.9 percent. For *in situ* nests, the value declined 10.0 percent from last year, but 76.5 percent of all eggs produced live hatchlings. *In situ* nests still produced 4.6 percent more live hatchlings, probably due to the process of relocation, but the difference was small compared to the 2001-2005 seasons when nests were mass relocated to large open-beach hatcheries (Table 9, Fig. 11). The procedure implemented in 2006, requiring fewer relocations (Burney and Ouellette, 2007) still seems to be paying off in higher hatchling production. Of course, the lack of major storm and unusually hot conditions also contributed to the relatively large number of released hatchlings this year.

Although hatchling release success of relocated nests was still significantly lower than *in situ* nests, and the negative slopes of the seasonal trend lines (Fig. 12) showed a slight statistical difference ( $P = 0.019$ ), the slopes of the trend for *in situ* nests was slightly higher than for relocated nests. Both slopes were much steeper than in 2008, suggesting that overall incubation conditions may have been somewhat less favorable this year. There were 223 loggerhead nests listed as washed over in 2009 compared to 163 in 2008. Figure 13 shows that hatchling release successes less than 50

percent were rare in relocated and *in situ* nests, however there was a slightly elevated percentage of total nest failures in relocated nests, which contained visibly undeveloped eggs. When compared to *in situ* nests, relocated nests had lower frequencies of nests with hatchling production above 90 percent and slightly higher frequencies in the 55 to 85 percent range. The median for *in situ* nests (84.6) was still significantly higher ( $P < .001$ ) than for relocated nests (78.7), but the difference was small.

#### Post Emergence Nest Analysis

Comparison of the post emergence nest evaluation data between locations for *in situ* loggerhead nests (Table 10) shows generally similar percentages across all categories except for a slightly lower percentage of emerged hatchlings from caged nests on the Fort Lauderdale strip due to higher percentages of PIP dead and unhatched eggs with visible and no visible development. It does not appear likely that the act of caging just before hatching could have caused this.

Comparing relocated nests across the county, Table 10 shows slightly above average percentages of eggs with visible and no visible development in Hillsboro and Hollywood but the beach averages in all the categories were generally within 5 percentage points of the overall averages.

Because no relocated green nests were evaluated, comparisons to *in situ* rates are impossible, but *in situ* greens (Table 11) emerged at nearly the same rate as *in situ* loggerheads (Table 10). The leatherback emergence rates were very similar on the four beaches except for Hollywood, which was lower. The overall emergence rate of *in situ* leatherback nests (50.4%) was lower than last year (69.3%) (Burney and Wright, 2009) but it was almost identical to the one evaluated leatherback nest (Table 12).

#### Hatchling Disorientation

Intense coastal lighting has always been a serious sea turtle management issue in Broward County. Due to the new management protocol established in 2006 by the FFWCC, sea turtle conservation in Broward County has been moving away from the use of mass nest relocation to manage hatchling disorientation, and relying more on lighting ordinance enforcement, with relocation of fewer nests to carefully chosen darker locations where disorientation might be reduced. In 2005, the total estimated number of disoriented hatchlings ranged from 7334 to 9400. Implementation of the new management protocol in 2006 resulted in hatchling disorientations in the range of 16532 to 19955 from 385 nests (Table 13). However, increased hatchling losses may have been more than offset by a large increase in the hatchling production rates of relocated nests, probably due to a combination of the new procedures and better weather conditions (Burney and Ouellette, 2006; Ouellette et al., 2007).

In 2007, the reported number of nests experiencing some degree of disorientation still quite high at 356, but in 2008 the county-wide number decreased by an amazing 52.2 percent to 170 events (Burney and Wright, 2009). This year the total estimated numbers of disoriented hatchlings increased by about 7 percent and the total number of nests that produced some disoriented hatchlings increased by 37 percent from last year, but the numbers were still lower than in 2006 and 2007, even with the night patrol effort. The small increase in hatchling disorientation this year combined with the increased search effort suggests that this year's disorientation was not much different than last year, but the problem is still nowhere near as severe as it was in 2006 and 2007. It appears that continued fine-tuning of the donor and recipient zones as well as better knowledge of lighting variations within recipient zones and improved compliance with coastal lighting ordinances may have at least slowed down misoriented hatchling

losses. However, the issue is not under control and the reduction of beachfront lighting through public education and ordinance enforcement should remain a priority.

### PEM Project Evaluation

Figure 14 shows that loggerhead nesting increased through the PEM project area from the historically low values in the north control area to the higher values in the south control zones. Nesting in the south half of the PEM area was not different than the south control area. The low number of green turtle nests make comparisons difficult, but the 9 nests deposited in R12 in the PEM area was the largest number of green turtle nests deposited in any zone in the county (Fig. 8). Loggerhead nesting success (Fig. 15) also increased from north to south through the PEM area, with values in the southern PEM area that were similar to the overall average for Hillsboro Beach. Green turtle nesting success was highly variable in the PEM area, but there does not appear to be any systematic pattern that suggests that the PEMs were adversely affecting their nesting success. The analysis of loggerhead hatchling emergence success (Fig. 16) found no significant differences between any of the PEM and control zones, indicating that the PEMs did not adversely affect hatchling emergence. Overall, our results do not indicate that the PEM tubes had any negative impacts on sea turtles.

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**APPENDIX 1:** Summary of sea turtle emergency cell phone calls.

| SUBJECT          | EMERGENCY LINE |
|------------------|----------------|
| ATV ACCIDENTS    | 0              |
| LIVE STRANDINGS  | 8              |
| TOTAL STRANDINGS | 69             |
| DISORIENTATIONS  | 110            |
| NEST LOCATIONS   | 85             |
| POACHING         | 12             |
| OTHER            | >525           |
| OVERALL          | >800           |

## **APPENDIX 2:** Summary of Educational/Public Information Activities

Flyers were distributed along the beach, primarily to people who approached workers with questions, at the turtle talks, and at schools that were visited. Flyers were also available at all fenced hatcheries.

The 2009 Presentation Team conducted a total of 18 public education talks were conducted from July 8 to Sept. 4 at the Anne Kolb Nature Center. These PowerPoint presentations were followed by hatchling releases. A total of 1241 people attended these events.

Turtle talks were also given at the following locations.

- 1) Pioneer Middle School (March 23)
- 2) Junior Surf Riders (April 27)
- 3) Delevoe Park (June 17)
- 4) Delevoe Park (July 14)
- 5) Hillsboro Club (July 19)
- 6) Hillsboro Club (July 25)
- 7) Broward County Parks Summer Camp (July 30)
- 8) Hillsboro Club (August 1)
- 9) Hillsboro Club (August 8)
- 10) Hillsboro Club (August 15)
- 11) NSU Undergraduate Biology Course (September 24)

Tables with specimens, informational handouts including brochures, flyers, bumper stickers, door hangers, table tents and activity books were provided at the following events:

- 1) City of Plantation 2009 Green Day (February 28)
- 2) Gumbo Limbo Sea Turtle Day 3 (March 7)
- 3) NSU Law Society Earth Day (April 22)
- 4) Silver Lakes Middle School Nature Escape (April 25)
- 5) Lyons Creek Middle School Science Day Nature Escape (May 9)

**Appendix 3:** Sea turtle nest warning sign. Black lettering on yellow background. Actual size is 5.5" X 8.5".



**Appendix 4:** Sea Turtle Summary Report Forms.



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|                                    |   |   |                            |            |
|------------------------------------|---|---|----------------------------|------------|
| Principal Permit Holder:           |   | <b>Lou Fisher</b>   | Permit Number:             | <b>108</b> |
| Organization:                      | <b>Broward Co. Dept. of Planing/Environ. Protection</b> |   |                            |            |
| Address:                           | <b>1 North University Dr., Ste. 301</b>                 |   |                            |            |
|                                    | <b>Plantation, FL 33324</b>                             |   |                            |            |
| County:                            | <b>Broward</b>  | Email Address:  | <b>lfisher@broward.org</b> |            |
| Day Telephone (include area code): | <b>(954) 519-1255</b>                                   | Night Telephone:  |                            |            |
| Beach Name:                        | <b>Deerfield/Hillsboro Beaches</b>                      |   |                            |            |
| Point of Contact & Phone #         |   | Email Address for Point of Contact: (if different from above) |                            |            |

**2. GENERAL SURVEY INFORMATION**

**Survey Boundary Information:** Please describe survey boundaries geographically. If boundaries have changed, please enter the new boundaries in the space below. Be specific and use known landmarks that can be found on a map (or include a marked map).

|  |  |  |                 |
|--|--|--|-----------------|
| Beginning Survey Boundary:   | <b>Palm Beach/Broward Co. Line (26.32100, -80.07447)</b> |  |                 |
| Ending Survey Boundary:  | <b>Hillsboro Inlet (26.25817, -80.08043)</b>             |  |                 |
| Beach Length (include KM or MI):   |  | Is beach length estimated or measured? |                 |
| Was this the <b>exact</b> same survey area as last year?                               |  | <b>Yes / No</b>                        |                 |
| <b>IF NO, please explain the specific differences AND why the survey area changed:</b> |  |  |                 |
|  |  |  |                 |
| Start Date of Survey (mm/dd/yy):   | <b>03/01/09</b>  | End Date of Survey (mm/dd/yy):         | <b>09/30/09</b> |
| Time of Day Surveyed: Start (include AM or PM)   | <b>1/2 hr before sunrise</b>                             | Finish (include AM or PM)              | <b>9:00 AM</b>  |
| Number of Days Per Week Surveyed:  | <b>Seven (7)</b>   |  |                 |
| Total # of Days Surveyed in 2009:  | <b>214</b>   |  |                 |

If you did **not** survey seven (7) days per week, describe how crawls are treated when surveys resume, i.e., Are all crawls counted or only ones judge to be from previous night? Are existing crawls marked out the day before the survey resumes?

N/A

Was there any variation in the number of days surveyed per week or was the entire beach surveyed the same number of times every week of the nesting season? **SAME** or **VARIABLE** **Same**

If VARIABLE, please explain the specific variation: N/A

Were all non-nesting crawls (false crawls) counted during your survey? **Yes** or **No** **Yes**

How many people were involved in surveying your nesting beach this season? **25**

| <b>3. NESTING BEACH MANAGEMENT INFORMATION</b>   |   |
|--|---|
| If nests were RELOCATED, were they relocated <b>Individually</b> (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a <b>Group</b> (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? | <b>Individ.</b>   |
| Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)  |   |
| <b>Nest located within 20 feet of previous evening wrack line on in an artificially lighted area</b>   |   |
| If a <b>HATCHERY</b> was used, please give reasons AND specific location:  |   |
| <b>None</b>  |   |
| If predator control methods other than screening/caging were employed, please describe below:  |   |
| <b>None</b>  |   |
| How many MARKED nests were <b>negatively affected by predators</b> other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>   | <b>131</b>  |
| List all non-human predators documented predated nests this season:  |   |
| <b>Fox, Raccoon, Ghost Crab</b>  |   |
| How many MARKED nests were <b>negatively affected by another nesting sea turtle</b> ?  | <b>1</b>  |
| How many MARKED nests were <b>negatively affected by roots</b> (i.e., damaged eggs, impeded hatchling emergence)?  | <b>0</b>  |
| How many MARKED nests were <b>negatively affected by erosion, accretion, inundation, and storm-related events?</b> <i>Note: this does not include stake removal/loss.</i>  | <b>134</b>  |
| <b>Please give details:</b>  | <b>120 Cc, 7 Dc, 7 Cm washover/inundation</b>               |
| How many MARKED nests were <b>taken or disturbed by humans</b> (Example: nest dug into, eggs removed, etc.)?   |   |
| <b>3</b>   |   |
| <b>Please give details:</b>  | <b>Three poaching incidents reported to law enforcement</b> |
| Were hatchling disorientation events documented this season? <b>Yes or No</b>  |   |
| <b>Yes</b>   |   |
| If YES, have all <b>disorientation reports</b> been submitted to FWC? <b>Yes or No</b>   |   |
| <b>Yes</b>   |   |

**I certify the above information to be true and accurate to the best of my knowledge.**

|                   |  |
|-------------------|--|
| <b>Lou Fisher</b> |  |
|-------------------|--|

**Principal Permit Holder (type in name)**

**Date**



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|  |                           |
|--|---------------------------|
| Principal Permit Holder: <b>Lou Fisher</b>     | Permit Number: <b>108</b> |
| Beach Name: <b>Deerfield/Hillsboro Beaches</b> |                           |

