

**SEA TURTLE CONSERVATION PROGRAM
BROWARD COUNTY, FLORIDA
2010 REPORT**

Submitted by:

Curtis Burney,
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And

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For the:



**BROWARD COUNTY
BOARD OF COUNTY COMMISSIONERS**

TECHNICAL REPORT 11-01

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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 FFWCC. 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 2010 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, 2010. 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 corresponding to

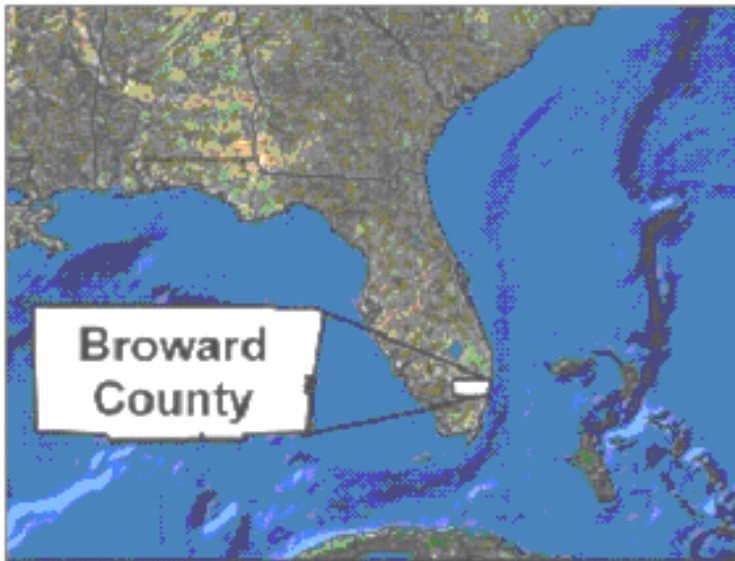


Figure 1A: The location of Broward County, FL



Figure 1B: Northern Broward County

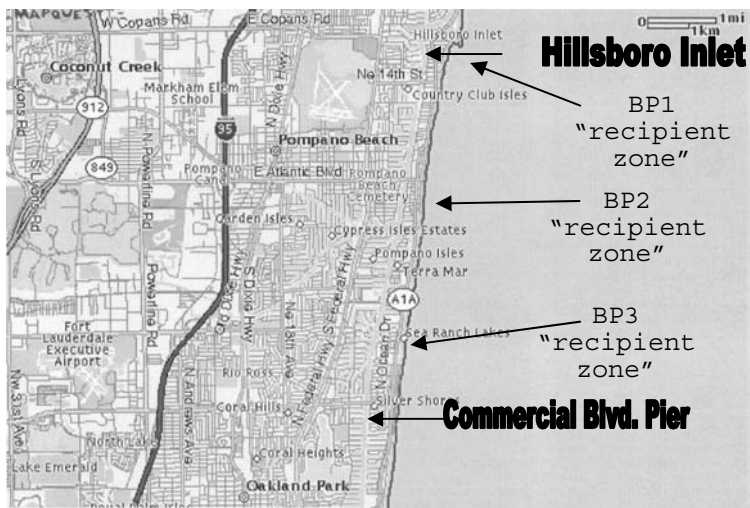


Figure 1C: North Central Broward County

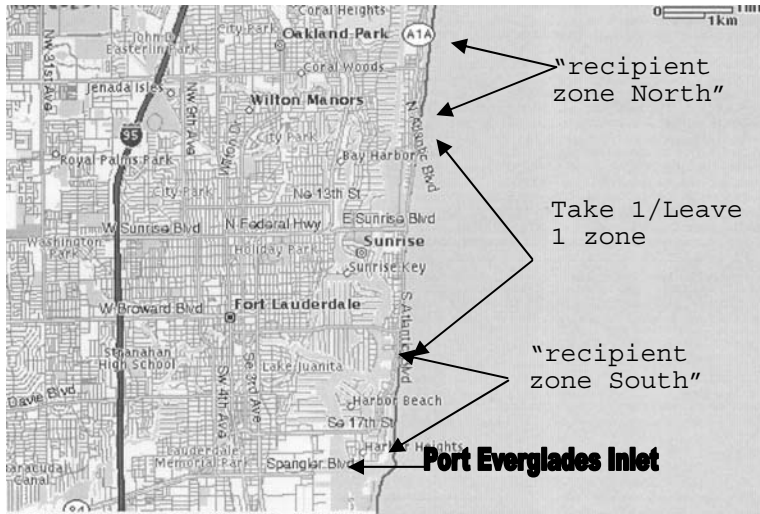


Figure 1D: Central Broward County

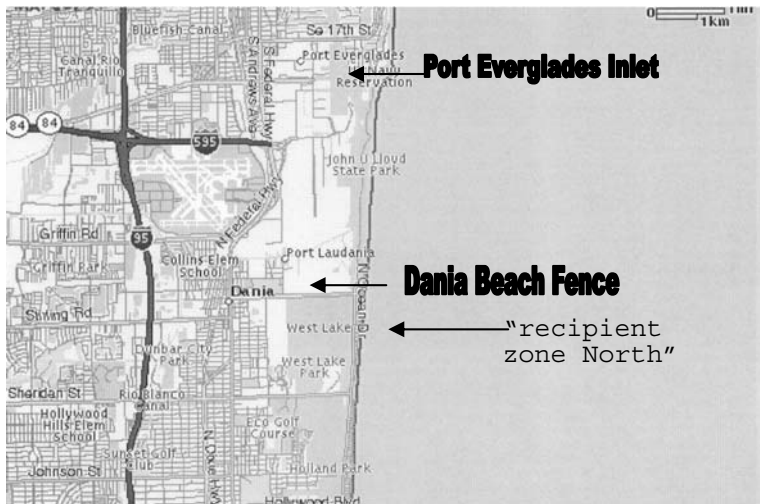


Figure 1E: South Central Broward County

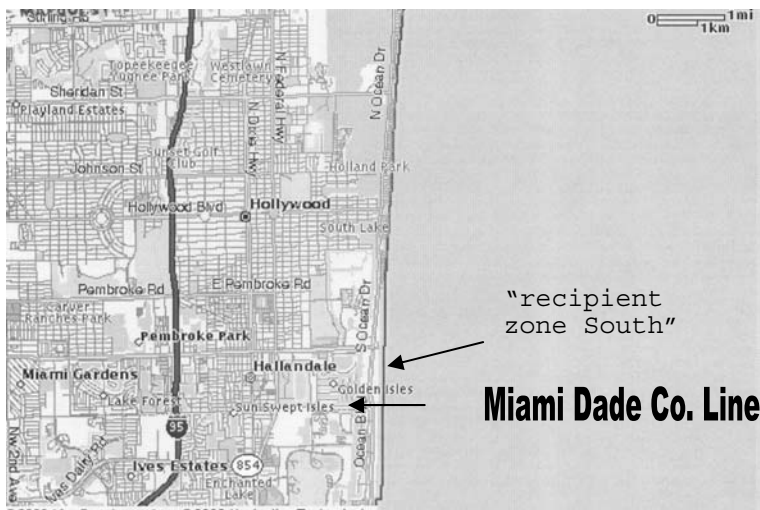


Figure 1F: Southern Broward County

each beach section 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. No nests were caged this year because nests left *in situ* on the strip were closely monitored by a night patrol group (MTP#s 192-193) when evidence of hatching became apparent. 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 10 green turtle nests were relocated, while 224 were left in place. All leatherback nests were left *in situ* .

Table 2: 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

Table 3: 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 548 nests were relocated and 476 (87%) were post-hatch evaluated. The 72 unevaluated nests were either predated or washed out.

A total of 1779 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.

After hatching, 948 *in situ* nests (53 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 piped 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 piped 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 Marine Turtle Hatchling Disorientation Incident Report Form for each event to FFWCC. As in the past three years, Marine Turtle Permit 174 was utilized for additional support for the management of disorientation events. A volunteer training session was held on May 17 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 13 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 2010 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 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 was compared using 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 2010. 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 2010, and the estimated number of disoriented hatchlings involved were tabulated and compared to data from 2006-2009.

RESULTS

Figure 2 shows the historical trend in the total number of sea turtle nests deposited in Broward County since 1981. A total of 2565 nests were documented in 2010, which was 641 more than 2009, and the highest number of nests recorded since 2000. This year's count exceeded the previous ten year average by 364 nests, which was a statistically significant difference (t-test; $P = 0.007$). Figure 3 shows the yearly nesting trends of loggerhead, green and leatherback sea turtles. Loggerheads deposited 2283 nests in 2010, which was 474 more than in 2009 and 270 higher than the previous 10 year average, which was also a significant difference ($P = 0.031$). Leatherbacks made 14 nests in the County in 2010 which was 31 fewer than last year's record number but still less than one nest below the overall average since project inception. The overall loggerhead nesting trend is positive ($P < 0.003$), with a slope of 27 nests per year but the trend since 1995 is still negative ($P < 0.002$), suggesting a decline of an average of 58.4 nests

SEA TURTLE NESTING HISTORY ALL SPECIES COMBINED

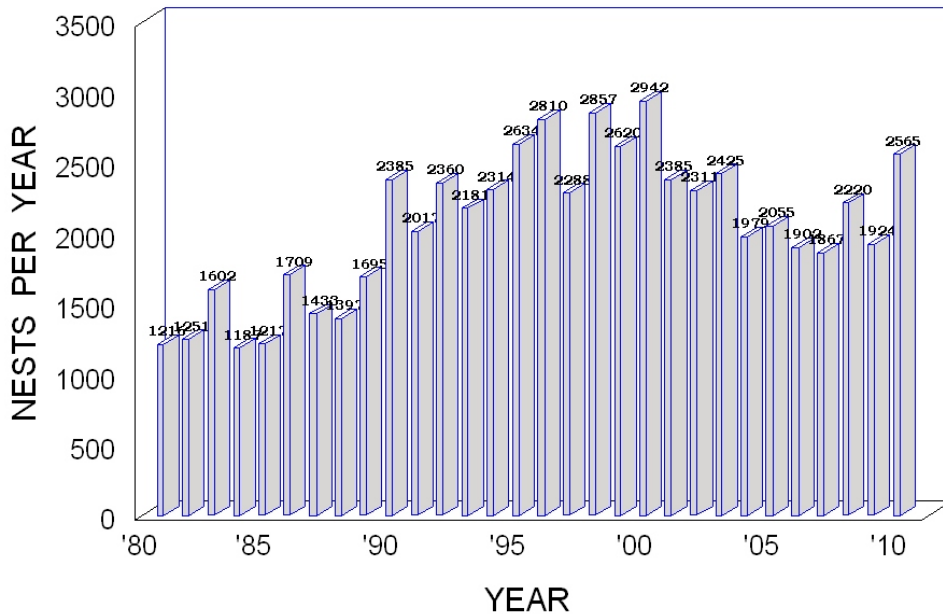


Figure 2: The pattern of total sea turtle nesting in Broward County since full surveys commenced in 1981.

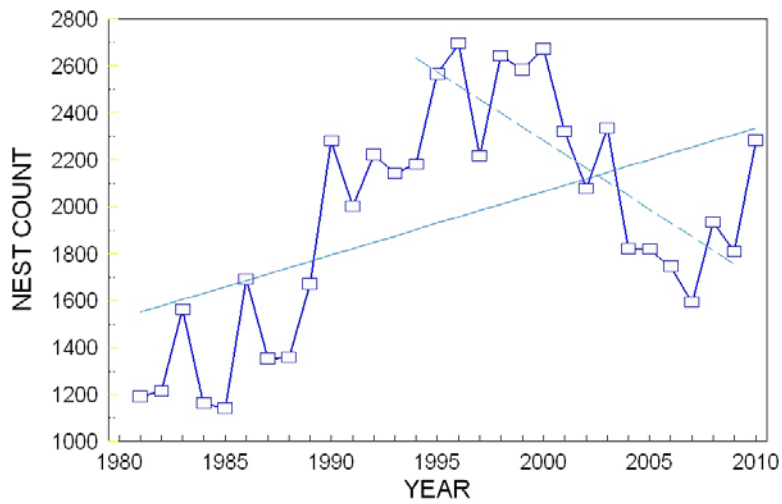
per year. However, this slope was much steeper in 2009, when a loss of 73.9 nests per year was indicated.