**2. GENERAL NESTING DATA**

|  | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>Total # of Nests</b>                          | <b>560</b>                        | <b>51</b>                         | <b>21</b>                           | <b>0</b>                           | <b>0</b>                            |
| Total # of Non-Nesting Emergences (False Crawls) | <b>616</b>                        | <b>44</b>                         | <b>4</b>                            | <b>0</b>                           | <b>0</b>                            |
| Date (mm/dd/yy) of First Documented Nest         | <b>04/25/09</b>                   | <b>06/13/09</b>                   | <b>02/25/09</b>                     |                                    |                                     |
| Date (mm/dd/yy) of Last Documented Nest          | <b>09/06/09</b>                   | <b>09/07/09</b>                   | <b>06/02/09</b>                     |                                    |                                     |
| <b>Total # of Nests Prior to 15 May:</b>         | <b>25</b>                         | <b>0</b>                          | <b>11</b>                           | <b>0</b>                           | <b>0</b>                            |
| <b>Total # of Nests After 31 Aug:</b>            | <b>1</b>                          | <b>1</b>                          | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |

**Comments:**

**Nest Data for nests left in place (where the turtle deposited the clutch):** These nests may be left without additional protection, screened with a self-releasing flat screen, or covered with self-releasing or restraining above-ground cages.

| Record the number of nests by category and species. For each species, rows a+b+c+d should equal the total number of nests left in place. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)</b>  | <b>440</b>                        | <b>50</b>                         | <b>20</b>                           | <b>0</b>                           | <b>0</b>                            |
| (a) # of Nests left in Place without Additional Protection   | <b>440</b>                        | <b>50</b>                         | <b>20</b>                           | <b>0</b>                           | <b>0</b>                            |
| (b) # of Nests left in Place with Self-Releasing Flat Screen   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Nests left in Place with Self-Releasing Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Nests left in Place with Restraining Cage   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |

**Relocated Nest Data:** Relocated nests are those where the clutch is removed from its original site of deposition and reburied at another site. These nests may be relocated to individual sites or as a group to a hatchery (a permanent or semi-permanent fenced or caged area where many nests are re-buried as a group). As with nests left in place, relocated nests may be left without additional protection, covered with self-releasing flat screen, or covered with a self-releasing for restraining above-ground cages. Hatcheries may be self-releasing (hatchlings escape unaided) or restraining (hatchlings cannot escape unaided).

| Record the number of nests by category and species. For each species, rows a+b+c+d+e+f should equal the total number of relocated nests. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)</b>  | <b>120</b>                        | <b>1</b>                          | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |
| (a) # of Relocated Nests without Additional Protection   | <b>120</b>                        | <b>1</b>                          | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |
| (b) # of Relocated Nests with Self-Releasing Flat Screen   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Relocated Nests with Self-Releasing Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Relocated Nests with Restraining Cage   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (e) # of Relocated Nests to Self-Releasing Hatchery  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (f) # of Relocated Nests to Restraining Hatchery   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Caretta caretta* (Loggerhead)**

| Beach Name:  | Deerfield/Hillsboro Beaches |                  |                               |                               |                              |                         | Permit Holder: <b>Lou Fisher</b> |                              |                  |                  | Permit #: <b>108</b> |                     |
|--|-----------------------------|------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|----------------------------------|------------------------------|------------------|------------------|----------------------|---------------------|
|  | Category                    | Total # of Nests | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest     | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs  | # of Unhatched Eggs |
| Left in Place/No Additional Protection   | <b>440</b>                  | <b>440</b>       | <b>180</b>                    | <b>18902</b>                  | <b>11577</b>                 | <b>1857</b>             | <b>608</b>                       | <b>150</b>                   | <b>1409</b>      | <b>3298</b>      | <b>3</b>             |                     |
| Left in Place/Self Releasing Screen  |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| Left in Place/Self Releasing Cage  |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| Left in Place/Restraining Cage   |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| Relocated/No Additional Protection   | <b>120</b>                  | <b>120</b>       | <b>79</b>                     | <b>8470</b>                   | <b>5438</b>                  | <b>441</b>              | <b>215</b>                       | <b>121</b>                   | <b>612</b>       | <b>1638</b>      | <b>5</b>             |                     |
| Relocated/Self Releasing Screen  |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| Relocated/Self Releasing Cage  |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| Relocated/Restraining Cage   |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| Relocated/Self Releasing Hatchery  |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| Relocated/Restraining Hatchery   |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| <b>Definition of Terms</b>   |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| <b>Additional Information</b>  |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |
| <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p>   |                             |                  |                               |                               |                              |                         |                                  |                              |                  |                  |                      |                     |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Chelonia mydas* (Green Turtle)**

| <b>Beach Name:</b>  |                  | <b>Deerfield/Hillsboro Beaches</b> |                               |                              |                         |                              | <b>Permit Holder: Lou Fisher</b> |                  |                  |                     | <b>Permit #: 108</b> |   |  |
|---|------------------|------------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|----------------------------------|------------------|------------------|---------------------|----------------------|---|--|
| Category  | Total # of Nests | # of Nests Marked to Evaluate      | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest     | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs    |   |  |
| Left in Place/No Additional Protection  | 50               | 50                                 | 7                             | 771                          | 574                     | 105                          | 9                                | 3                | 26               | 54                  | 0                    |   |  |
| Left in Place/Self Releasing Screen   |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Left in Place/Self Releasing Cage   |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Left in Place/Restraining Cage  |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/No Additional Protection  | 1                | 1                                  | 0                             |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Self Releasing Screen   |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Self Releasing Cage   |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Restraining Cage  |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Self Releasing Hatchery   |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Restraining Hatchery  |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| <b>Definition of Terms</b>  |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      | <b>Additional Information</b>   |  |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |                                    |                               |                              |                         |                              |                                  |                  |                  |                     |                      | <b>#of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs |  |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Dermochelys coriacea* (Leatherback)**

| <b>Beach Name:</b>   |                  | <b>Deerfield/Hillsboro Beaches</b> |                               |   |                         |                              | <b>Permit Holder: Lou Fisher</b> |                  |                  |                     |                   | <b>Permit #: 108</b> |  |
|--|------------------|------------------------------------|-------------------------------|---|-------------------------|------------------------------|----------------------------------|------------------|------------------|---------------------|-------------------|----------------------|--|
| Category   | Total # of Nests | # of Nests Marked to Evaluate      | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests  | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest     | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |                      |  |
| Left in Place/No Additional Protection   | 20               | 20                                 | 11                            | 902   | 475                     | 132                          | 109                              | 0                | 11               | 175                 | 0                 |                      |  |
| Left in Place/Self Releasing Screen  |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Left in Place/Self Releasing Cage  |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Left in Place/Restraining Cage   |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Relocated/No Additional Protection   | 1                | 1                                  | 0                             |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Relocated/Self Releasing Screen  |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Relocated/Self Releasing Cage  |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Relocated/Restraining Cage   |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Relocated/Self Releasing Hatchery  |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| Relocated/Restraining Hatchery   |                  |                                    |                               |   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| <b>Definition of Terms</b>   |                  |                                    |                               | <b>Additional Information</b>   |                         |                              |                                  |                  |                  |                     |                   |                      |  |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |                                    |                               | <b>#of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs |                         |                              |                                  |                  |                  |                     |                   |                      |  |



**Florida Fish and Wildlife Conservation Commission  
Fish and Wildlife Research Institute  
Sea Turtle Nest Success Reporting Form for 2009**

Species: *E. imbricata* (Hawksbill)

| <b>Beach Name:</b>   |  | <b>Deerfield/Hillsboro Beaches</b> |                               |                               |                              |                         | <b>Permit Holder:</b>        |                              |                  | <b>Permit #:</b> |                     |                   |
|--|--|------------------------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
|  |  | Total # of Nests                   | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Left in Place/No Additional Protection   |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Screen  |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage  |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage   |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection   |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Screen  |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage  |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage   |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery  |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery   |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>   |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Additional Information</b>  |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p>   |  |                                    |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |

**Lou Fisher**

**108**



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Lepidochelys kempii* (Kemp's Ridley)**

| <b>Beach Name:</b>   |                  | <b>Deerfield/Hillsboro Beaches</b> |                               |                              |                         |                              | <b>Permit Holder:</b>        |                  |                  | <b>Permit #:</b>    |                   |  |  |
|--|------------------|------------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|--|--|
|  |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   | <b>108</b>   |  |
| Category   | Total # of Nests | # of Nests Marked to Evaluate      | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |  |  |
| Left in Place/No Additional Protection   |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Left in Place/Self Releasing Screen  |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Left in Place/Self Releasing Cage  |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Left in Place/Restraining Cage   |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Relocated/No Additional Protection   |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Relocated/Self Releasing Screen  |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Relocated/Self Releasing Cage  |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Relocated/Restraining Cage   |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Relocated/Self Releasing Hatchery  |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| Relocated/Restraining Hatchery   |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |  |
| <b>Definition of Terms</b>   |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   | <b>Additional Information</b>  |  |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |                                    |                               |                              |                         |                              |                              |                  |                  |                     |                   | <b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs |  |



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|                                    |  |   |                     |            |
|------------------------------------|--|---|---------------------|------------|
| Principal Permit Holder:           |  | <b>Lou Fisher</b>   | Permit Number:      | <b>108</b> |
| Organization:                      | Broward Co. Dept. of Planing/Environ. Protection |   |                     |            |
| Address:                           | 1 North University Dr., Ste. 301                 |   |                     |            |
|                                    | Plantation, FL 33324                             |   |                     |            |
| County:                            | <b>Broward</b>                                   | Email Address:  | lfisher@broward.org |            |
| Day Telephone (include area code): | <b>(954) 519-1255</b>                            | Night Telephone:  |                     |            |
| Beach Name:                        | <b>Pompano/Lauderdale-by-the-Sea</b>             |   |                     |            |
| Point of Contact & Phone #         | <b>Lou Fisher</b>                                | Email Address for Point of Contact: (if different from above) |                     |            |

**2. GENERAL SURVEY INFORMATION**

**Survey Boundary Information:** Please describe survey boundaries geographically. If boundaries have changed, please enter the new boundaries in the space below. Be specific and use known landmarks that can be found on a map (or include a marked map).

|   |  |  |                 |
|---|--|--|-----------------|
| Beginning Survey Boundary:  | <b>Hillsboro Inlet (26.25801, -80.08185)</b>       |  |                 |
| Ending Survey Boundary:   | <b>Commercial Blvd. Pier (26.18948, -80.09466)</b> |  |                 |
| Beach Length (include KM or MI):  | <b>7.7 km</b>                                      | Is beach length estimated or measured? | <b>measured</b> |
| Was this the <b>exact</b> same survey area as last year?  | <b>Yes / No</b>                                    |  | <b>Yes</b>      |
| <b>IF NO, please explain the specific differences AND why the survey area changed:</b>  |  |  |                 |
| <b>N/A</b>  |  |  |                 |
| Start Date of Survey (mm/dd/yy):  | <b>03/01/09</b>                                    | End Date of Survey (mm/dd/yy):         | <b>09/30/09</b> |
| Time of Day Surveyed: Start (include AM or PM)  | <b>1/2 hr before sunrise</b>                       | Finish (include AM or PM)              | <b>9:00 AM</b>  |
| Number of Days Per Week Surveyed:   | <b>Seven (7)</b>                                   |  |                 |
| Total # of Days Surveyed in 2009:   | <b>214</b>   |  |                 |
| If you did <b>not</b> survey seven (7) days per week, describe how crawls are treated when surveys resume, i.e., Are all crawls counted or only ones judge to be from previous night? Are existing crawls marked out the day before the survey resumes? |  |  |                 |
| <b>N/A</b>  |  |  |                 |
| Was there any variation in the number of days surveyed per week or was the entire beach surveyed the same number of times every week of the nesting season? <b>SAME</b> or <b>VARIABLE</b>  |  |  | <b>SAME</b>     |
| If VARIABLE, please explain the specific variation:   | <b>N/A</b>   |  |                 |
| Were all non-nesting crawls (false crawls) counted during your survey? <b>Yes</b> or <b>No</b>  |  |  | <b>Yes</b>      |
| How many people were involved in surveying your nesting beach this season?  |  |  | <b>25</b>       |

| <b>3. NESTING BEACH MANAGEMENT INFORMATION</b>   |                                 |
|--|---------------------------------|
| If nests were RELOCATED, were they relocated <b>Individually</b> (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a <b>Group</b> (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? | <b>Both</b>                     |
| Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)  |                                 |
| <b>Nests located within 20 feet of previous evening's wrack line or in an artificially lighted area</b>  |                                 |
| If a <b>HATCHERY</b> was used, please give reasons AND specific location:  |                                 |
| <b>N/A</b>   |                                 |
| If predator control methods other than screening/caging were employed, please describe below:  |                                 |
| <b>N/A</b>   |                                 |
| How many MARKED nests were <b>negatively affected by predators</b> other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>   | <b>0</b>                        |
| List all non-human predators documented predated nests this season:  |                                 |
| <b>N/A</b>   |                                 |
| How many MARKED nests were <b>negatively affected by another nesting sea turtle</b> ?  | <b>3</b>                        |
| How many MARKED nests were <b>negatively affected by roots</b> (i.e., damaged eggs, impeded hatchling emergence)?  | <b>0</b>                        |
| How many MARKED nests were <b>negatively affected by erosion, accretion, inundation, and storm-related events?</b> <i>Note: this does not include stake removal/loss.</i>  | <b>2</b>                        |
| <b>Please give details:</b>  | <b>2 Cc washover/inundation</b> |
|  |                                 |
| How many MARKED nests were <b>taken or disturbed by humans</b> (Example: nest dug into, eggs removed, etc.)?   | <b>0</b>                        |
| <b>Please give details:</b>  | <b>N/A</b>                      |
|  |                                 |
| Were hatchling disorientation events documented this season? <b>Yes or No</b>  | <b>Yes</b>                      |
| If YES, have all <b>disorientation reports</b> been submitted to FWC? <b>Yes or No</b>   | <b>Yes</b>                      |

**I certify the above information to be true and accurate to the best of my knowledge.**

|                   |  |
|-------------------|--|
| <b>Lou Fisher</b> |  |
|-------------------|--|

**Principal Permit Holder (type in name)**

**Date**



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|  |                   |                |            |
|--|-------------------|----------------|------------|
| Principal Permit Holder:                         | <b>Lou Fisher</b> | Permit Number: | <b>108</b> |
| Beach Name: <b>Pompano/Lauderdale-by-the-Sea</b> |                   |                |            |

**2. GENERAL NESTING DATA**

|  | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>Total # of Nests</b>                          | <b>411</b>                        | <b>0</b>                          | <b>12</b>                           | <b>0</b>                           | <b>0</b>                            |
| Total # of Non-Nesting Emergences (False Crawls) | <b>610</b>                        | <b>1</b>                          | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |
| Date (mm/dd/yy) of First Documented Nest         | <b>04/23/09</b>                   |                                   | <b>03/31/09</b>                     |                                    |                                     |
| Date (mm/dd/yy) of Last Documented Nest          | <b>08/25/09</b>                   |                                   | <b>06/04/09</b>                     |                                    |                                     |
| <b>Total # of Nests Prior to 15 May:</b>         | <b>23</b>                         | <b>0</b>                          | <b>8</b>                            |                                    |                                     |
| <b>Total # of Nests After 31 Aug:</b>            | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            |                                    |                                     |

**Comments:**

**Nest Data for nests left in place (where the turtle deposited the clutch):** These nests may be left without additional protection, screened with a self-releasing flat screen, or covered with self-releasing or restraining above-ground cages.

| <b>Record the number of nests by category and species.</b> For each species, rows a+b+c+d should equal the total number of nests left in place. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|---|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)</b>   | <b>314</b>                        | <b>0</b>                          | <b>11</b>                           | <b>0</b>                           | <b>0</b>                            |
| (a) # of Nests left in Place without Additional Protection  | <b>314</b>                        | <b>0</b>                          | <b>11</b>                           | <b>0</b>                           | <b>0</b>                            |
| (b) # of Nests left in Place with Self-Releasing Flat Screen  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Nests left in Place with Self-Releasing Cage   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Nests left in Place with Restraining Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |

**Relocated Nest Data:** Relocated nests are those where the clutch is removed from its original site of deposition and reburied at another site. These nests may be relocated to individual sites or as a group to a hatchery (a permanent or semi-permanent fenced or caged area where many nests are re-buried as a group). As with nests left in place, relocated nests may be left without additional protection, covered with self-releasing flat screen, or covered with a self-releasing for restraining above-ground cages. Hatcheries may be self-releasing (hatchlings escape unaided) or restraining (hatchlings cannot escape unaided).

| <b>Record the number of nests by category and species.</b> For each species, rows a+b+c+d+e+f should equal the total number of relocated nests. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|---|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)</b>   | <b>97</b>                         | <b>0</b>                          | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |
| (a) # of Relocated Nests without Additional Protection  | <b>97</b>                         | <b>0</b>                          | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |
| (b) # of Relocated Nests with Self-Releasing Flat Screen  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Relocated Nests with Self-Releasing Cage   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Relocated Nests with Restraining Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (e) # of Relocated Nests to Self-Releasing Hatchery   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (f) # of Relocated Nests to Restraining Hatchery  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Caretta caretta* (Loggerhead)**

| Beach Name:   | Pompano/Lauderdale-by-the-Sea |                  |                               |                               |                              |                         | Lou Fisher                   |                              |                  |                  | Permit #: 108       |                     |
|---|-------------------------------|------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|---------------------|
|   | Category                      | Total # of Nests | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Unhatched Eggs |
| Left in Place/No Additional Protection  | 314                           | 314              | 216                           | 22699                         | 15201                        | 1495                    | 595                          | 131                          | 1271             | 4006             | 0                   |                     |
| Left in Place/Self Releasing Screen   |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Left in Place/Self Releasing Cage   |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Left in Place/Restraining Cage  |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/No Additional Protection  | 97                            | 97               | 94                            | 9653                          | 5671                         | 769                     | 188                          | 232                          | 953              | 1829             | 11                  |                     |
| Relocated/Self Releasing Screen   |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Self Releasing Cage   |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Restraining Cage  |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Self Releasing Hatchery   |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Restraining Hatchery  |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| <b>Definition of Terms</b>  |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| <b>Additional Information</b>   |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| <b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs  |                               |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Chelonia mydas* (Green Turtle)**

| Beach Name: <b>Pompano/Lauderdale-by-the-Sea</b>  |                  | Permit Holder: <b>Lou Fisher</b> |                               |                              |                         |                              | Permit #: <b>108</b>         |                  |                  |                     |                   |
|---|------------------|----------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
| Category  | Total # of Nests | # of Nests Marked to Evaluate    | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Left in Place/No Additional Protection  | 0                |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Screen   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection  | 0                |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Screen   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Additional Information</b>   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>#of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Dermochelys coriacea* (Leatherback)**

| <b>Beach Name:</b> <b>Pompano/Lauderdale-by-the-Sea</b>   |                  | <b>Permit Holder:</b> <b>Lou Fisher</b> |                               |   |                         |                              | <b>Permit #:</b> <b>108</b>  |                  |                  |                     |                   |
|---|------------------|---|-------------------------------|---|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
| Category  | Total # of Nests | # of Nests Marked to Evaluate           | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests  | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Left in Place/No Additional Protection  | <b>11</b>        | <b>11</b>                               | <b>4</b>                      | <b>379</b>  | <b>202</b>              | <b>19</b>                    | <b>7</b>                     | <b>0</b>         | <b>1</b>         | <b>150</b>          | <b>0</b>          |
| Left in Place/Self Releasing Screen   |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage   |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage  |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection  | <b>1</b>         | <b>1</b>                                | <b>1</b>                      | <b>89</b>   | <b>45</b>               | <b>18</b>                    | <b>11</b>                    | <b>0</b>         | <b>5</b>         | <b>10</b>           | <b>0</b>          |
| Relocated/Self Releasing Screen   |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage   |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage  |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery   |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery  |                  |   |                               |   |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>  |                  |   |                               | <b>Additional Information</b>   |                         |                              |                              |                  |                  |                     |                   |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |   |                               | <b>#of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs |                         |                              |                              |                  |                  |                     |                   |



**Florida Fish and Wildlife Conservation Commission  
Fish and Wildlife Research Institute  
Sea Turtle Nest Success Reporting Form for 2009**

Species: *E. imbricata* (Hawksbill)

| <b>Beach Name:</b> <b>Pompano/Lauderdale-by-the-Sea</b>  |                  | <b>Permit Holder:</b> <b>Lou Fisher</b> |                               |                              |                         |                              | <b>Permit #:</b> <b>108</b>  |                  |                  |                     |                   |
|--|------------------|---|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
| Category   | Total # of Nests | # of Nests Marked to Evaluate           | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Left in Place/No Additional Protection   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Screen  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Screen  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Additional Information</b>  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p>   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Lepidochelys kempii* (Kemp's Ridley)**

| <b>Beach Name:</b> Pompano/Lauderdale-by-the-Sea  |                  | <b>Permit Holder:</b> Lou Fisher |                               |                              |                         | <b>Permit #:</b> 108         |                              |                  |                  |                     |                   |
|---|------------------|----------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
| Category  | Total # of Nests | # of Nests Marked to Evaluate    | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Left in Place/No Additional Protection  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Screen   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Screen   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Additional Information</b>   |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p>  |                  |                                  |                               |                              |                         |                              |                              |                  |                  |                     |                   |



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|                                    |   |   |                            |            |
|------------------------------------|---|---|----------------------------|------------|
| Principal Permit Holder:           |   | <b>Lou Fisher</b>   | Permit Number:             | <b>108</b> |
| Organization:                      | <b>Broward Co. Dept. of Planing/Environ. Protection</b> |   |                            |            |
| Address:                           | <b>1 North University Dr., Ste. 301</b>                 |   |                            |            |
|                                    | <b>Plantation, FL 33324</b>                             |   |                            |            |
| County:                            | <b>Broward</b>  | Email Address:  | <b>lfisher@broward.org</b> |            |
| Day Telephone (include area code): | <b>(954) 519-1255</b>                                   | Night Telephone:  |                            |            |
| Beach Name:                        | <b>Ft. Lauderdale Beach</b>                             |   |                            |            |
| Point of Contact & Phone #         |   | Email Address for Point of Contact: (if different from above) |                            |            |

**2. GENERAL SURVEY INFORMATION**

**Survey Boundary Information:** Please describe survey boundaries geographically. If boundaries have changed, please enter the new boundaries in the space below. Be specific and use known landmarks that can be found on a map (or include a marked map).

|   |  |  |                 |
|---|--|--|-----------------|
| Beginning Survey Boundary:  | <b>Commercial Blvd. Pier (26.18948, -80.09466)</b> |  |                 |
| Ending Survey Boundary:   | <b>Port Everglades Inlet (26.09508, -80.10500)</b> |  |                 |
| Beach Length (include KM or MI):  | <b>10.6 km</b>                                     | Is beach length estimated or measured? | <b>measured</b> |
| Was this the <b>exact</b> same survey area as last year?  | <b>Yes / No</b>                                    |  | <b>Yes</b>      |
| <b>IF NO, please explain the specific differences AND why the survey area changed:</b>  |  |  |                 |
| <b>N/A</b>  |  |  |                 |
| Start Date of Survey (mm/dd/yy):  | <b>03/01/09</b>                                    | End Date of Survey (mm/dd/yy):         | <b>09/30/09</b> |
| Time of Day Surveyed: Start (include AM or PM)  | <b>1/2 hr before sunrise</b>                       | Finish (include AM or PM)              | <b>9:00 AM</b>  |
| Number of Days Per Week Surveyed:   | <b>Seven (7)</b>                                   |  |                 |
| Total # of Days Surveyed in 2009:   | <b>214</b>   |  |                 |
| If you did <b>not</b> survey seven (7) days per week, describe how crawls are treated when surveys resume, i.e., Are all crawls counted or only ones judge to be from previous night? Are existing crawls marked out the day before the survey resumes? |  |  |                 |
| <b>N/A</b>  |  |  |                 |
| Was there any variation in the number of days surveyed per week or was the entire beach surveyed the same number of times every week of the nesting season? <b>SAME</b> or <b>VARIABLE</b>  |  |  | <b>Same</b>     |
| If VARIABLE, please explain the specific variation:   | <b>N/A</b>   |  |                 |
| Were all non-nesting crawls (false crawls) counted during your survey? <b>Yes</b> or <b>No</b>  |  |  | <b>Yes</b>      |
| How many people were involved in surveying your nesting beach this season?  |  |  | <b>25</b>       |

| <b>3. NESTING BEACH MANAGEMENT INFORMATION</b>   |  |
|--|--|
| If nests were RELOCATED, were they relocated <b>Individually</b> (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a <b>Group</b> (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? | <b>Both</b>                                      |
| Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)  |  |
| <b>Nests located within 10 feet of the previous evening's wrack line or in an artificially lighted area</b>  |  |
| If a <b>HATCHERY</b> was used, please give reasons AND specific location:  |  |
| <b>N/A</b>   |  |
| If predator control methods other than screening/caging were employed, please describe below:  |  |
| <b>N/A</b>   |  |
| How many MARKED nests were <b>negatively affected by predators</b> other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>   | <b>3</b>   |
| List all non-human predators documented predated nests this season:  |  |
| <b>fox, racoon</b>   |  |
| How many MARKED nests were <b>negatively affected by another nesting sea turtle</b> ?  | <b>6</b>   |
| How many MARKED nests were <b>negatively affected by roots</b> (i.e., damaged eggs, impeded hatchling emergence)?  | <b>0</b>   |
| How many MARKED nests were <b>negatively affected by erosion, accretion, inundation, and storm-related events?</b> <i>Note: this does not include stake removal/loss.</i>  | <b>91</b>  |
| <b>Please give details:</b>  | <b>91 Cc washed over</b>                         |
|  |  |
| How many MARKED nests were <b>taken or disturbed by humans</b> (Example: nest dug into, eggs removed, etc.)?   | <b>6</b>   |
| <b>Please give details:</b>  | <b>6 Cc poached. Reported to law enforcement</b> |
|  |  |
| Were hatchling disorientation events documented this season? <b>Yes or No</b>  | <b>Yes</b>                                       |
| If YES, have all <b>disorientation reports</b> been submitted to FWC? <b>Yes or No</b>   | <b>Yes</b>                                       |