Green turtle nesting (Fig. 3) showed a huge 198 nest increase from the low value in 2009. This year’s count of 268 nests was only 4 nests fewer than the record number deposited in 2008. The slope of the overall trend line for green turtles is significantly greater than zero ($P < 0.001$), indicating an average increase of 6.8 nests per year. Although leatherback nesting has fluctuated over the years, they have not failed to nest in the County since 1982 and their overall nesting trend is significantly positive ($P < 0.002$) with a slope of 0.75 nests per year.

Figure 4 shows the countywide loggerhead seasonal nesting pattern. The first and last nests were deposited on April 30 in Hillsboro Beach and on

BROWARD LOGGERHEAD NESTS

Overall $P < .003$; Since 1995 $P < .002$



GREENS AND LEATHERBACKS

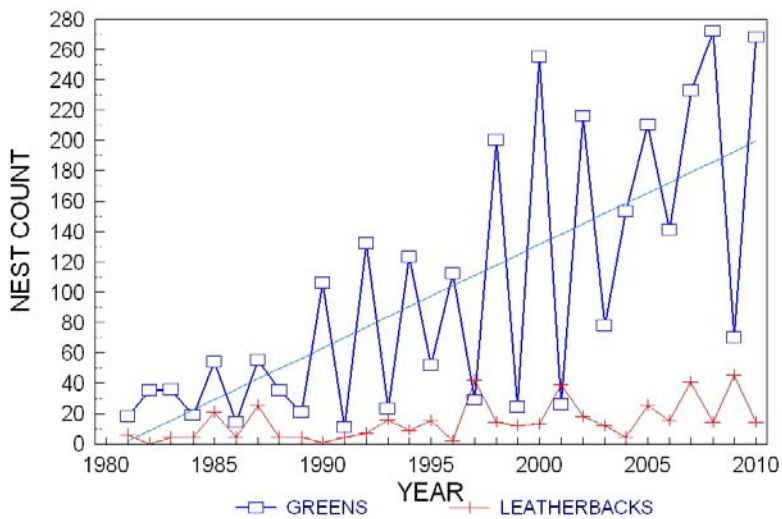


Figure 3: Historical nesting patterns of loggerhead, green and leatherback sea turtles in Broward County since 1981.

September 5 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 by far the highest in Hillsboro Beach, followed by Pompano Beach, Fort Lauderdale, Lloyd Park and Hollywood. This year, Pompano Beach regained its number two status from Fort Lauderdale, but by only 0.1 nest per kilometer. Table 4 shows that mean daily nesting per kilometer in Hillsboro Beach was significantly higher than any other beach. Densities in Pompano Beach, Fort Lauderdale and Lloyd Park were not significantly different, but they were all 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 March 12 and 14 May, in Fort Lauderdale and Hillsboro Beach, respectively. The first green turtle nest was laid on June 7 in Lloyd Park and the last was on September 22 in Hollywood.

Nesting densities for greens and leatherbacks are shown in Tables 5 and 6, respectively. The Newman-Keuls test showed that the nesting density of green turtles per kilometer was significantly highest in Hillsboro Beach. Lloyd Park and Fort Lauderdale were not significantly different and Fort Lauderdale, Pompano and Hollywood formed a lower, statistically indistinguishable group (Table 5).

Green turtles nested more than twice as densely in Hillsboro Beach than on any other area. Leatherbacks also nested most densely in Hillsboro Beach but nesting throughout the county was low and none of the beaches were significantly different from the others (Table 6). Figure 8 shows nest counts for each species in each 1000-foot beach zone (3280 ft zones in Lloyd

LOGGERHEAD NESTS

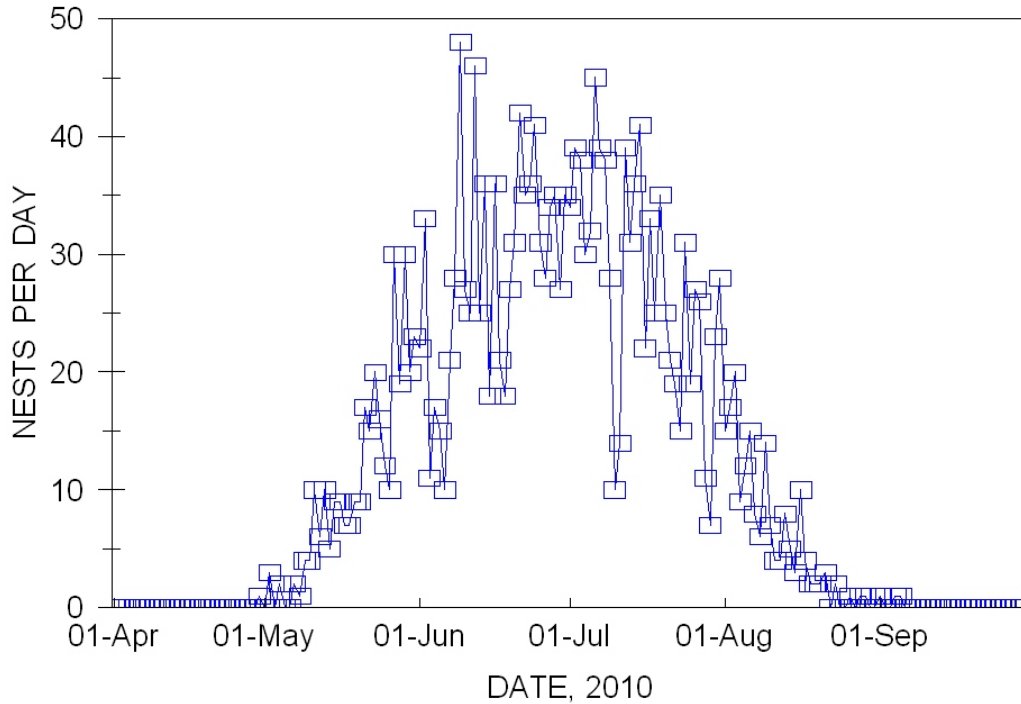


Figure 4: The seasonal pattern of daily loggerhead nesting in 2010.

Table 4: Total loggerhead nests and nesting densities expressed as nests-per-kilometer for the 2010 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	808	7.0	115.4	.667 A
Pompano Beach	482	7.7	62.6	.368 B
Ft. Lauderdale	663	10.6	62.5	.352 B
Lloyd Park	202	3.9	51.8	.308 B
Hollywood	128	9.4	13.6	.076 C
OVERALL	2283	38.6	59.1	

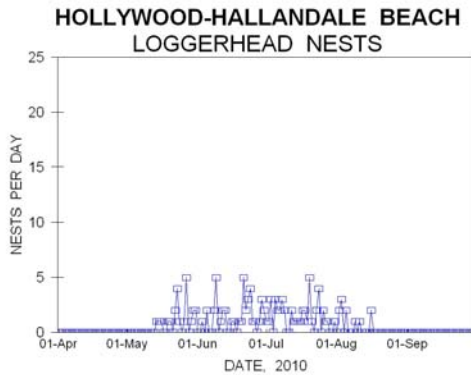
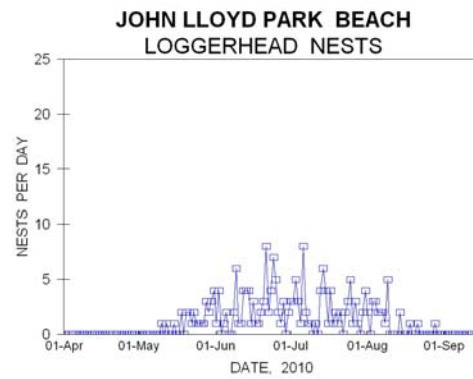
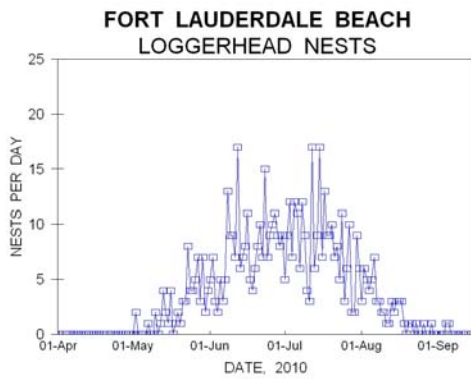
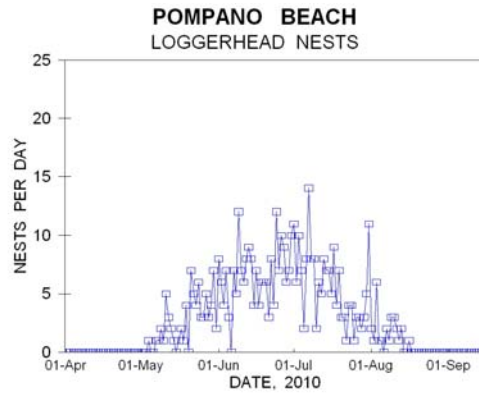
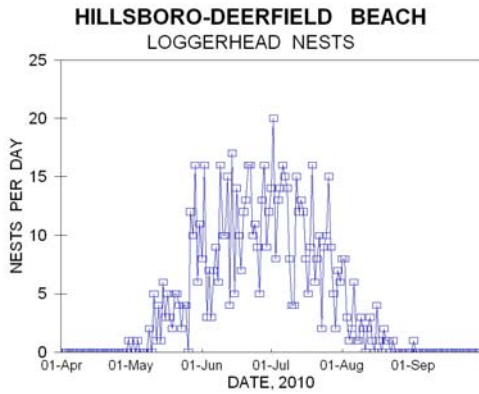


Figure 5: Comparison of the daily loggerhead nesting patterns on the five Broward County beaches in 2010.

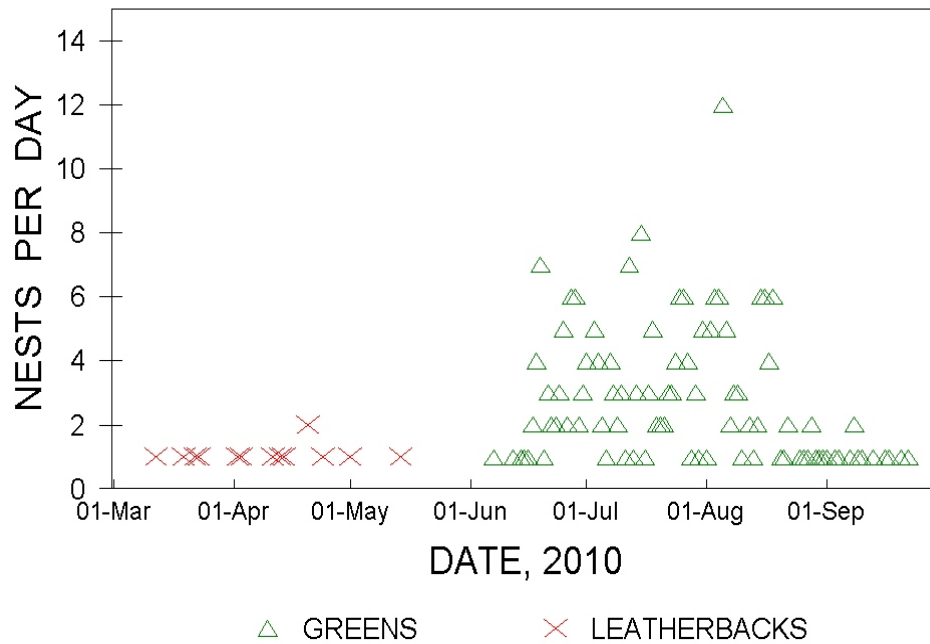


Figure 6: The seasonal pattern of daily green and leatherback nesting in Broward County in 2010.

Park) during 2010. As in previous years, there was lower nesting in zones R1-4, 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 R79) and the entire beach south of R100 were also lightly nested. Loggerheads again nested heavily in zones R10-23 in Hillsboro Beach, R30 in Pompano Beach, R55-57 on the Galt Ocean Mile R80-83 in southern Fort Lauderdale.