**I certify the above information to be true and accurate to the best of my knowledge.**

|                   |  |
|-------------------|--|
| <b>Lou Fisher</b> |  |
|-------------------|--|

**Principal Permit Holder (type in name)**

**Date**



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|  |                           |
|--|---------------------------|
| Principal Permit Holder: <b>Lou Fisher</b> | Permit Number: <b>108</b> |
| Beach Name: <b>Ft. Lauderdale Beach</b>    |                           |

**2. GENERAL NESTING DATA**

|  | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>Total # of Nests</b>                          | <b>592</b>                        | <b>18</b>                         | <b>4</b>                            | <b>0</b>                           | <b>0</b>                            |
| Total # of Non-Nesting Emergences (False Crawls) | <b>759</b>                        | <b>10</b>                         | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |
| Date (mm/dd/yy) of First Documented Nest         | <b>04/29/09</b>                   | <b>06/20/09</b>                   | <b>04/19/09</b>                     |                                    |                                     |
| Date (mm/dd/yy) of Last Documented Nest          | <b>09/09/09</b>                   | <b>08/20/09</b>                   | <b>06/06/09</b>                     |                                    |                                     |
| <b>Total # of Nests Prior to 15 May:</b>         | <b>31</b>                         | <b>0</b>                          | <b>3</b>                            | <b>0</b>                           | <b>0</b>                            |
| <b>Total # of Nests After 31 Aug:</b>            | <b>3</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |

**Comments:**

**Nest Data for nests left in place (where the turtle deposited the clutch):** These nests may be left without additional protection, screened with a self-releasing flat screen, or covered with self-releasing or restraining above-ground cages.

| Record the number of nests by category and species. For each species, rows a+b+c+d should equal the total number of nests left in place. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)</b>  | <b>402</b>                        | <b>18</b>                         | <b>4</b>                            | <b>0</b>                           | <b>0</b>                            |
| (a) # of Nests left in Place without Additional Protection   | <b>402</b>                        | <b>18</b>                         | <b>4</b>                            | <b>0</b>                           | <b>0</b>                            |
| (b) # of Nests left in Place with Self-Releasing Flat Screen   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Nests left in Place with Self-Releasing Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Nests left in Place with Restraining Cage   | <b>5</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |

**Relocated Nest Data:** Relocated nests are those where the clutch is removed from its original site of deposition and reburied at another site. These nests may be relocated to individual sites or as a group to a hatchery (a permanent or semi-permanent fenced or caged area where many nests are re-buried as a group). As with nests left in place, relocated nests may be left without additional protection, covered with self-releasing flat screen, or covered with a self-releasing for restraining above-ground cages. Hatcheries may be self-releasing (hatchlings escape unaided) or restraining (hatchlings cannot escape unaided).

| Record the number of nests by category and species. For each species, rows a+b+c+d+e+f should equal the total number of relocated nests. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)</b>  | <b>185</b>                        | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (a) # of Relocated Nests without Additional Protection   | <b>185</b>                        | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (b) # of Relocated Nests with Self-Releasing Flat Screen   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Relocated Nests with Self-Releasing Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Relocated Nests with Restraining Cage   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (e) # of Relocated Nests to Self-Releasing Hatchery  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (f) # of Relocated Nests to Restraining Hatchery   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Caretta caretta* (Loggerhead)**

| Beach Name:                            | Ft. Lauderdale Beach |                  |                               |                               |                              |                         | Permit Holder: Lou Fisher    |                              |                  |                  | Permit #: 108       |                     |
|--|----------------------|------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|---------------------|
|  | Category             | Total # of Nests | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Unhatched Eggs |
| Left in Place/No Additional Protection | 402                  | 402              | 326                           | 35724                         | 26538                        | 1977                    | 867                          | 146                          | 1536             | 4610             | 50                  |                     |
| Left in Place/Self Releasing Screen    |                      |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Left in Place/Self Releasing Cage      |                      |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Left in Place/Restraining Cage         | 5                    | 5                | 4                             | 406                           | 164                          | 8                       | 5                            | 0                            | 77               | 152              | 0                   |                     |
| Relocated/No Additional Protection     | 185                  | 185              | 172                           | 18134                         | 12735                        | 908                     | 343                          | 167                          | 1039             | 2912             | 30                  |                     |
| Relocated/Self Releasing Screen        |                      |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Self Releasing Cage          |                      |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Restraining Cage             |                      |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Self Releasing Hatchery      |                      |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |
| Relocated/Restraining Hatchery         |                      |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                     |

| Definition of Terms  | Additional Information   |
|--|--|
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> | <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p> |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Chelonia mydas* (Green Turtle)**

| <b>Beach Name:</b>  |                  | <b>Ft. Lauderdale Beach</b>   |                               |                              |                         |                              | <b>Permit Holder: Lou Fisher</b> |                  |                  |                     | <b>Permit #: 108</b> |   |  |
|---|------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|----------------------------------|------------------|------------------|---------------------|----------------------|---|--|
| Category  | Total # of Nests | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest     | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs    |   |  |
| Left in Place/No Additional Protection  | <b>18</b>        | <b>18</b>                     | <b>10</b>                     | <b>1212</b>                  | <b>769</b>              | <b>149</b>                   | <b>22</b>                        | <b>7</b>         | <b>47</b>        | <b>218</b>          | <b>0</b>             |   |  |
| Left in Place/Self Releasing Screen   |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Left in Place/Self Releasing Cage   |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Left in Place/Restraining Cage  | <b>0</b>         |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/No Additional Protection  | <b>0</b>         |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Self Releasing Screen   |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Self Releasing Cage   |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Restraining Cage  |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Self Releasing Hatchery   |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| Relocated/Restraining Hatchery  |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      |   |  |
| <b>Definition of Terms</b>  |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      | <b>Additional Information</b>   |  |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |                               |                               |                              |                         |                              |                                  |                  |                  |                     |                      | <b>#of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs |  |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Dermochelys coriacea* (Leatherback)**

| <b>Beach Name:</b>   |                  | <b>Ft. Lauderdale Beach</b>   |                               |  |                         |                              | <b>Permit Holder:</b>        |                  |                  |                             | <b>Permit #:</b>  |     |
|--|------------------|-------------------------------|-------------------------------|--|-------------------------|------------------------------|------------------------------|------------------|------------------|-----------------------------|-------------------|-----|
| Category   | Total # of Nests | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests   | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | Permit #: <b>Lou Fisher</b> |                   | 108 |
|  |                  |                               |                               |  |                         |                              |                              |                  |                  | # of Undamaged Eggs         | # of Damaged Eggs |     |
| Left in Place/No Additional Protection   | 4                | 4                             | 2                             | 144  | 82                      | 8                            | 6                            | 1                | 9                | 38                          | 0                 |     |
| Left in Place/Self Releasing Screen  |                  |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| Left in Place/Self Releasing Cage  |                  |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| Left in Place/Restraining Cage   |                  |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| Relocated/No Additional Protection   | 0                |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| Relocated/Self Releasing Screen  |                  |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| Relocated/Self Releasing Cage  |                  |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| Relocated/Self Releasing Hatchery  |                  |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| Relocated/Restraining Hatchery   |                  |                               |                               |  |                         |                              |                              |                  |                  |                             |                   |     |
| <b>Definition of Terms</b>   |                  |                               |                               | <b>Additional Information</b>  |                         |                              |                              |                  |                  |                             |                   |     |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |                               |                               | <b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs |                         |                              |                              |                  |                  |                             |                   |     |



**Florida Fish and Wildlife Conservation Commission  
Fish and Wildlife Research Institute  
Sea Turtle Nest Success Reporting Form for 2009**

Species: *E. imbricata* (Hawksbill)

| <b>Beach Name:</b>   |                  | <b>Ft. Lauderdale Beach</b>   |                               |                              |                         |                              | <b>Permit Holder:</b>        |                  |                  | <b>Permit #:</b>    |                   |            |
|--|------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|------------|
|  |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   | <b>108</b> |
| Category   | Total # of Nests | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |            |
| Left in Place/No Additional Protection   |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Left in Place/Self Releasing Screen  |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Left in Place/Self Releasing Cage  |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Left in Place/Restraining Cage   |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Relocated/No Additional Protection   |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Relocated/Self Releasing Screen  |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Relocated/Self Releasing Cage  |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Relocated/Restraining Cage   |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Relocated/Self Releasing Hatchery  |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| Relocated/Restraining Hatchery   |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| <b>Definition of Terms</b>   |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| <b>Additional Information</b>  |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |
| <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p>   |                  |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |            |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Lepidochelys kempii* (Kemp's Ridley)**

| <b>Beach Name:</b>   |  | <b>Ft. Lauderdale Beach</b> |                               |                               |                              |                         | <b>Permit Holder:</b>        |                              |                  | <b>Permit #:</b> |                     |                   |
|--|--|-----------------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
|  |  | Total # of Nests            | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Category   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/No Additional Protection   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Screen  |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage  |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Screen  |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage  |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery  |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Additional Information</b>  |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs   |  |                             |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |

**Lou Fisher**

**108**



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|                                    |   |   |                            |            |
|------------------------------------|---|---|----------------------------|------------|
| Principal Permit Holder:           |   | <b>Lou Fisher</b>   | Permit Number:             | <b>108</b> |
| Organization:                      | <b>Broward Co. Dept. of Planing/Environ. Protection</b> |   |                            |            |
| Address:                           | <b>1 North University Dr., Ste. 301</b>                 |   |                            |            |
|                                    | <b>Plantation, FL 33324</b>                             |   |                            |            |
| County:                            | <b>Broward</b>  | Email Address:  | <b>lfisher@broward.org</b> |            |
| Day Telephone (include area code): | <b>(954) 519-1255</b>                                   | Night Telephone:  |                            |            |
| Beach Name:                        | <b>Hollywood/Hallandale Beach</b>                       |   |                            |            |
| Point of Contact & Phone #         |   | Email Address for Point of Contact: (if different from above) |                            |            |

**2. GENERAL SURVEY INFORMATION**

**Survey Boundary Information:** Please describe survey boundaries geographically. If boundaries have changed, please enter the new boundaries in the space below. Be specific and use known landmarks that can be found on a map (or include a marked map).