Figure 9 and Table 7 show the countywide nesting successes of the three species. As found in 2009, there were no significant between-beach differences in the nesting successes of any of the species (Table 7). The higher variability in loggerhead nesting successes south of R100 was due to the relatively lower number of nests and false crawls in this area. Lower nesting successes occurred near the Deerfield Beach pier, the Hillsboro Inlet,

the north end of Lloyd Park (Lloyd zone 1) and along the Fort Lauderdale strip (Fig 9a). There was no significant overall north-to-south trend ($P = 0.16$) in loggerhead nesting success calculated for each zone (Fig. 9) but correlation analysis of nests per zone versus average nesting success per zone showed a strong positive relationship ($P \ll 0.001$). 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, 548 nests were relocated and 1779 were left *in situ*. Because of the directive to leave all green and leatherback nests *in situ* unless they faced certain destruction, only 10 greens and no 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 and unevaluated nests are also listed. The hatchling release success (live hatchlings / total eggs) of relocated loggerhead nests this year was only 58.5 percent, down 13.4 points from 2009, but the success of *in situ* loggerhead nests also declined 19.4 points to 57.1 percent. This strongly suggests that incubation conditions were sub-optimal this year. This may have been due to significantly higher early season temperatures in 2010 compared to 2009. This will be discussed and analyzed in the Discussion section.

While loggerhead live hatchling production was heavily impacted this year, the rates for *in situ* and relocated greens remained higher at 74.4 and 72.0 percent, respectively. The *in situ* rate was down only 6.6 points from last

year. The relocated percentage was based on only 5 nests and there were no relocated greens in 2009 for comparison. The poor incubation conditions that strongly impacted loggerheads were not as severe for greens. Since greens nest later in the season, the higher early season temperatures would not have affected them as severely. Conversely, leatherbacks nest early and their *in situ* hatchling production rate this year crashed by 25 points from last year, to only 37.0 percent. This also fits with the hypothesis that the unusually warm early season temperatures were the possible cause of the reduction.

Figure 11 illustrates the historical patterns of yearly release success for all evaluated *in situ* and relocated sea turtle nests since 1981. The sharply reduced release successes of both *in situ* and relocated nests this year are evident. A similar event occurred in 1998.

Figure 12 shows the live hatchling production percentages of *in situ* and relocated loggerhead nests plotted versus Julian date of deposition in 2010 compared with 2009. The lower successes of both *in situ* and relocated nests in the early season this year are clearly evident. Notice that the left end of the trend lines at Julian day 120 in 2010 were just below 70 percent for *in situ* and relocated nests, while in 2009, these points on the trend lines were just below 100 and 90 percent, respectively. However, the late season successes were more similar. The trend lines at Julian day 220 were between 50 and 60 percent for both years. Figure 12 also shows that there was more scatter in the seasonal patterns in 2010 than in 2009. Figure 13 shows the frequencies (percentages) of relocated and *in situ* nests that produced from 0 to 100 percent live released hatchlings in 2010 compared to 2009. Medians this year were 63.8 and 61.5 percent for relocated and *in situ* nests, respectively. A Mann Whitney U test indicated no significant difference in

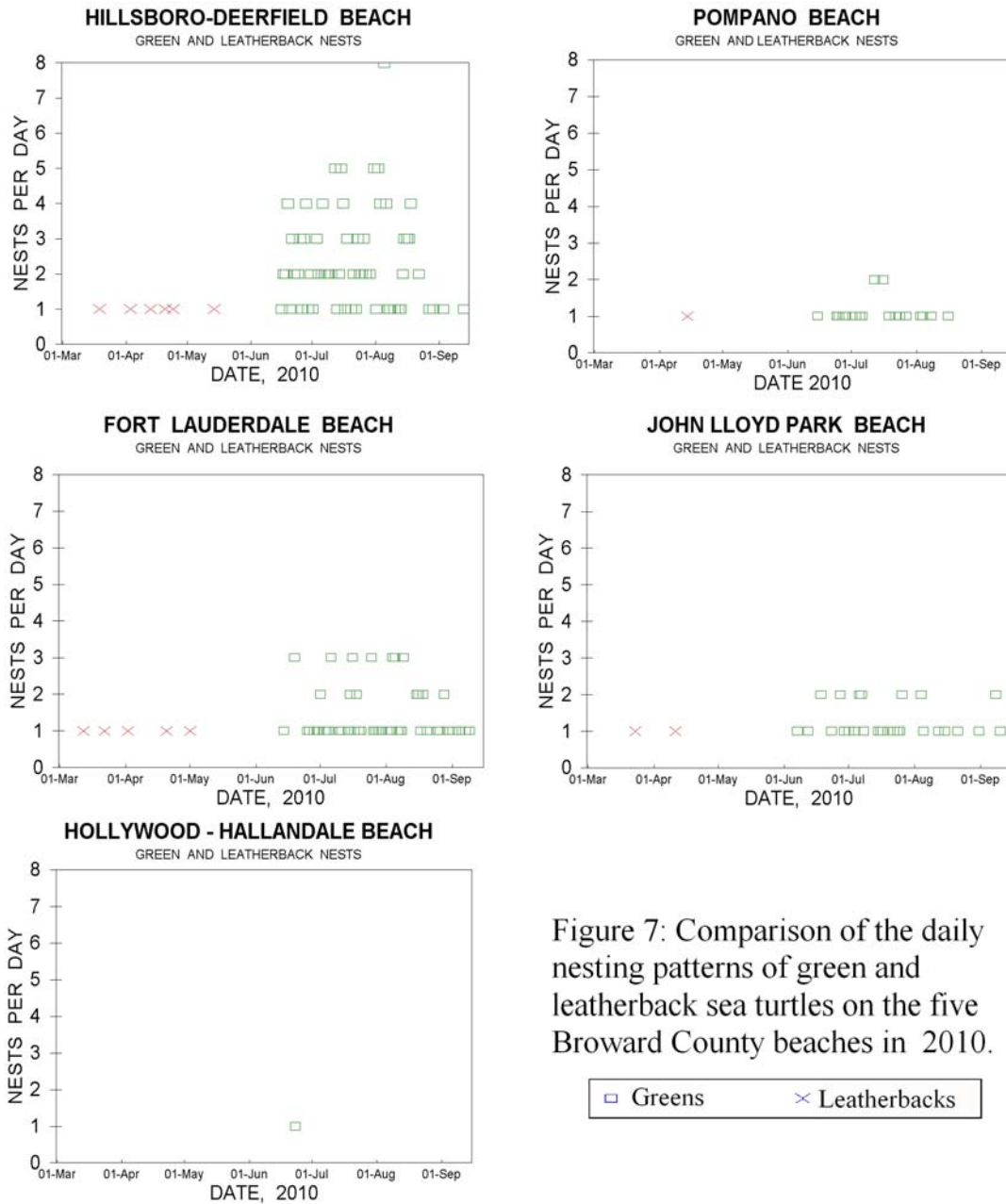


Figure 7: Comparison of the daily nesting patterns of green and leatherback sea turtles on the five Broward County beaches in 2010.

Table 5: Total green turtle nests and nesting densities expressed as nests-per-kilometer for the 2010 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	142	7.0	20.3	.132 A
Lloyd Park	34	3.9	8.7	.057 B
Ft. Lauderdale	70	10.6	6.6	.043 BC
Pompano Beach	20	7.7	2.6	.017 C
Hollywood	2	9.4	0.2	.001 C
OVERALL	268	38.6	6.9	

Table 6: Total leatherback nests and nesting densities expressed as nests-per-kilometer for the 2010 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	6	7.0	0.9	.007 A
Lloyd Park	2	3.9	0.5	.004 A
Ft. Lauderdale	5	10.6	0.5	.004 A
Pompano Beach	1	7.7	0.1	.001 A
Hollywood	0	9.4	0	0
OVERALL	14	38.6	0.4	

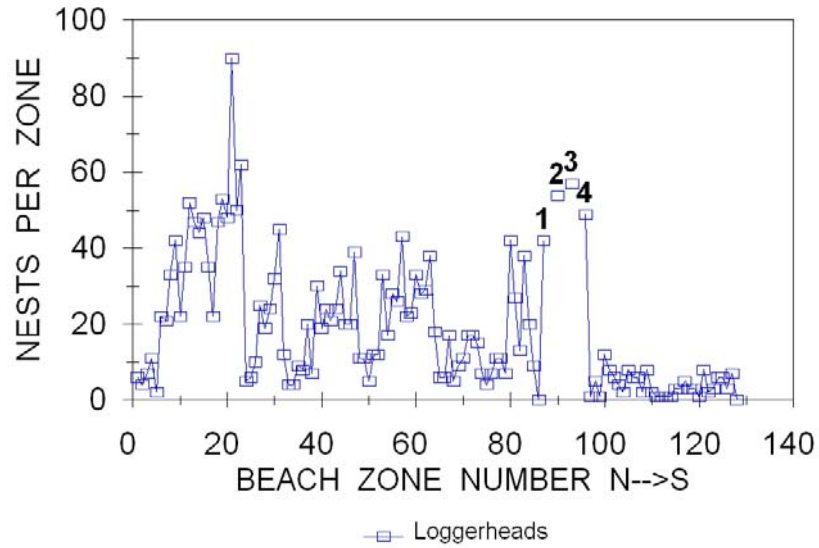


Figure 8a: Locations of loggerhead nests in Broward County in 2010. Numbers 1-4 indicate the four beach zones of John Lloyd Park.

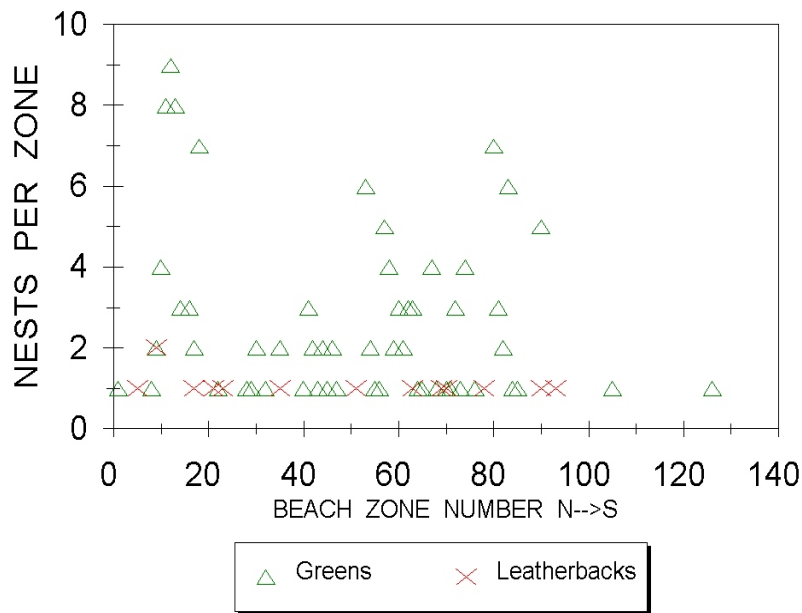


Figure 8b: Locations of green and leatherback nests in Broward County in 2010.

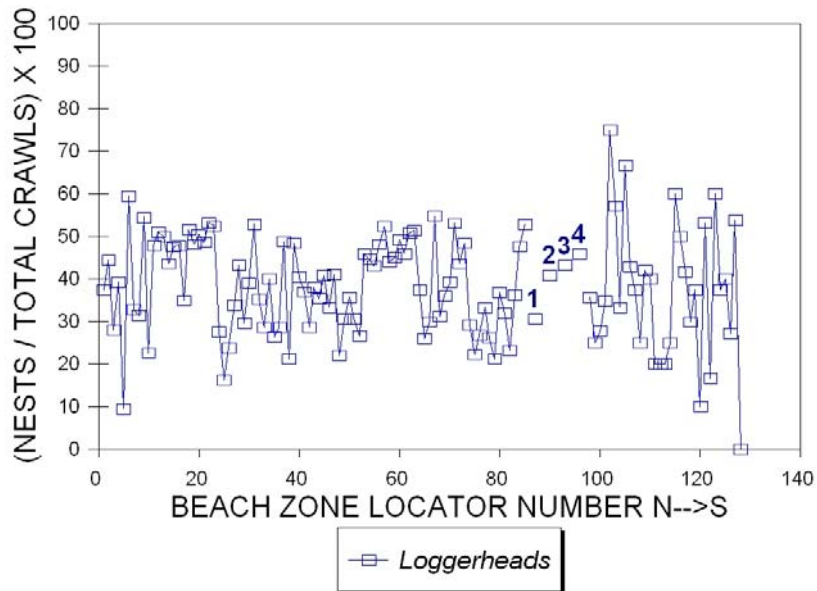


Figure 9a: Loggerhead nesting success across Broward County in 2010. Numbers 1-4 indicate the four beach zones of John Lloyd Park.