|   |  |  |                 |
|---|--|--|-----------------|
| Beginning Survey Boundary:  | <b>3.9 km S of Port Everglades Inlet (26.06043, -80.11138)</b> |  |                 |
| Ending Survey Boundary:   | <b>Broward/Miami-Dade Co. Line (25.97518, -80.11828)</b>       |  |                 |
| Beach Length (include KM or MI):  | <b>9.4 km</b>  | Is beach length estimated or measured? | <b>measured</b> |
| Was this the <b>exact</b> same survey area as last year?  | <b>Yes / No</b>  |  | <b>Yes</b>      |
| <b>IF NO, please explain the specific differences AND why the survey area changed:</b>  |  |  |                 |
| <b>N/A</b>  |  |  |                 |
| Start Date of Survey (mm/dd/yy):  | <b>03/01/09</b>  | End Date of Survey (mm/dd/yy):         | <b>09/30/09</b> |
| Time of Day Surveyed: Start (include AM or PM)  | <b>1/2 hr before sunrise</b>                                   | Finish (include AM or PM)              | <b>9:00 AM</b>  |
| Number of Days Per Week Surveyed:   | <b>Seven (7)</b>   |  |                 |
| Total # of Days Surveyed in 2009:   | <b>214</b>   |  |                 |
| If you did <b>not</b> survey seven (7) days per week, describe how crawls are treated when surveys resume, i.e., Are all crawls counted or only ones judge to be from previous night? Are existing crawls marked out the day before the survey resumes? |  |  |                 |
| <b>N/A</b>  |  |  |                 |
| Was there any variation in the number of days surveyed per week or was the entire beach surveyed the same number of times every week of the nesting season? <b>SAME</b> or <b>VARIABLE</b>  | <b>Same</b>  |  |                 |
| If <b>VARIABLE</b> , please explain the specific variation:   | <b>N/A</b>   |  |                 |
| Were all non-nesting crawls (false crawls) counted during your survey? <b>Yes</b> or <b>No</b>  | <b>Yes</b>   |  |                 |
| How many people were involved in surveying your nesting beach this season?  | <b>25</b>  |  |                 |

| <b>3. NESTING BEACH MANAGEMENT INFORMATION</b>   |                        |
|--|------------------------|
| If nests were RELOCATED, were they relocated <b>Individually</b> (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a <b>Group</b> (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? | <b>Both</b>            |
| Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)  |                        |
| <b>Nests located within 10 feet of previous evening's wrack line or in an artificially lighted area</b>  |                        |
| If a <b>HATCHERY</b> was used, please give reasons AND specific location:  |                        |
| <b>N/A</b>   |                        |
| If predator control methods other than screening/caging were employed, please describe below:  |                        |
| <b>N/A</b>   |                        |
| How many MARKED nests were <b>negatively affected by predators</b> other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>   | <b>1</b>               |
| List all non-human predators documented predated nests this season:  |                        |
| <b>raccoon</b>   |                        |
| How many MARKED nests were <b>negatively affected by another nesting sea turtle</b> ?  | <b>0</b>               |
| How many MARKED nests were <b>negatively affected by roots</b> (i.e., damaged eggs, impeded hatchling emergence)?  | <b>0</b>               |
| How many MARKED nests were <b>negatively affected by erosion, accretion, inundation, and storm-related events?</b> <i>Note: this does not include stake removal/loss.</i>  | <b>5</b>               |
| <b>Please give details:</b>  | <b>5 Cc washover</b>   |
|  |                        |
| How many MARKED nests were <b>taken or disturbed by humans</b> (Example: nest dug into, eggs removed, etc.)?   | <b>3</b>               |
| <b>Please give details:</b>  | <b>3 Cc vandalized</b> |
|  |                        |
| Were hatchling disorientation events documented this season? <b>Yes or No</b>  | <b>Yes</b>             |
| If YES, have all <b>disorientation reports</b> been submitted to FWC? <b>Yes or No</b>   | <b>Yes</b>             |

**I certify the above information to be true and accurate to the best of my knowledge.**

|                   |  |
|-------------------|--|
| <b>Lou Fisher</b> |  |
|-------------------|--|

**Principal Permit Holder (type in name)**

**Date**



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
FISH AND WILDLIFE RESEARCH INSTITUTE  
SEA TURTLE NESTING REPORT FOR 2009**

**1. PRINCIPAL PERMIT HOLDER INFORMATION**

|   |                           |
|---|---------------------------|
| Principal Permit Holder: <b>Lou Fisher</b>    | Permit Number: <b>108</b> |
| Beach Name: <b>Hollywood/Hallandale Beach</b> |                           |

**2. GENERAL NESTING DATA**

|  | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>Total # of Nests</b>                          | <b>110</b>                        | <b>0</b>                          | <b>7</b>                            | <b>0</b>                           | <b>0</b>                            |
| Total # of Non-Nesting Emergences (False Crawls) | <b>136</b>                        | <b>1</b>                          | <b>1</b>                            | <b>0</b>                           | <b>0</b>                            |
| Date (mm/dd/yy) of First Documented Nest         | <b>04/27/09</b>                   |                                   | <b>04/03/09</b>                     |                                    |                                     |
| Date (mm/dd/yy) of Last Documented Nest          | <b>08/15/09</b>                   |                                   | <b>05/21/09</b>                     |                                    |                                     |
| <b>Total # of Nests Prior to 15 May:</b>         | <b>10</b>                         | <b>0</b>                          | <b>5</b>                            | <b>0</b>                           | <b>0</b>                            |
| <b>Total # of Nests After 31 Aug:</b>            | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |

**Comments:**

**Nest Data for nests left in place (where the turtle deposited the clutch):** These nests may be left without additional protection, screened with a self-releasing flat screen, or covered with self-releasing or restraining above-ground cages.

| Record the number of nests by category and species. For each species, rows a+b+c+d should equal the total number of nests left in place. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)</b>  | <b>29</b>                         | <b>0</b>                          | <b>7</b>                            | <b>0</b>                           | <b>0</b>                            |
| (a) # of Nests left in Place without Additional Protection   | <b>29</b>                         | <b>0</b>                          | <b>7</b>                            | <b>0</b>                           | <b>0</b>                            |
| (b) # of Nests left in Place with Self-Releasing Flat Screen   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Nests left in Place with Self-Releasing Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Nests left in Place with Restraining Cage   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |

**Relocated Nest Data:** Relocated nests are those where the clutch is removed from its original site of deposition and reburied at another site. These nests may be relocated to individual sites or as a group to a hatchery (a permanent or semi-permanent fenced or caged area where many nests are re-buried as a group). As with nests left in place, relocated nests may be left without additional protection, covered with self-releasing flat screen, or covered with a self-releasing for restraining above-ground cages. Hatcheries may be self-releasing (hatchlings escape unaided) or restraining (hatchlings cannot escape unaided).

| Record the number of nests by category and species. For each species, rows a+b+c+d+e+f should equal the total number of relocated nests. Please check to make sure this is the case. | <i>C. caretta</i><br>(Loggerhead) | <i>C. mydas</i><br>(Green Turtle) | <i>D. coriacea</i><br>(Leatherback) | <i>E. imbricata</i><br>(Hawksbill) | <i>L. kempii</i><br>(Kemp's Ridley) |
|--|-----------------------------------|-----------------------------------|-------------------------------------|------------------------------------|-------------------------------------|
| <b>TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)</b>  | <b>81</b>                         | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (a) # of Relocated Nests without Additional Protection   | <b>81</b>                         | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (b) # of Relocated Nests with Self-Releasing Flat Screen   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (c) # of Relocated Nests with Self-Releasing Cage  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (d) # of Relocated Nests with Restraining Cage   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (e) # of Relocated Nests to Self-Releasing Hatchery  | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |
| (f) # of Relocated Nests to Restraining Hatchery   | <b>0</b>                          | <b>0</b>                          | <b>0</b>                            | <b>0</b>                           | <b>0</b>                            |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Caretta caretta* (Loggerhead)**

| Beach Name:  | Hollywood/Hallandale Beach |                  |                               |                               |                              |                         | Permit Holder:               |                              |                  |                  | Permit #: <b>108</b> |  |  |
|--|----------------------------|------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|----------------------|--|--|
|  | Category                   | Total # of Nests | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs  | # of Unhatched Eggs  |  |
| Left in Place/No Additional Protection   | <b>29</b>                  | <b>29</b>        | <b>22</b>                     | <b>2381</b>                   | <b>1959</b>                  | <b>51</b>               | <b>24</b>                    | <b>4</b>                     | <b>31</b>        | <b>312</b>       | <b>0</b>             |  |  |
| Left in Place/Self Releasing Screen  |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| Left in Place/Self Releasing Cage  |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| Left in Place/Restraining Cage   |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| Relocated/No Additional Protection   | <b>81</b>                  | <b>81</b>        | <b>79</b>                     | <b>8704</b>                   | <b>5453</b>                  | <b>318</b>              | <b>204</b>                   | <b>56</b>                    | <b>667</b>       | <b>2002</b>      | <b>4</b>             |  |  |
| Relocated/Self Releasing Screen  |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| Relocated/Self Releasing Cage  |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| Relocated/Restraining Cage   |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| Relocated/Self Releasing Hatchery  |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| Relocated/Restraining Hatchery   |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      |  |  |
| <b>Definition of Terms</b>   |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      | <b>Additional Information</b>  |  |
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> |                            |                  |                               |                               |                              |                         |                              |                              |                  |                  |                      | <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p> |  |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Chelonia mydas* (Green Turtle)**

| <b>Beach Name:</b>  |          | <b>Hollywood/Hallandale Beach</b> |                               |                               |                              |                         | <b>Permit Holder:</b>        |                              |                  |                  | <b>Permit #:</b>    |                   |   |
|---|----------|-----------------------------------|-------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|---|
|   |          | Total # of Nests                  | # of Nests Marked to Evaluate | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs | <b>108</b>  |
| Category  |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Left in Place/No Additional Protection  | <b>0</b> |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Left in Place/Self Releasing Screen   |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Left in Place/Self Releasing Cage   |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Left in Place/Restraining Cage  |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Relocated/No Additional Protection  | <b>0</b> |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Relocated/Self Releasing Screen   |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Relocated/Self Releasing Cage   |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Relocated/Restraining Cage  |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Relocated/Self Releasing Hatchery   |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| Relocated/Restraining Hatchery  |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   |   |
| <b>Definition of Terms</b>  |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   | <b>Additional Information</b>   |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |          |                                   |                               |                               |                              |                         |                              |                              |                  |                  |                     |                   | <b>#of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs |



**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Dermochelys coriacea* (Leatherback)**

| <b>Beach Name:</b>   |                  | <b>Hollywood/Hallandale Beach</b> |                               |                              |                         |                              | <b>Permit Holder:</b>        |                  |                  |                     | <b>Permit #:</b>  |  |
|--|------------------|-----------------------------------|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|--|
| Category   | Total # of Nests | # of Nests Marked to Evaluate     | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | 108                 |                   |  |
|  |                  |                                   |                               |                              |                         |                              |                              |                  |                  | # of Undamaged Eggs | # of Damaged Eggs |  |
| Left in Place/No Additional Protection   | 7                | 7                                 | 3                             | 236                          | 78                      | 28                           | 2                            | 4                | 22               | 102                 | 0                 |  |
| Left in Place/Self Releasing Screen  |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| Left in Place/Self Releasing Cage  |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| Left in Place/Restraining Cage   |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| Relocated/No Additional Protection   | 0                |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| Relocated/Self Releasing Screen  |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| Relocated/Self Releasing Cage  |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| Relocated/Self Releasing Hatchery  |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| Relocated/Restraining Hatchery   |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| <b>Definition of Terms</b>   |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| <b>Additional Information</b>  |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |
| <b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs   |                  |                                   |                               |                              |                         |                              |                              |                  |                  |                     |                   |  |



**Florida Fish and Wildlife Conservation Commission  
Fish and Wildlife Research Institute  
Sea Turtle Nest Success Reporting Form for 2009**

Species: *E. imbricata* (Hawksbill)

| <b>Beach Name:</b> <b>Hollywood/Hallandale Beach</b>   |                  | <b>Permit Holder:</b> <b>Lou Fisher</b> |                               |                              |                         |                              | <b>Permit #:</b> <b>108</b>  |                  |                  |                     |                   |
|--|------------------|---|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
| Category   | Total # of Nests | # of Nests Marked to Evaluate           | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Left in Place/No Additional Protection   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Screen  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Screen  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b>Relocated:</b> Clutch was relocated from the original site of deposition.</p> <p><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.</p> <p><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p><b>Hatchery:</b> A fenced or caged area where many nests are reburied.</p> <p><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Live + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b></p> |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Additional Information</b>  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <p><b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs</p>   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |

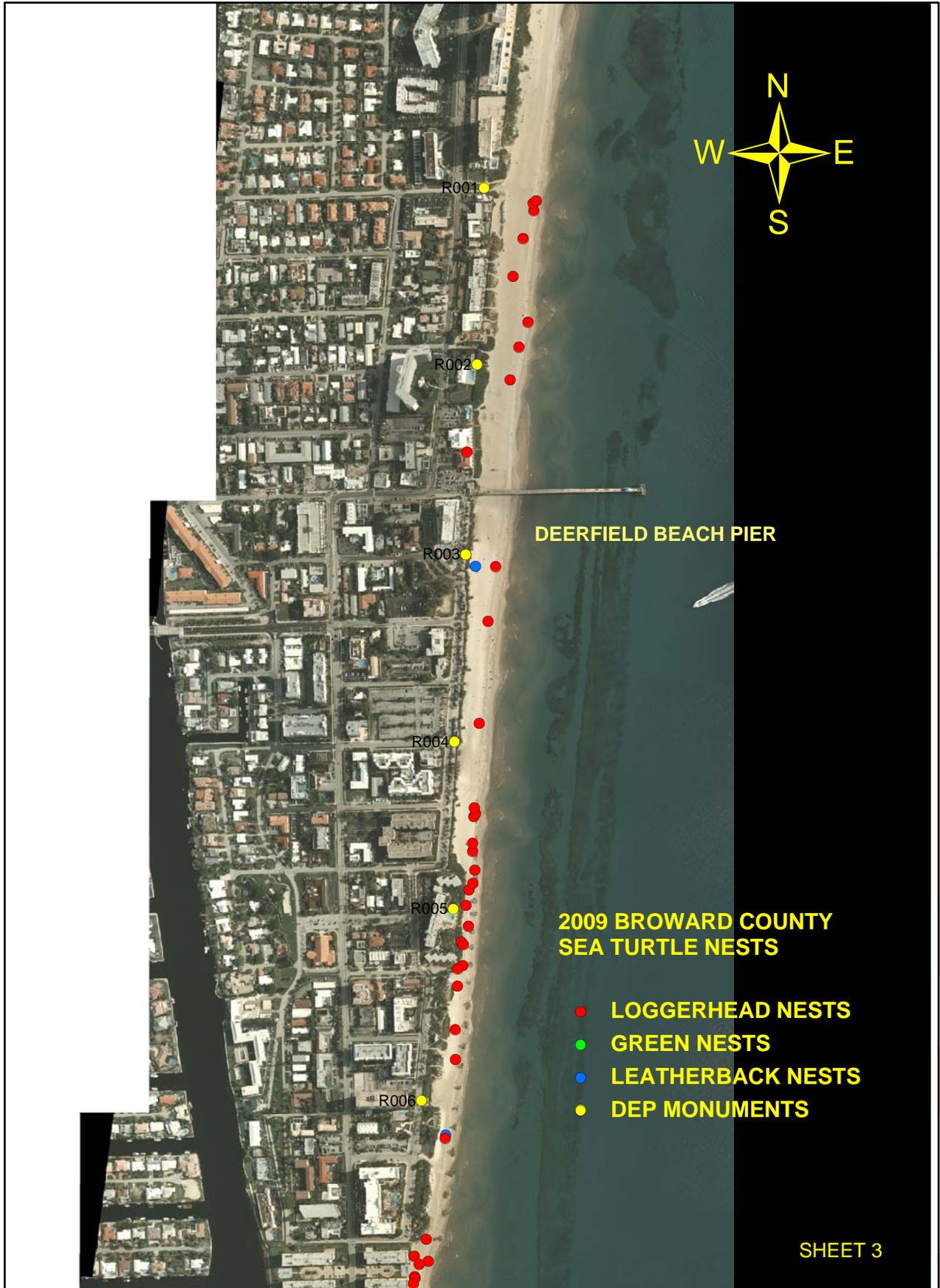


**Florida Fish and Wildlife Conservation Commission**  
**Fish and Wildlife Research Institute**  
**Sea Turtle Nest Success Reporting Form for 2009**  
**Species: *Lepidochelys kempii* (Kemp's Ridley)**

| <b>Beach Name:</b> <b>Hollywood/Hallandale Beach</b>   |                  | <b>Permit Holder:</b> <b>Lou Fisher</b> |                               |                              |                         | <b>Permit #:</b> <b>108</b>  |                              |                  |                  |                     |                   |
|--|------------------|---|-------------------------------|------------------------------|-------------------------|------------------------------|------------------------------|------------------|------------------|---------------------|-------------------|
| Category   | Total # of Nests | # of Nests Marked to Evaluate           | # of Nests Actually Evaluated | # of Eggs in Evaluated Nests | # of Hatchlings Emerged | # of Live Hatchlings in Nest | # of Dead Hatchlings in Nest | # of Pipped Live | # of Pipped Dead | # of Undamaged Eggs | # of Damaged Eggs |
| Left in Place/No Additional Protection   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Screen  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Self Releasing Cage  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Left in Place/Restraining Cage   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/No Additional Protection   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Screen  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Cage  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Cage   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Self Releasing Hatchery  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| Relocated/Restraining Hatchery   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Definition of Terms</b>   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Relocated:</b> Clutch was relocated from the original site of deposition.<br><b>Self-Releasing:</b> A screen, cage or hatchery through which hatchlings escape unaided.<br><b>Restraining:</b> A screen, cage, or hatchery that does not allow hatchlings to escape unaided.<br><b>Hatchery:</b> A fenced or caged area where many nests are reburied.<br><b>Pipped:</b> Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.<br><b>Damaged Eggs:</b> Eggs damaged by predators, roots, nesting females, or during relocation.<br><b>Important:</b> The # of Hatchlings Emerged + # of Live Hatchlings in Nest + # of Dead Hatchlings in Nest + # of Pipped Dead + # of Unhatched Eggs = the # of Eggs in Evaluated Nests. <b>Please check to make sure this is the case.</b> |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b>Additional Information</b>  |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |
| <b># of Eggs in Evaluated Nests:</b> In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells.<br><b># of Hatchlings Emerged:</b> Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)<br><b># of Unhatched Eggs:</b> (1) undamaged and unpipped eggs; and (2) damaged eggs   |                  |   |                               |                              |                         |                              |                              |                  |                  |                     |                   |

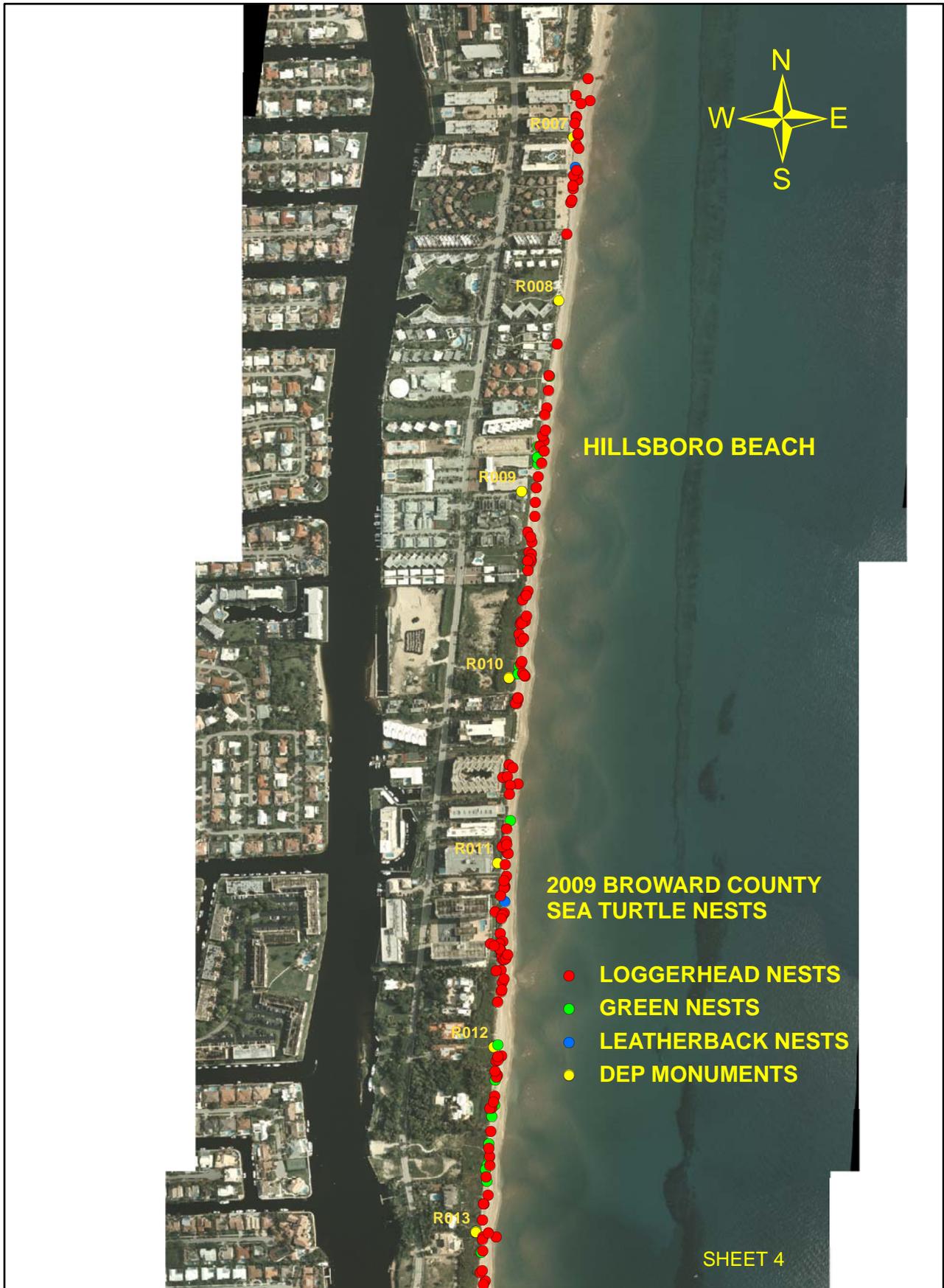
**Appendix 5:** Distribution of Loggerhead, Green, and Leatherback Nests Presented on  
2009 Coastal Aerial Photographs.

# 2009 SEA TURTLE NESTS



0 437.5 875 1,750 2,625 3,500  
Feet

# 2009 SEA TURTLE NESTS

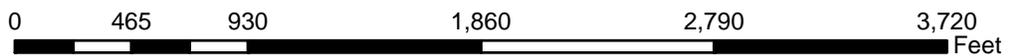
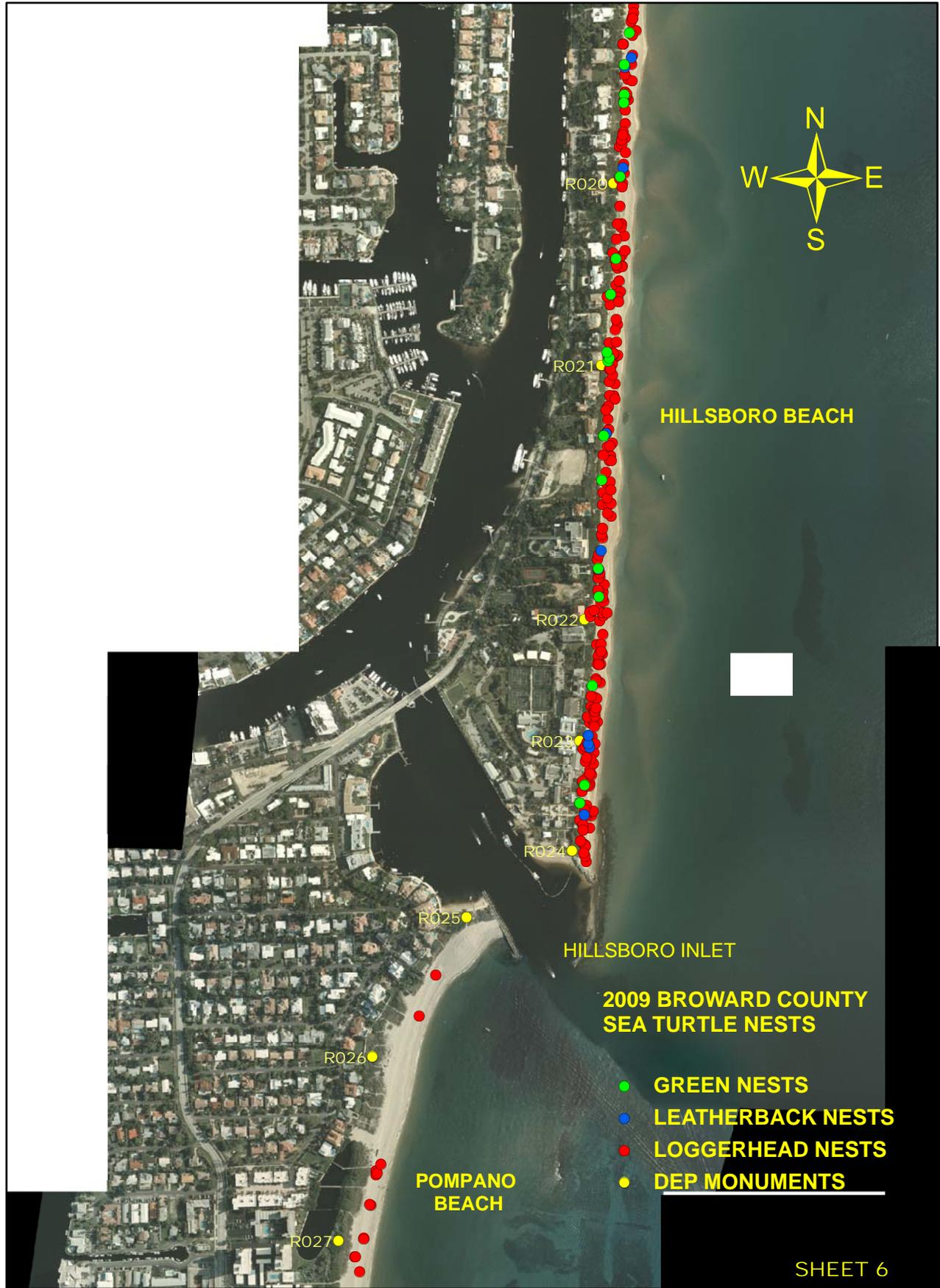