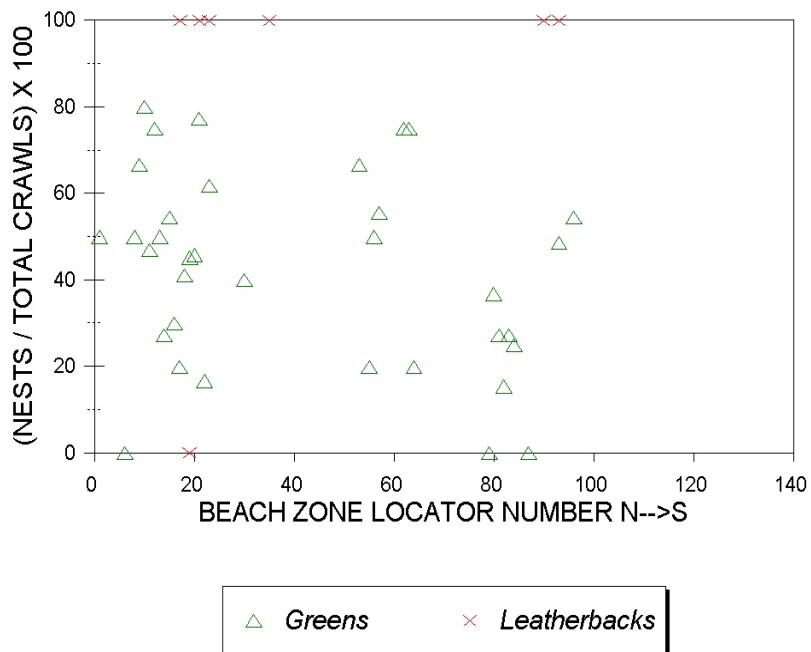


Figure 9b: Green and leatherback nesting success across Broward County in 2010.

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 2010. One-way ANOVA detected no significant differences in mean nesting successes of loggerheads, greens or leatherbacks throughout the County.

BEACH	Loggerheads			Greens			Leatherbacks		
	Nests	FC	NS	Nests	FC	NS	Nests	FC	NS
Pompano Beach	482	862	35.9	20	46	30.3	1	0	100
Hillsboro Beach	808	987	45.0	142	124	53.4	6	1	85.7
Ft. Lauderdale	663	987	40.2	70	107	39.5	5	0	100
Lloyd Park	202	306	39.8	34	42	44.7	2	0	100
Hollywood	128	213	37.5	2	6	25.0	0	0	100
OVERALL	2283	3355	40.5	268	325	45.2	14	1	93.3

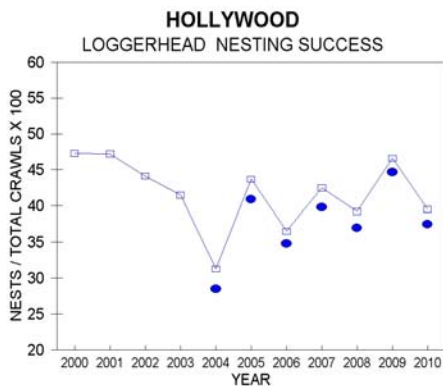
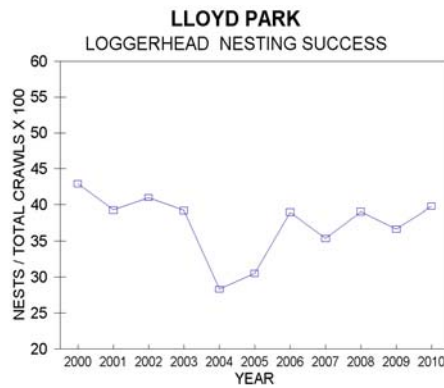
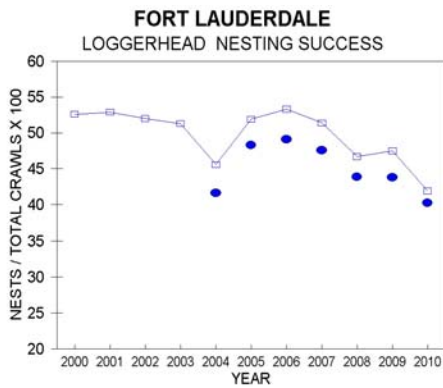
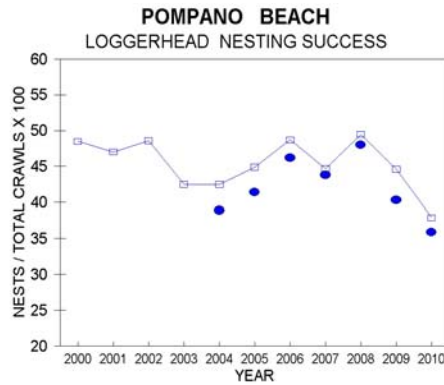
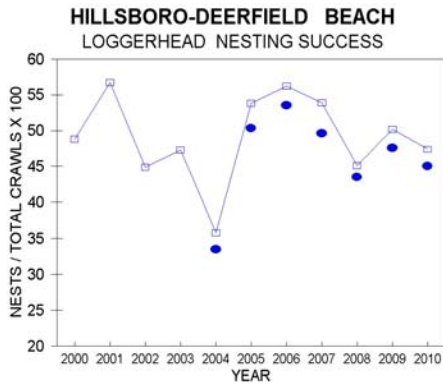


Figure 10: Loggerhead nesting success trends since 2000. Open symbols; nests / total crawls that extended above the high tide line. Closed symbols include false crawls that did not extend above the high tide line.

these values ($P = 0.59$). Instead of being strongly skewed to the right, this year's distributions were much more uniform, with much lower percentages of nests producing >90 percent live hatchlings and a somewhat elevated percentage of total egg failures compared to 2009.

Table 8: Total Number of loggerheads, greens, and leatherback nests relocated or left *in situ* in 2010. 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
RELOCATED				
Open Beach				
Hillsboro Beach				
BH	2	0	0	2
BH900s	43	2	0	45
BH1000s	7	1	0	8
BH1100s	27	0	0	27
BH1200s	24	0	0	24
Pompano Beach				
BP	1	0	0	1
BP1	67	1	0	68
BP2	31	0	0	31
BP3	0	0	0	0
BP3P	37	0	0	37
Fort Lauderdale				
Strip	0	0	0	0
BFT	1	0	0	1
BFTN	131	2	0	133
BFTS	38	4	0	42
BP3Ft	50	0	0	50
Hollywood Beach				
BHo	0	0	0	0
BHoN	48	0	0	48
BHoS	31	0	0	31
TOTALS	538	10	0	548
IN SITU				
Hillsboro Beach	705	139	6	850
Pompano Beach	346	19	1	366
Ft. Lauderdale				
Strip	72	0	0	72
BFT	371	64	5	440
Hollywood Beach	49	2	0	51
TOTALS	1543	224	12	1779
GRAND TOTALS	2081	234	12	2327

Table 9: Total egg counts, released hatchlings and overall release successes for *in situ* and relocated nests of loggerheads, greens and leatherbacks in 2010, with the numbers of nests predated and unevaluated.

Species	Number of Eggs	Eval. Nests	Hatchlings Released	Release Success Percent	Pred. Nests	Uneval. Nests
<i>In situ</i>						
Loggerhead	89333	852	51023	57.1	194	497
Green	11029	89	8203	74.4	33	102
Leatherback	662	7	245	37.0	1	4
Total	101024	948	59471	58.9	228	603
Relocated						
Loggerhead	48878	471	28586	58.5	33	34
Green	510	5	367	72.0	2	3
Leatherback	0	0	0	-	0	0
Total	49388	476	28953	58.6	37	37
Overall						
Loggerhead	138211	1323	79609	57.6	227	531
Green	11539	94	8570	74.3	35	105
Leatherback	662	7	245	37.0	1	4
TOTAL	150412	1424	88424	58.8	263	640

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

HATCHING RELEASE SUCCESS HISTORICAL PATTERN

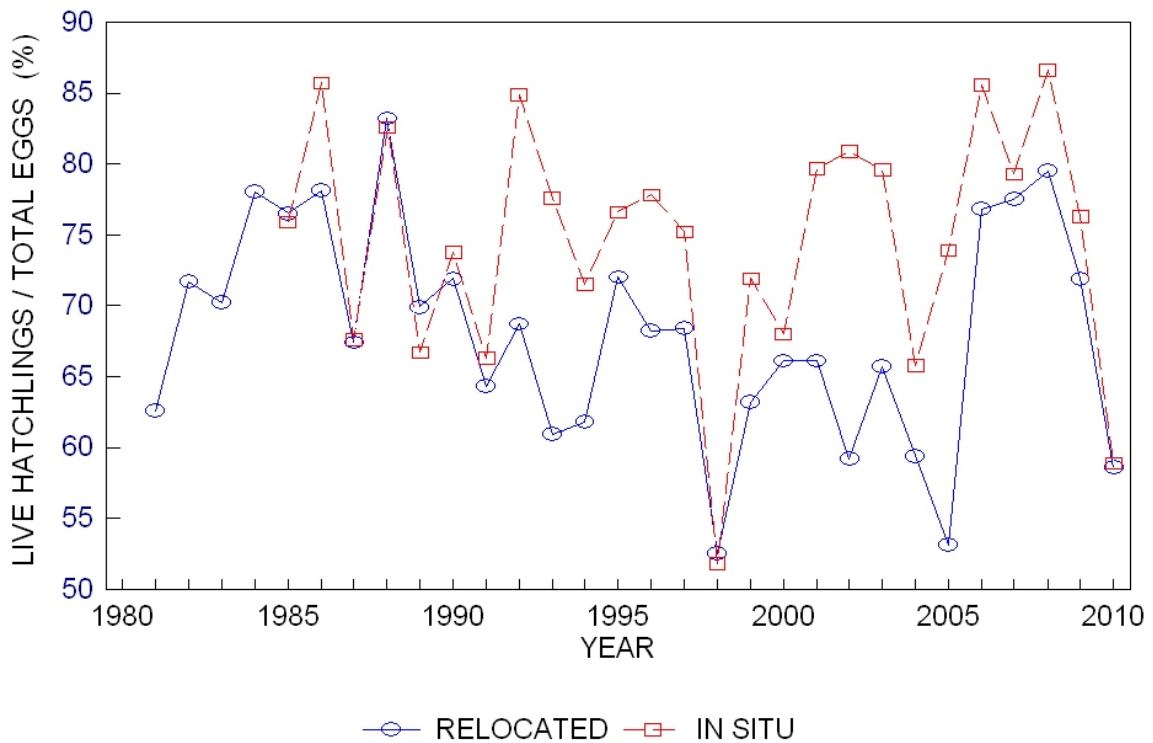


Figure 11: The historical patterns of yearly hatching release success for all evaluated *in situ* and relocated sea turtle nests, since 1981.

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 2010 estimated by the morning patrols working under MTP# 108 and night patrols working under MTP# 174, compared to estimates from 2006-2009. Numbers of disoriented nests and hatchling appears to have continued declining from previous years, but this may be deceptive since complete disorientation reports from other groups of volunteers conducting night patrols under MTP#s 192-193 were unavailable at the time this was written. Their complete 2010 disorientation reports were forwarded to the

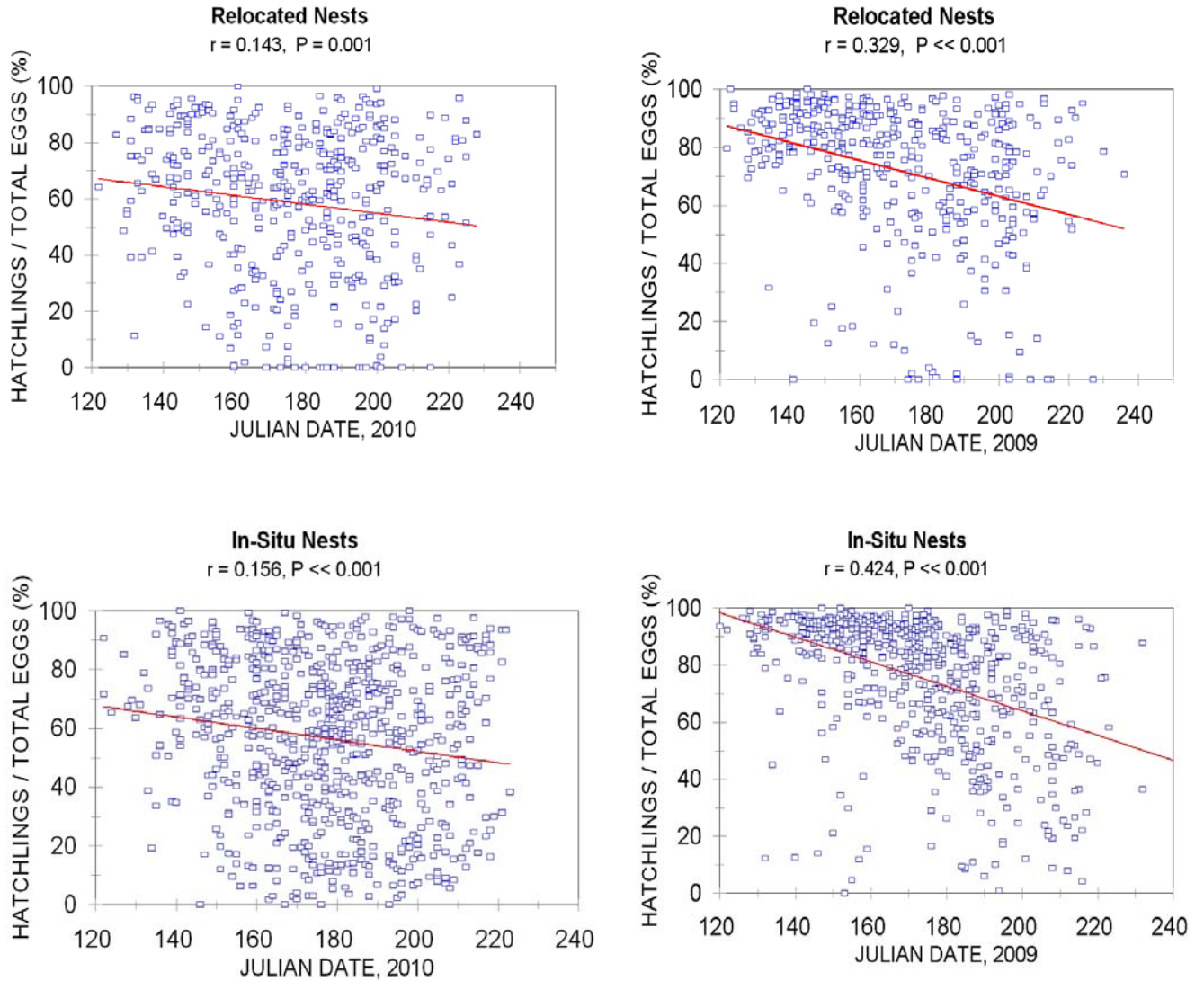


Figure 12: Comparison of seasonal hatching release success for relocated and *in situ* loggerhead nests during 2010 (left) and 2009 (right).

FFWCC but not to BCNRPM, so these totals are not included in Table 13 for 2010. This group was very active in Lauderdale-by-the-Sea and could account for the sharply reduced numbers of disorientation events found by NSU patrols in that area (Table 13).

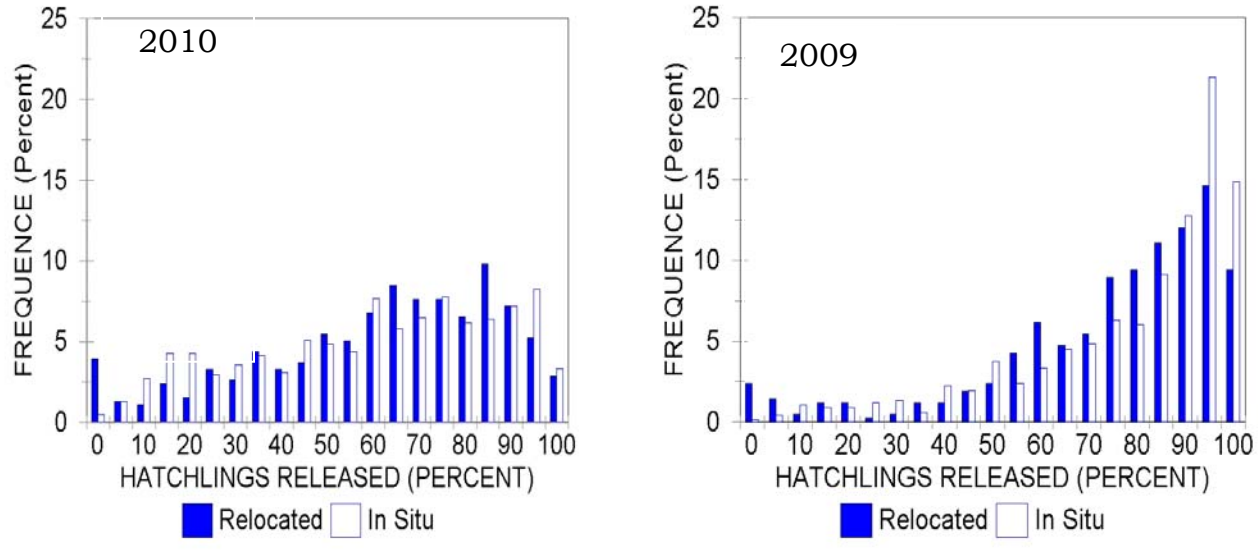


Figure 13: The frequencies of nests producing from 0 to 100 percent live released hatchlings for *in situ* and relocated loggerhead nests in 2009 & 2010.

Table 10: Accounting of the status of all hatched and unhatched eggs in evaluated *in situ* and relocated loggerhead nests during 2010.

Location	Total Eggs	Total Nests	Emerged (%)	LIN (%)	DIN (%)	PIP Live (%)	PIP Dead (%)	VD (%)	NVD (%)
<i>In situ</i> Nests									
Hillsboro Beach	24093	232	37	6.4	1.7	0.5	7.7	26.9	19.7
Pompano Beach	25397	239	49.9	6.8	1.8	0.8	6.5	19.8	14.4
Ft. Lauderdale									
Strip Caged	0	0							
Strip Uncaged	5926	59	61.6	4.6	1.4	0.5	6.6	13.2	12.1
BFT	30059	285	59.2	4.8	1.7	0.5	5.6	15.3	13
Hollywood Beach									
BHo	3743	36	59.6	3.7	2.6	0.5	5.6	12.8	15.1
BHoN	115	1	46.1	0.9	3.5	0.9	9.6	31.3	7.7
Overall <i>In situ</i>	89333	852	50.7	5.7	1.7	0.6	6.5	19.5	15.2
Relocated Nests									
<u>Hillsboro Beach</u>									
BH	0	0							
BH900s	2801	26	34.7	5.3	2.4	1.4	10.4	20.3	25.4
BH1000s	669	6	44.1	10.6	2.1	0.9	14.5	10.5	17.3
BH1100s	1513	14	26.6	4.4	0.5	0.9	8.1	25.2	34.3
BH1200s	1535	15	49.1	6.6	1.8	1.3	9.6	9.2	22.3
Overall Hillsboro	6518	61	37.2	5.9	1.8	1.2	10.1	17.8	25.9
<u>Pompano Beach</u>									
BP	97	1	3.1	0	0	0	0.0	0.0	96.9
BP1	6957	66	47.5	7	2.3	2.5	11.3	12.2	17.2
BP2	2976	30	51.2	4.1	1.5	0.6	7.9	11.9	22.7
BP3	0	0							
BP3P	3586	35	45.4	2.8	1.1	0.4	5.2	14.3	30.8
Overall Pompano	13616	132	47.4	5.2	1.8	1.5	8.9	12.6	22.6
<u>Fort Lauderdale</u>									
BFT	94	1	20.2	12.8	0	0	19.1	43.6	4.3
BP3FT	4580	45	47.9	4.3	1.3	0.9	7.1	16.2	22.3
BFTN	13333	124	66.1	3.3	1.4	0.7	4.6	6.9	16.9
BFTS	3484	35	61.3	4.6	1.5	1.2	7.2	11.5	12.7
Overall Ft. Laud.	21491	205	61.2	3.8	1.4	0.8	5.6	9.8	17.3
<u>Hollywood Beach</u>									
BHo	0	0	-	-	-	-	-	-	-
BHoN	4391	44	-	-	-	-	-	-	-
BHoS	2862	29	49.9	3.9	1.2	0.9	6.3	16.1	21.7
Overall Hollywood	7253	73	59.6	3.1	1.7	0.1	7.6	8.8	19
Overall	48878	471	53.6	3.6	1.4	0.6	6.8	13.3	20.7

Table 11: Accounting of the status of all hatched and unhatched eggs in investigated *in situ* and relocated green sea turtle nests during 2010.

Location	Total Eggs	Total Nests	Emerged (%)	LIN (%)	DIN (%)	PIP Live (%)	PIP Dead (%)	VD (%)	NVD (%)
<i>In situ</i> Nests									
Hillsboro Beach	4621	36	58.6	7.6	1.2	1.3	6.0	13.1	12.1
Pompano Beach	1827	15	76.7	2.8	0.7	0.5	3.2	9.7	6.4
Ft. Lauderdale									
BFT	4319	36	76.4	3.8	0.8	0.6	3.6	7.8	7.1
BFTN	145	1	21.4	3.4	0	0	3.4	49.7	22.1
Hollywood	117	1	83.8	0.9	2.6	0	0	6.0	6.8
Overall <i>In situ</i>	11029	89	68.3	5.2	1.0	0.9	4.5	10.9	9.3
<i>Relocated</i> Nests									
Pompano Beach									
BP1	111	1	59.5	22.5	0	2.7	2.7	5.4	7.2
Fort Lauderdale									
BFTN	153	1	56.9	24.8	0.7	0	3.3	9.2	5.2
BFTS	246	3	26.8	31.7	2.8	1.6	6.9	6.1	24.0
Overall Reloc.	510	5	42.9	27.6	1.6	1.4	4.9	6.9	14.7

Table 12: Accounting of the status of all hatched and unhatched eggs in investigated *in situ* and relocated leatherback nests during 2010.

Location	Total Eggs	Total Nests	Emerged (%)	LIN (%)	DIN (%)	PIP Live (%)	PIP Dead (%)	VD (%)	NVD (%)
<i>In situ</i> Nests									
Hillsboro Beach	411	4	13.1	12.2	12.2	0.2	16.8	38.9	6.6
Ft. Lauderdale	251	3	49.4	6.4	4.0	0	6.8	11.2	22.3
Overall <i>In situ</i>	662	7	26.9	10.0	9.1	0.1	13.0	28.4	12.6
<i>Relocated</i> Nests									
None									

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 2010.