0 475 950 1,900 2,850 3,800 Feet

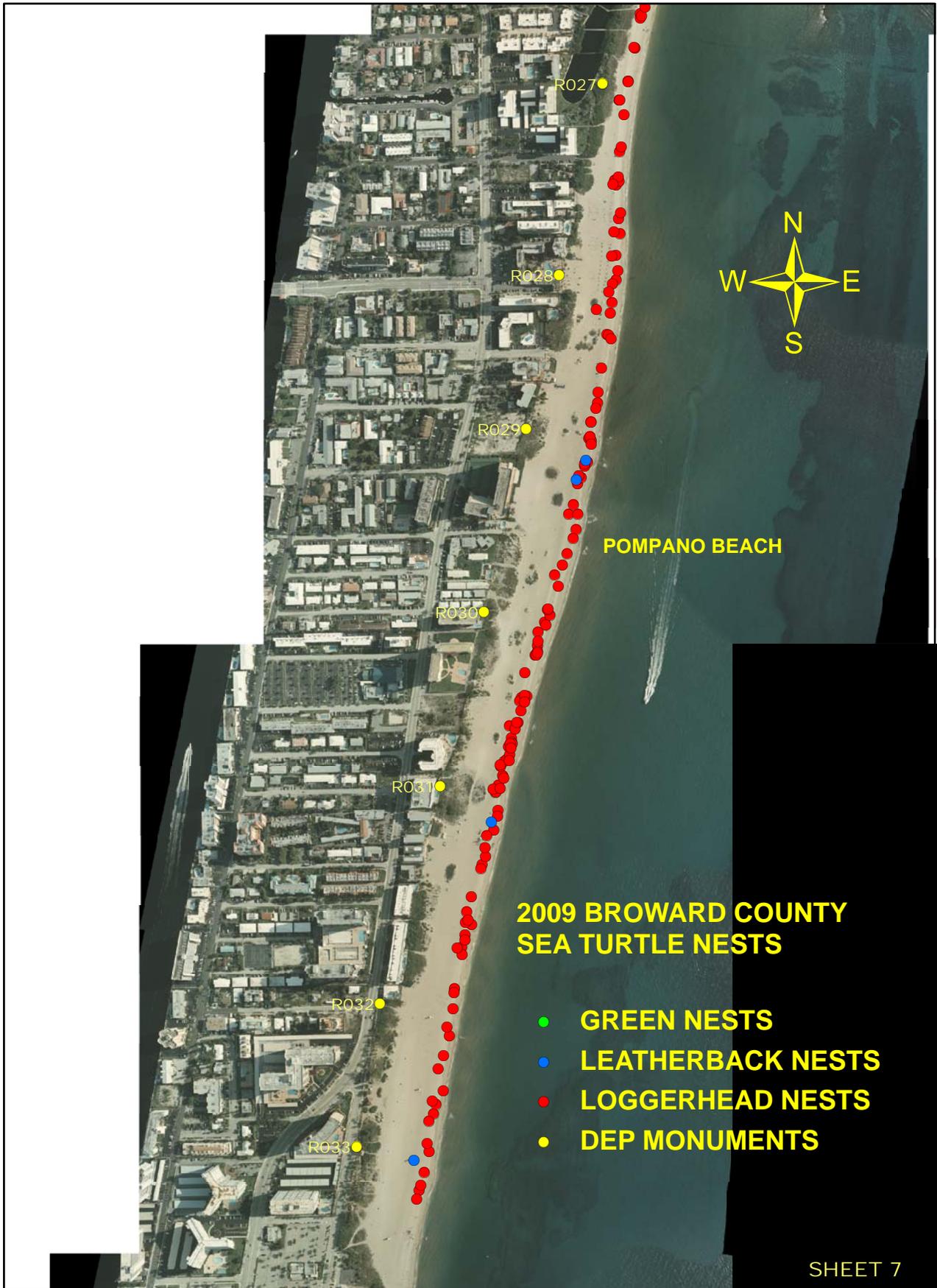
# 2009 SEA TURTLE NESTS



# 2009 SEA TURTLE NESTS



# 2009 SEA TURTLE NESTS



# 2009 SEA TURTLE NESTS



0 415 830 1,660 2,490 3,320 Feet

# 2009 SEA TURTLE NESTS



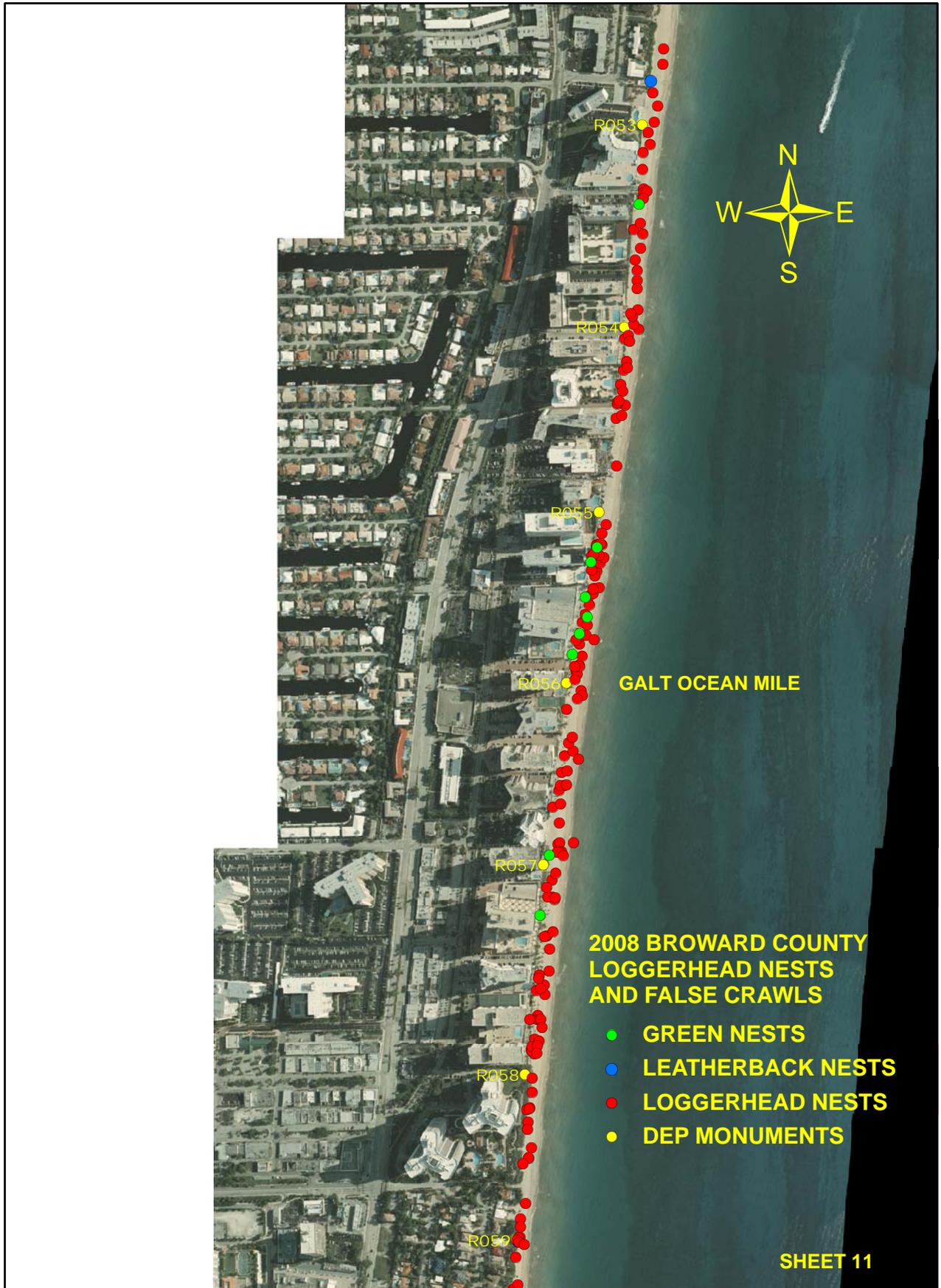
0 430 860 1,720 2,580 3,440 Feet

# 2009 SEA TURTLE NESTS



0 465 930 1,860 2,790 3,720 Feet

# 2009 SEA TURTLE NESTS



0 430 860 1,720 2,580 3,440 Feet

# 2009 SEA TURTLE NESTS

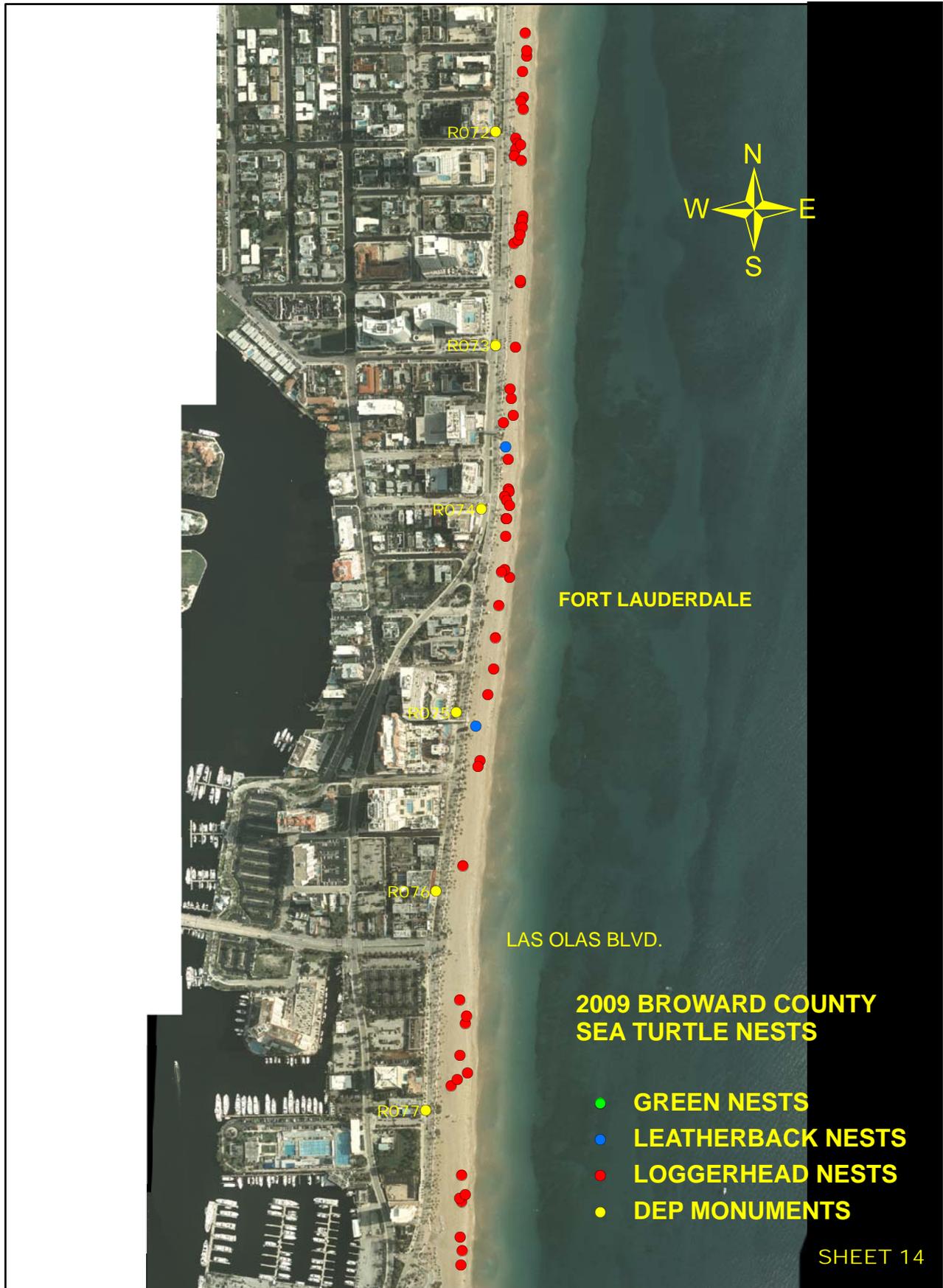


# 2009 SEA TURTLE NESTS



0 475 950 1,900 2,850 3,800 Feet

# 2009 SEA TURTLE NESTS



# 2009 SEA TURTLE NESTS



0 462.5 925 1,850 2,775 3,700 Feet