Municipality		2006	2007	2008	2009	2010
Hillsboro + Deerfield Beach	Min.	657	639	190	183	105
	Max.	739	699	190	218	115
	Nests	16	16	3	7	5
Pompano Beach	Min.	4769	5052	1885	1689	1510
	Max.	5277	5826	2030	1844	1600
	Nests	102	101	42	38	35
Lauderdale By The Sea	Min.	6153	5287	2984	3986	776
	Max.	7566	6254	3124	4036	851
	Nests	167	122	53	104	27
Fort Lauderdale	Min.	3979	4221	3372	3143	1461
	Max.	4559	4970	3777	3647	1767
	Nests	78	94	64	79	55
Hollywood + Dania + Hallandale	Min.	974	1031	251	267	235
	Max.	1114	1171	281	292	265
	Nests	22	23	8	5	15
Totals	Min.	16532	16230	8682	9268	4087
	Max.	19255	18920	9402	10037	4598
	Nests	385	356	170	233	138

DISCUSSION

Yearly Nesting Trends

Loggerhead nesting (Fig. 3) showed the largest single year increase since 1990. While the downward trend since 1995 has not been reversed, it has been reduced. In 2009 the slope of this trend line indicated a loss of 73.9 nests per year. This year, this figure was down to 58.4 nests per year. Even with only 2 degrees of freedom, the up trend from 2007 to 2010 is nearly

significant ($P = 0.065$). Totals from the Florida Index Nesting Beach Survey Program (Fish and Wildlife Research Institute, 2010a) also show a large increase from 2009, which was the largest single year nesting rise since 1997-1998.

Green turtle nesting (Fig. 3) also experienced a dramatic increase from 2009 which was the largest jump since 1999-2000. An increase was predicted (Burney and Wright, 2010) following the two-decade low-high pattern. Even with the large fluctuations, the overall upward trend is highly significant ($P < 0.001$), indicating an increase of 6.8 nests per year. The state-wide Index Nesting Beach Survey (Fish and Wildlife Research Institute, 2010b) also reported a large nesting increase this year and a strong upward trend since 1988.

Leatherback nesting was down sharply this year, which was expected, given the record number of nests deposited in 2009. Leatherback nesting has never shown a significant multi-year upward trend since project inception (Fig. 3), but there is still a significant ($P < 0.002$) overall upward nesting trend. The Index Nesting Beach Survey (Fish and Wildlife Research Institute, 2010b) also reported a small nesting decline from the record in 2009, but the state-wide counts show a much stronger upward trend than was seen in Broward County.

Seasonal Nesting Patterns

The seasonal loggerhead-nesting pattern (Fig. 4) was very similar to 2009 (Burney and Wright, 2010). The curve again was quite symmetrical with the midpoint of the season in late June. Similar to last year, the highest daily nest count (48) was recorded on June 9, well before mid season. There was nothing unusual about the seasonal nesting at the individual beaches (Fig. 5). Loggerhead nesting densities throughout

Broward County again were highest in the north and generally declined toward the south (Table 4), but densities in Pompano Beach, Fort Lauderdale and Lloyd Park were statistically indistinguishable.

The seasonal pattern of green turtle nesting in 2010 (Fig. 6) was very similar to 2008, the last high-nesting year (Burney and Wright, 2009). The nesting season began in very early June and continued until early September. Leatherbacks again nested earlier in the season, and there was nothing unusual about their seasonal pattern.

As in previous years, Hillsboro Beach received over half of the green turtle nests this year (Table 5; Fig. 7), possibly due to the reduced beachfront lighting and nocturnal human activity. Lloyd Park returned to its usual second ranking in green nesting density after receiving only 1 nest and falling to third place behind Fort Lauderdale in 2009. As in previous high-nesting years, greens nested on all beaches. Leatherbacks again nested most heavily in Hillsboro Beach, but their densities throughout the County were not statistically different (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 nesting at Hillsboro Beach, which has darker beaches and less public access (Fig. 8). Comparison of the loggerhead nesting pattern to last year (Burney and Wright, 2010) showed several close similarities. In addition to the usual low nested areas near piers

and inlets and along most of Hollywood beach, the high nesting areas were very similar, with comparable nesting in Hillsboro Beach, the Galt Ocean Mile, south Fort Lauderdale and extreme north Hollywood.

Nesting Success

As in 2009, 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 in 2010 (Table 7). There was a significant county-wide relationship between nest counts and average nesting success per zone ($R = 0.426$, $P < 0.001$). The relationship was even stronger ($R = 0.590$) when low-nested Hollywood was removed from the regression analysis. A similar significant direct relation was found in 2008 but not in 2009. Figure 10 shows that the yearly trends in loggerhead nesting success on the 5 beaches showed relatively slight changes from 2009 values, with possible declining trends in Fort Lauderdale and Pompano Beach. In 2010, both of these areas experienced the lowest nesting successes in the last 10 years. Pompano Beach had the lowest overall loggerhead nesting success in the county (Table 7).

Hatchlings Released

Although loggerhead nesting was up sharply in 2010, the live hatchling production of the nests was severely reduced. The total number of loggerhead hatchlings released in 2010 actually declined by 14.9 percent from 2009, in spite of a 26.2 percent increase in nests. Both relocated and *in situ* loggerhead nests experienced nearly the same poor successes (Table 9) indicating that the problem was not related to the relocation process. Unusually warm early season temperatures are suspected to be the problem.

Workers reported that air temperatures increased sharply in May and remained unusually high until August. Data from the National Climatic Data Center (NCDC) confirmed this. Table 14 compares monthly average air temperatures from NCDC's Fort Lauderdale beach station in 2009 and 2010. Air temperatures are strongly correlated with sand temperatures, with the latter several degrees higher (Godley et al, 2001). In 2010, temperatures in April were slightly cooler than in 2009, but in May through July, temperatures were significantly higher in 2010. August and September temperatures in the two years were not significantly different. Air temperatures similar to those in June and July, 2010 were related to poor hatching success of late season nests in 2005 (Ouellette and Burney, 2006). This is consistent with the lower successes of early season nests in 2010

Table 14: Comparison of monthly mean average daily air temperatures (°F) in 2009 and 2010, with F and P values from one-way analysis of variance comparisons. (F-crit = 4.00)

Month	2009	2010	F	P
April	75.1	73.9	1.26	.265
May	78.8	80.5	22.7	<<.001
June	81.3	85.1	59.9	<<.001
July	82.9	84.8	14.8	<.001
August	84.7	84.5	0.3	.615
September	83.2	83.5	0.3	.571

compared to 2009 (Fig. 12) with more comparable successes for later season nests as indicated by the relative positions of the trend lines in early and late seasons. This is also consistent with the fact that the live hatchling production of greens declined by only 6.7 points from 2009 and remained at a respectable 74.3 percent. Following this rationale, the higher early season temperatures should have had less of an affect on later nesting greens. This

is also consistent with the very poor success of leatherback nests which plunged 25.4 points to only 37.0 percent this year. They may have been more strongly impacted by the early-season temperatures. Wash over may have also played a role. There were 331 loggerhead nests listed as washed over as compared with 223 in 2009, while only 13 green nests were so listed this year. The lack of a significant difference in the medians of the loggerhead release success distributions in 2010 and the shifting of both medians to the left in Figure 13 also suggests that the cause of the poor successes affected both relocated and *in situ* nests nearly equally.

Post Emergence Nest Analysis

Comparison of the post emergence nest evaluation data between locations for *in situ* loggerhead nests (Table 10) shows that Hillsboro Beach experienced very poor loggerhead emergence success percentages of 37.0 for *in situ* and 37.2 for relocated nests. In 2009, these percentages were 61.2 and 64.2, respectively. There were sharply elevated percentages of unhatched eggs with and without visible development. In 2010, the overall percentage of unhatched eggs (VD+NVD) was 34.4 for *in situ* and 34.0 for relocated nests, compared to 15.4 and 18.7, respectively in 2009. This emphasizes the poor incubation conditions this year, possibly due to higher temperatures and increased wash over. Even individually relocated nests were often not far above sea level in Hillsboro Beach. Elsewhere in the County, *in situ* nests fared somewhat better, with emergence successes in the 50-60 percent range. The overall emergence success of relocated nests was 2.9 points higher than for *in situ* nests this year. This is usually not the case.

Table 11 shows that 68.3 percent of *in situ* green hatchlings emerged on their own, which was 0.6 points higher than in 2009. It should be noted

that only 17 *in situ* green nests were evaluated in 2009. Emergence from relocated green nests was lower (based on 5 evaluated nests), but there were elevated percentages of live-in-nest hatchlings which increased the percentage of released hatchlings. Only 26.9 percent of *in situ* leatherback hatchlings emerged unaided, with 10 percent live-in-nest. Most eggs were unhatched with visible development. No leatherback nests were relocated.

Hatchling Disorientation

Table 13 indicates that hatchling disorientation events and then numbers of affected hatchlings continues to decline, however the 2010 numbers do not include data from the non-NSU group that conducted night patrols under MTP#s 192-193. MTP# 192's data was included in 2009. In 2009, NSU reported a total of 116 disorientation events, so the 138 events this year is a slight increase. The other group patrolled especially heavily in Lauderdale-by-the-Sea and reported 100 of the 104 events in 2009. Their work this year probably explains the lower number of disorientations found in the morning by NSU workers in that city (and possibly elsewhere). Without complete results from MTP# 192 & 193's the actual totals this year are unknown, but the number of events in 2010 is only 22 more than the NSU group found in 2009, which is not a large increase considering the size of the survey area and the increased number of nests this year. It could be concluded that the 2010 disorientation was less severe than in 2006 and 2007 and that the number and size of the events may have stabilized. It is also uncertain if the number of events this year is the result of better enforcement and compliance with beach lighting ordinances or due to improved relocation efforts. Regardless, the disorientation problem is still

unacceptable and will continue to require vigilance and greater effort to bring it under control.

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

SUBJECT	EMERGENCY LINE
LIVE STRANDINGS	14
TOTAL STRANDINGS	63
DISORIENTATIONS	50
NEST LOCATIONS	150
POACHING	2
OTHER	>400
OVERALL	>700

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 school visitations.

The 2010 Presentation Team conducted a total of 25 public education talks from July 7 to Sept. 3 at Anne Kolb Nature Center, Hillsboro Club, Pompano Beach, and Opal Towers. These PowerPoint presentations were followed by hatchling releases. A total of 1735 people attended these events.

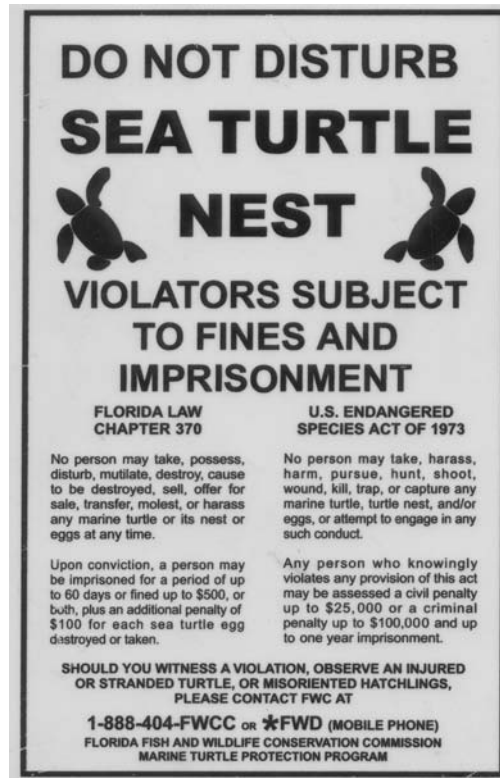
Turtle talks were also given at the following locations:

- 1) Eagle Point Elementary (January 11)
- 2) Sawgrass Middle School (January 13)
- 3) Broward Community College (January 28)
- 4) Pembroke Pines Charter High School (February 12)
- 5) Pioneer Middle (March 23)
- 6) Akron Central (June 4)
- 7) Camp Wild-Sawgrass Nature Center (July 29)
- 8) Hillsboro Club (July 24)
- 9) Anne Kolb Nature Center (August 3)
- 10) Cub Scout Troop 179 (August 14)
- 11) Science Home School Group (August 12)
- 12) Hillsboro Club (August 28)
- 13) University Upper School Green Team (September 3)
- 14) Sawgrass Springs Middle (September 8)
- 15) NSU Nature Club (September 9)
- 16) North Broward Preparatory School (September 15)
- 17) John U Lloyd (September 30)

Tables with specimens, informational handouts, brochures, door hangers, table tents and activity books were provided at the following events.

- 1) City of Plantation 2010 Green Day (February 27)
- 2) Gumbo Limbo Sea Turtle Day (March 13)
- 3) Pembroke Pines Charter School (April 21)
- 4) Flamingo Gardens (June 19 & 20)
- 5) University Upper School (September 24)

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



Appendix 4: RECENT HISTORY OF STRANDINGS IN BROWARD COUNTY				
CAL. YEAR	SPECIES	DEAD	ALIVE	TOTAL
2004	Loggerhead	11	0	11
	Green	29	0	29
	Leatherback	1	0	1
	TOTAL	41	0	41
2005	Loggerhead	12	5	17
	Green	19	2	21
	Leatherback	1	0	1
	Hawksbill	4	0	4
	TOTAL	36	7	43
2006	Loggerhead	14	7	21
	Green	21	6	27
	Leatherback	1	0	1
	Hawksbill	2	0	2
	TOTAL	38	13	51
2007	Loggerhead	14	5	19
	Green	21	4	25
	Leatherback	0	0	0
	Hawksbill	1	0	1
	TOTAL	36	9	45
2008	Loggerhead	13	1	14
	Green	37	4	41
	Leatherback	0	0	0
	Hawksbill	2	0	2
	Unknown	1	0	1
	TOTAL	53	5	58
2009	Loggerhead	6	3	9
	Green	55	1	56
	Leatherback	0	1	1
	Hawksbill	4	1	5
	Unknown	2	0	2
	TOTAL	67	6	73
2010*	Loggerhead	15	4	19
	Green	34	6	40
	Leatherback	2	0	2
	Kemp's Ridley	1	2	3
	Hawksbill	0	1	1
	Unknown	1	0	1
	TOTAL	53	13	66

* Thru November 30, 2010

Appendix 5: Sea Turtle Summary Report Forms.



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
FISH AND WILDLIFE RESEARCH INSTITUTE
SEA TURTLE NESTING REPORT FOR 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

Principal Permit Holder:		Lou Fisher	Permit Number:	108
Organization:	Broward Co. Natural Resources Planning & Mgmt. Div.			
Address:	1 North University Drive, Suite 301			
	Plantation, FL 33324			
County:	Broward	Email Address:	lfisher@broward.org	
Day Telephone (include area code):	(954) 519-1255	Night Telephone:		
Beach Name:	Deerfield/Hillsboro Beach			
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:	Palm Bch/Broward Co Line		
Ending Survey Boundary:	Hillsboro Inlet		
Beach Length (include KM or MI):	7.0 KM	Is beach length estimated or measured?	measured
Was this the exact same survey area as last year?	Yes / No		Yes

IF NO, please explain the specific differences AND why the survey area changed:

n/a			
Start Date of Survey (mm/dd/yy):	03/01/10	End Date of Survey (mm/dd/yy):	09/30/10
Time of Day Surveyed: Start (include AM or PM)	1/2 hr before sunrise	Finish (include AM or PM)	9:00 AM
Number of Days Per Week Surveyed:	7		
Total # of Days Surveyed in 2010:	214		

If you did not survey 7 days per week throughout the nesting season, please describe your survey schedule (how many days per week, what days of the week). It is recommended to adhere to a fixed schedule if 7 days/week is not possible (e.g., 5 days/week every week), and these days would preferably be consecutive.

n/a			
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If you did not survey 7 days per week, how were tracks counted on the day that surveys resumed after a missed day? It is recommended that only new tracks be counted during these surveys.

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**

3. NESTING BEACH MANAGEMENT INFORMATION

If nests were RELOCATED, were they relocated **Individually** (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a **Group** (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? **Individ.**

Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)

Nest located within 20 feet of previous evening's wrack line or in an artificially lighted area

If **ALL relocated nests** were not inventoried, please give reason.

Nests were washed out or predated.

If a **HATCHERY** was used, please give reasons AND specific location:

None

If predator control methods other than screening/caging were employed, please describe below:

None

How many nests were negatively affected by predators other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>	MARKED Nests	261
	UNMARKED Nests	n/a

List all non-human predators documented predated nests this season:

fox, raccoon

How many nests were negatively affected by the nesting female or another nesting sea turtle?	MARKED Nests	14
	UNMARKED Nests	n/a

How many nests were negatively affected by roots (i.e., damaged eggs, impeded hatchling emergence)?	MARKED Nests	0
	UNMARKED Nests	n/a

How many nests were negatively affected by erosion, accretion, inundation, and storm-related events? <i>Note: this does not include stake loss.</i>	MARKED Nests	144
	UNMARKED Nests	n/a

Please give details: **132 CC; 11 CM; 1 DC Washover/inundation**

How many nests were taken or disturbed by humans (Example: nest dug into, eggs removed, etc.)? <i>Note: this does not include stake removal.</i>	MARKED Nests	3
	UNMARKED Nests	n/a

Please give details: **1 CC vandalized; 1 CC runover by vehicle; 1 CC walked on by humans**

How many disorientation events occurred on this survey area in 2010? **5**

If disorientation events occurred, have all **disorientation reports** been submitted to FWC? **Yes or No** **Yes**

I certify the above information to be true and accurate to the best of my knowledge. (type in name & date)

	Date:
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**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
FISH AND WILDLIFE RESEARCH INSTITUTE
SEA TURTLE NESTING REPORT FOR 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

Principal Permit Holder: Lou Fisher	Permit Number: 108
Beach Name: Deerfield/Hillsboro Beach	

2. GENERAL NESTING DATA

	<i>C. caretta</i> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
Total # of Nests	808	142	6	0	0
Total # of Non-Nesting Emergences (False Crawls)	987	124	1	0	0
Date (mm/dd/yy) of First Documented Nest	04/30/10	06/16/10	03/19/10		
Date (mm/dd/yy) of Last Documented Nest	09/01/10	09/13/10	05/14/10		

Total # of Nests Prior to 15 May:	16	0	6	0	0
Total # of Nests After 31 Aug:	1	2	0	0	0

Comments:

In the spaces below, please provide information on the initial nest treatment (e.g., in situ, screened, relocated, etc.). For example, if the initial treatment was in situ with no protection, it should be included in "(a) # of Nests left in place without additional protection" even if you later relocate the nest due to erosion.

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)	705	139	6	0	0
(a) # of Nests left in Place without Additional Protection	705	139	6	0	0
(b) # of Nests left in Place with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Nests left in Place with Self-Releasing Cage	0	0	0	0	0
(d) # of Nests left in Place with Restraining Cage	0	0	0	0	0

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)	103	3	0	0	0
(a) # of Relocated Nests without Additional Protection	103	3	0	0	0
(b) # of Relocated Nests with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Relocated Nests with Self-Releasing Cage	0	0	0	0	0
(d) # of Relocated Nests with Restraining Cage	0	0	0	0	0
(e) # of Relocated Nests to Self-Releasing Hatchery	0	0	0	0	0
(f) # of Relocated Nests to Restraining Hatchery	0	0	0	0	0



Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
Sea Turtle Nest Success Reporting Form for 2010
Species: *Caretta caretta* (Loggerhead)

Beach Name:	Deerfield/Hillsboro 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	705	705	232	24093	8904	1544	405	132	1865	11243	0	
Left in Place/Self Releasing Screen												
Left in Place/Self Releasing Cage												
Left in Place/Restraining Cage												
Relocated/No Additional Protection	103	103	61	6518	2424	388	114	78	658	2851	5	
Relocated/Self Releasing Screen												
Relocated/Self Releasing Cage												
Relocated/Restraining Cage												
Relocated/Self Releasing Hatchery												
Relocated/Restraining Hatchery												
Definition of Terms												
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>												
Additional Information												
<p># of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Chelonia mydas* (Green Turtle)

Beach Name:	Deerfield/Hillsboro 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 Damaged Eggs
Left in Place/No Additional Protection	139	139	36	4621	2708	353	56	60	279	1165	0	
Left in Place/Self Releasing Screen												
Left in Place/Self Releasing Cage												
Left in Place/Restraining Cage												
Relocated/No Additional Protection	3	3	0									
Relocated/Self Releasing Screen												
Relocated/Self Releasing Cage												
Relocated/Restraining Cage												
Relocated/Self Releasing Hatchery												
Relocated/Restraining Hatchery												
Definition of Terms												
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>												
<p align="center">Additional Information</p> <p>#of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Dermochelys coriacea* (Leatherback)

Beach Name:		Deerfield/Hillsboro 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	6	6	4	411	54	50	50	1	69	187	0		
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													
Definition of Terms				Additional Information									
Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.				# of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010**

Species: *E. imbricata* (Hawksbill)

Beach Name: Deerfield/Hillsboro 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 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											
Definition of Terms											
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>											
Additional Information											
<p># of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Lepidochelys kempii* (Kemp's Ridley)

Beach Name: Deerfield/Hillsboro 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 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											
Definition of Terms				Additional Information							
Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.				# of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

Principal Permit Holder:		Lou Fisher	Permit Number:	108
Organization:	align="center"> Broward Co. Natural Resources Planning & Mgmt. Div.			
Address:	align="center"> 1 North University Drive, Suite 301			
	align="center"> Plantation, FL 33324			
County:	Broward	Email Address:	align="center"> lfisher@broward.org	
Day Telephone (include area code):	(954) 519-1255	Night Telephone:		
Beach Name:	Pompano/Lauderdale-by-the-Sea			
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:	Hillsboro Inlet		
Ending Survey Boundary:	Commerical Blvd. Pier		
Beach Length (include KM or MI):	7.7 KM	Is beach length estimated or measured?	measured
Was this the exact same survey area as last year?	Yes / No		Yes

IF NO, please explain the specific differences AND why the survey area changed:

n/a			

Start Date of Survey (mm/dd/yy):	03/01/10	End Date of Survey (mm/dd/yy):	09/30/10
Time of Day Surveyed: Start (include AM or PM)	1/2 hr before sunrise	Finish (include AM or PM)	9:00 AM
Number of Days Per Week Surveyed:	7		
Total # of Days Surveyed in 2010:	214		

If you did not survey 7 days per week throughout the nesting season, please describe your survey schedule (how many days per week, what days of the week). It is recommended to adhere to a fixed schedule if 7 days/week is not possible (e.g., 5 days/week every week), and these days would preferably be consecutive.

n/a			

If you did not survey 7 days per week, how were tracks counted on the day that surveys resumed after a missed day? It is recommended that only new tracks be counted during these surveys.

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

3. NESTING BEACH MANAGEMENT INFORMATION

If nests were RELOCATED, were they relocated **Individually** (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a **Group** (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? **Both**

Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)

Nest located within 20 feet of previous evening's wrack line or in an artificially lighted FWC designated "donor" area

If **ALL** relocated nests were not inventoried, please give reason.

Nests were not evaluated if washed out or predated.

If a **HATCHERY** was used, please give reasons AND specific location:

n/a

If predator control methods other than screening/caging were employed, please describe below:

None

How many nests were negatively affected by predators other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>	MARKED Nests	0
	UNMARKED Nests	n/a

List all non-human predators documented predated nests this season:

How many nests were negatively affected by the nesting female or another nesting sea turtle?	MARKED Nests	5
	UNMARKED Nests	n/a

How many nests were negatively affected by roots (i.e., damaged eggs, impeded hatchling emergence)?	MARKED Nests	0
	UNMARKED Nests	n/a

How many nests were negatively affected by erosion, accretion, inundation, and storm-related events? <i>Note: this does not include stake loss.</i>	MARKED Nests	103
	UNMARKED Nests	n/a

Please give details: **103 CC washover/inundation**

How many nests were taken or disturbed by humans (Example: nest dug into, eggs removed, etc.)? <i>Note: this does not include stake removal.</i>	MARKED Nests	3
	UNMARKED Nests	n/a

Please give details: **1 CC runover by vehicle; 2 CC people walked on tracks and mound**

How many disorientation events occurred on this survey area in 2010? **62**

If disorientation events occurred, have all **disorientation reports** been submitted to FWC? **Yes or No** **Yes**

I certify the above information to be true and accurate to the best of my knowledge. (type in name & date)

	Date:
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**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
FISH AND WILDLIFE RESEARCH INSTITUTE
SEA TURTLE NESTING REPORT FOR 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

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

2. GENERAL NESTING DATA

	<i>C. caretta</i> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
Total # of Nests	482	20	1	0	0
Total # of Non-Nesting Emergences (False Crawls)	862	46	0	0	0
Date (mm/dd/yy) of First Documented Nest	05/04/10	06/15/10	04/14/10		
Date (mm/dd/yy) of Last Documented Nest	08/16/10	08/16/10	04/14/10		

Total # of Nests Prior to 15 May:	17	0	1	0	0
Total # of Nests After 31 Aug:	0	0	0	0	0

Comments:

In the spaces below, please provide information on the initial nest treatment (e.g., in situ, screened, relocated, etc.). For example, if the initial treatment was in situ with no protection, it should be included in "(a) # of Nests left in place without additional protection" even if you later relocate the nest due to erosion.