# 2009 SEA TURTLE NESTS



0 465 930 1,860 2,790 3,720 Feet

# 2009 SEA TURTLE NESTS



0 445 890 1,780 2,670 3,560 Feet

# 2009 SEA TURTLE NESTS



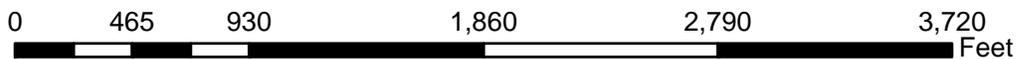
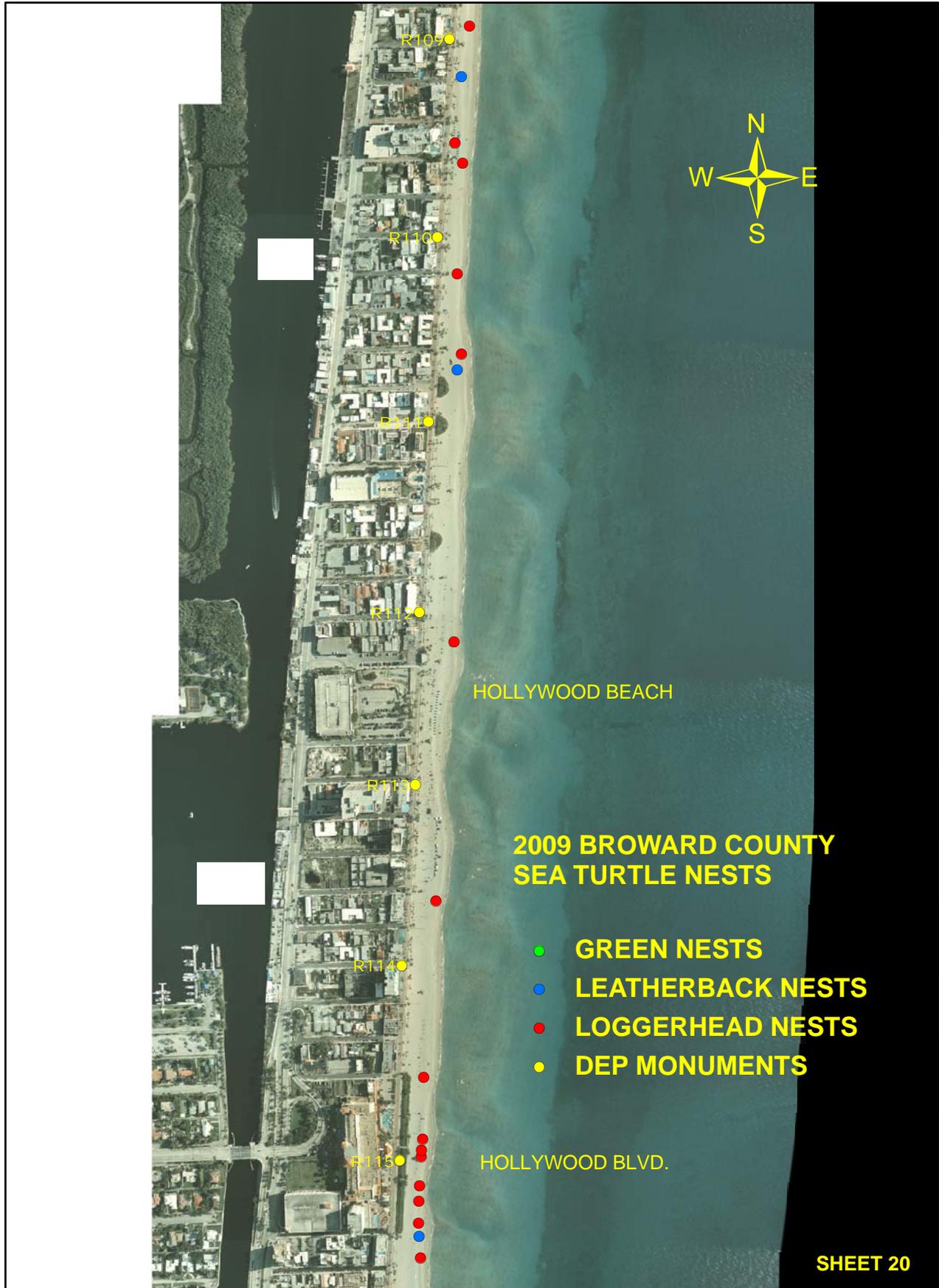
0 445 890 1,780 2,670 3,560 Feet

# 2009 SEA TURTLE NESTS

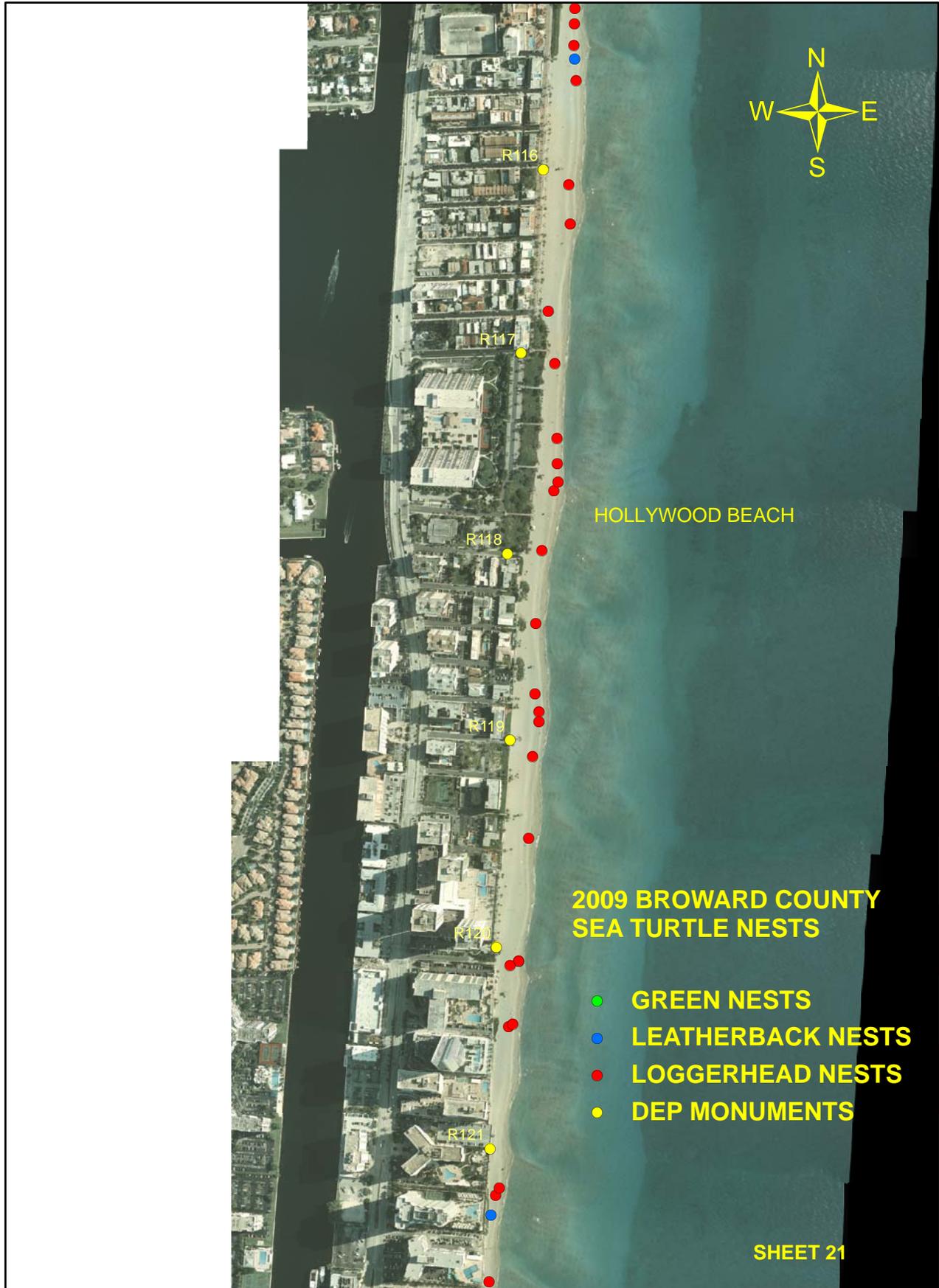


0 450 900 1,800 2,700 3,600 Feet

# 2009 SEA TURTLE NESTS

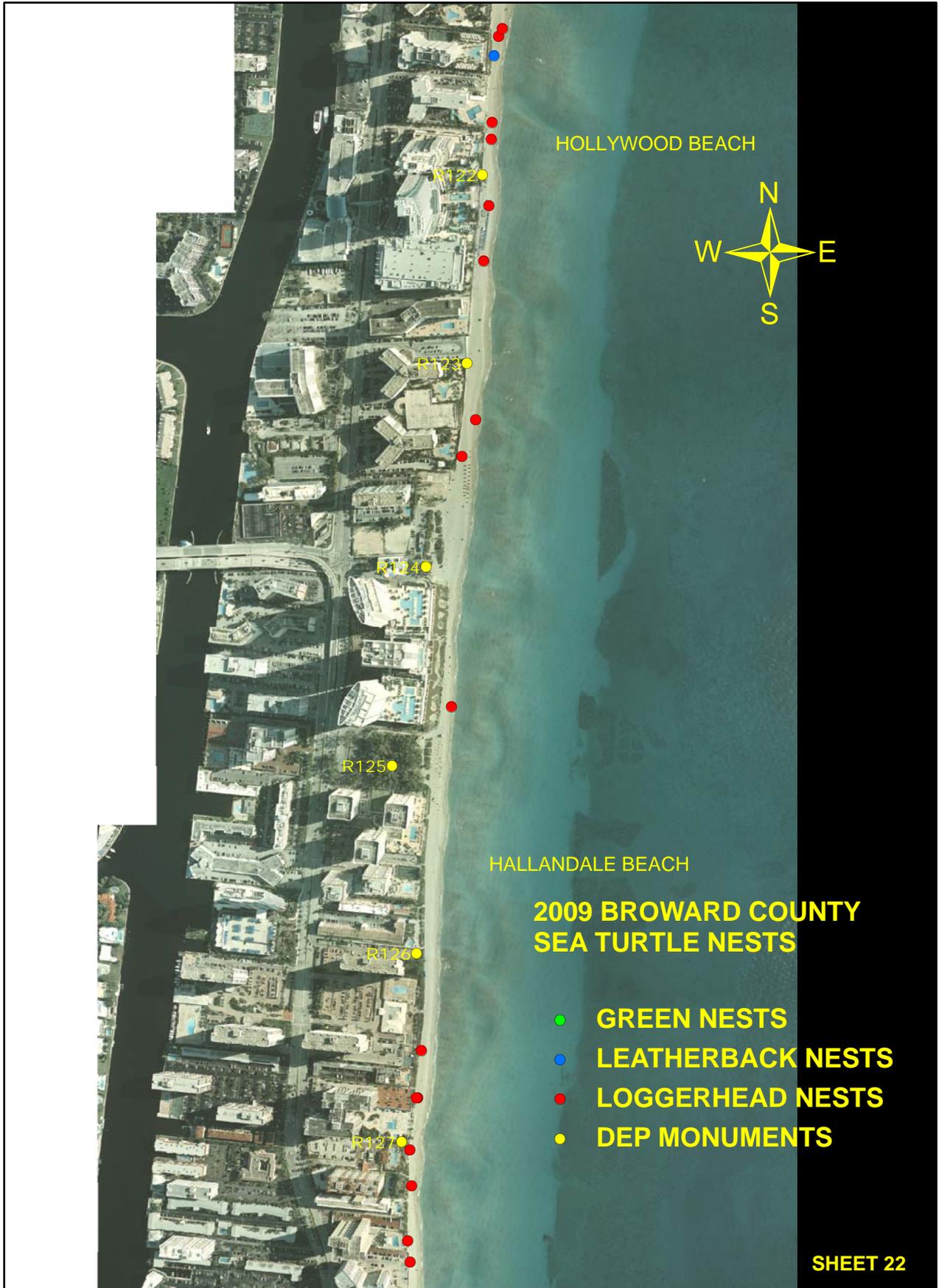


# 2009 SEA TURTLE NESTS



0 462.5 925 1,850 2,775 3,700 Feet

# 2009 SEA TURTLE NESTS



0 465 930 1,860 2,790 3,720 Feet

# 2009 SEA TURTLE NESTS



SHEET 23