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)	346	19	1	0	0
(a) # of Nests left in Place without Additional Protection	346	19	1	0	0
(b) # of Nests left in Place with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Nests left in Place with Self-Releasing Cage	0	0	0	0	0
(d) # of Nests left in Place with Restraining Cage	0	0	0	0	0

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)	136	1	0	0	0
(a) # of Relocated Nests without Additional Protection	136	1	0	0	0
(b) # of Relocated Nests with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Relocated Nests with Self-Releasing Cage	0	0	0	0	0
(d) # of Relocated Nests with Restraining Cage	0	0	0	0	0
(e) # of Relocated Nests to Self-Releasing Hatchery	0	0	0	0	0
(f) # of Relocated Nests to Restraining Hatchery	0	0	0	0	0



Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
Sea Turtle Nest Success Reporting Form for 2010
Species: *Caretta caretta* (Loggerhead)

Beach Name:	Pompano/Lauderdale-by-the-Sea						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	346	346	239	25513	12821	1715	467	198	1638	8673	1	
Left in Place/Self Releasing Screen												
Left in Place/Self Releasing Cage												
Left in Place/Restraining Cage												
Relocated/No Additional Protection	136	136	132	13616	6458	706	244	208	1207	4725	68	
Relocated/Self Releasing Screen												
Relocated/Self Releasing Cage												
Relocated/Restraining Cage												
Relocated/Self Releasing Hatchery												
Relocated/Restraining Hatchery												
Definition of Terms												
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>												
Additional Information												
<p># of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Chelonia mydas* (Green Turtle)

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 Damaged Eggs
Left in Place/No Additional Protection	19	19	15	1827	1401	52	12	9	59	294	0	
Left in Place/Self Releasing Screen												
Left in Place/Self Releasing Cage												
Left in Place/Restraining Cage												
Relocated/No Additional Protection	1	1	1	111	66	25	0	3	3	14	0	
Relocated/Self Releasing Screen												
Relocated/Self Releasing Cage												
Relocated/Restraining Cage												
Relocated/Self Releasing Hatchery												
Relocated/Restraining Hatchery												
Definition of Terms												
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>												
Additional Information												
<p>#of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Dermochelys coriacea* (Leatherback)

Beach Name: Pompano/Lauderdale-by-the-Sea		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 Damaged Eggs
Left in Place/No Additional Protection	1	1	0								
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											
Definition of Terms				Additional Information							
Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.				# of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010**

Species: *E. imbricata* (Hawksbill)

Beach Name: Pompano/Lauderdale-by-the-Sea		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 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											
Definition of Terms											
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>											
Additional Information											
<p># of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Lepidochelys kempii* (Kemp's Ridley)

Beach Name: Pompano/Lauderdale-by-the-Sea		Permit Holder: Lou Fisher					Permit #: 108					
		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												
Definition of Terms Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.												
Additional Information # of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

Principal Permit Holder:		Lou Fisher	Permit Number:	108
Organization:	align="center"> Broward Co. Natural Resources Planning & Mgmt. Div.			
Address:	align="center"> 1 North University Drive, Suite 301			
	align="center"> Plantation, FL 33324			
County:	Broward	Email Address:	align="center"> lfisher@broward.org	
Day Telephone (include area code):	(954) 519-1255	Night Telephone:		
Beach Name:	Ft. Lauderdale Beach			
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:	Commerical Blvd. Pier		
Ending Survey Boundary:	Port Everglades Inlet		
Beach Length (include KM or MI):	10.6 KM	Is beach length estimated or measured?	measured
Was this the exact same survey area as last year?	Yes / No		Yes

IF NO, please explain the specific differences AND why the survey area changed:

n/a			

Start Date of Survey (mm/dd/yy):	03/01/10	End Date of Survey (mm/dd/yy):	09/30/10
Time of Day Surveyed: Start (include AM or PM)	1/2 hr before sunrise	Finish (include AM or PM)	9:00 AM
Number of Days Per Week Surveyed:	7		
Total # of Days Surveyed in 2010:	214		

If you did not survey 7 days per week throughout the nesting season, please describe your survey schedule (how many days per week, what days of the week). It is recommended to adhere to a fixed schedule if 7 days/week is not possible (e.g., 5 days/week every week), and these days would preferably be consecutive.

n/a			

If you did not survey 7 days per week, how were tracks counted on the day that surveys resumed after a missed day? It is recommended that only new tracks be counted during these surveys.

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

3. NESTING BEACH MANAGEMENT INFORMATION

If nests were RELOCATED, were they relocated **Individually** (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a **Group** (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? **Both**

Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)

Nest located within 20 feet of previous evening's wrack line or in an artificially lighted FWC designated "donor" area

If **ALL** relocated nests were not inventoried, please give reason.

Nests that were washed out or predated were not evaluated.

If a **HATCHERY** was used, please give reasons AND specific location:

n/a

If predator control methods other than screening/caging were employed, please describe below:

None

How many nests were negatively affected by predators other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>	MARKED Nests	0
	UNMARKED Nests	n/a

List all non-human predators documented predated nests this season:

How many nests were negatively affected by the nesting female or another nesting sea turtle ?	MARKED Nests	7
	UNMARKED Nests	n/a

How many nests were negatively affected by roots (i.e., damaged eggs, impeded hatchling emergence)?	MARKED Nests	3
	UNMARKED Nests	n/a

How many nests were negatively affected by erosion, accretion, inundation, and storm-related events ? <i>Note: this does not include stake loss.</i>	MARKED Nests	89
	UNMARKED Nests	n/a

Please give details: **87 CC; 2 CM washover/inundation**

How many nests were taken or disturbed by humans (Example: nest dug into, eggs removed, etc.)? <i>Note: this does not include stake removal.</i>	MARKED Nests	10
	UNMARKED Nests	n/a

Please give details: **CC, 2 poached, 3 vandalized, 1 disturbed, 3 runover by vehicles; CM, 1 vandalized**

How many disorientation events occurred on this survey area in 2010? **55**

If disorientation events occurred, have all **disorientation reports** been submitted to FWC? **Yes or No** **Yes**

I certify the above information to be true and accurate to the best of my knowledge. (type in name & date)

	Date:
--	--------------



**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
FISH AND WILDLIFE RESEARCH INSTITUTE
SEA TURTLE NESTING REPORT FOR 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

Principal Permit Holder:	Lou Fisher	Permit Number:	108
Beach Name: Ft. Lauderdale Beach			

2. GENERAL NESTING DATA

	<i>C. caretta</i> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
Total # of Nests	663	70	5	0	0
Total # of Non-Nesting Emergences (False Crawls)	987	107	0	0	0
Date (mm/dd/yy) of First Documented Nest	05/02/10	06/14/10	08/12/10		
Date (mm/dd/yy) of Last Documented Nest	09/05/10	09/20/10	05/01/10		

Total # of Nests Prior to 15 May:	12	0	5	0	0
Total # of Nests After 31 Aug:	2	6	0	0	0

Comments:

In the spaces below, please provide information on the initial nest treatment (e.g., in situ, screened, relocated, etc.). For example, if the initial treatment was in situ with no protection, it should be included in "(a) # of Nests left in place without additional protection" even if you later relocate the nest due to erosion.

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)	443	64	5	0	0
(a) # of Nests left in Place without Additional Protection	443	64	5	0	0
(b) # of Nests left in Place with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Nests left in Place with Self-Releasing Cage	0	0	0	0	0
(d) # of Nests left in Place with Restraining Cage	0	0	0	0	0

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)	220	6	0	0	0
(a) # of Relocated Nests without Additional Protection	220	6	0	0	0
(b) # of Relocated Nests with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Relocated Nests with Self-Releasing Cage	0	0	0	0	0
(d) # of Relocated Nests with Restraining Cage	0	0	0	0	0
(e) # of Relocated Nests to Self-Releasing Hatchery	0	0	0	0	0
(f) # of Relocated Nests to Restraining Hatchery	0	0	0	0	0



Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
Sea Turtle Nest Success Reporting Form for 2010
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	443	443	344	35869	21355	1710	607	165	2068	9956	8	
Left in Place/Self Releasing Screen												
Left in Place/Self Releasing Cage												
Left in Place/Restraining Cage												
Relocated/No Additional Protection	220	220	205	21491	13171	813	299	175	1215	5765	53	
Relocated/Self Releasing Screen												
Relocated/Self Releasing Cage												
Relocated/Restraining Cage												
Relocated/Self Releasing Hatchery												
Relocated/Restraining Hatchery												
Definition of Terms												
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>												
Additional Information												
<p># of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Chelonia mydas* (Green Turtle)

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	# of Damaged Eggs		
Left in Place/No Additional Protection	64	64	37	4464	3329	168	34	24	160	749	0			
Left in Place/Self Releasing Screen														
Left in Place/Self Releasing Cage														
Left in Place/Restraining Cage														
Relocated/No Additional Protection	6	6	4	399	153	116	8	4	22	96	0			
Relocated/Self Releasing Screen														
Relocated/Self Releasing Cage														
Relocated/Restraining Cage														
Relocated/Self Releasing Hatchery														
Relocated/Restraining Hatchery														
Definition of Terms													Additional Information	
Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.													#of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010
Species: *Dermochelys coriacea* (Leatherback)

Beach Name:		Ft. Lauderdale Beach					Permit Holder:				Permit #:	
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 Unhatched Eggs		
										# of Undamaged Eggs	# of Damaged Eggs	
Left in Place/No Additional Protection	5	5	4	251	124	16	10	0	17	84	0	
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												
Definition of Terms				Additional Information								
Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.				# of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010**

Species: *E. imbricata* (Hawksbill)

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 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														
Definition of Terms														
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>														
Additional Information														
<p># of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Lepidochelys kempii* (Kemp's Ridley)

Beach Name:		Ft. Lauderdale Beach				Permit Holder:			Permit #:			
		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												
Definition of Terms												
Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.												
Additional Information												
# of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

Principal Permit Holder:		Lou Fisher	Permit Number:	108
Organization:	align="center"> Broward Co. Natural Resources Planning & Mgmt. Div.			
Address:	align="center"> 1 North University Drive, Suite 301			
	align="center"> Plantation, FL 33324			
County:	Broward	Email Address:	align="center"> lfisher@broward.org	
Day Telephone (include area code):	(954) 519-1255	Night Telephone:		
Beach Name:	Hollywood/Hallandale Beach			
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:	3.9 km S of Port Everglades Inlet		
Ending Survey Boundary:	Broward/Miami-Dade Co Line		
Beach Length (include KM or MI):	9.4 KM	Is beach length estimated or measured?	measured
Was this the exact same survey area as last year?	Yes / No		Yes

IF NO, please explain the specific differences AND why the survey area changed:

n/a			
Start Date of Survey (mm/dd/yy):	03/01/10	End Date of Survey (mm/dd/yy):	09/30/10
Time of Day Surveyed: Start (include AM or PM)	1/2 hr before sunrise	Finish (include AM or PM)	9:00 AM
Number of Days Per Week Surveyed:	7		
Total # of Days Surveyed in 2010:	214		

If you did not survey 7 days per week throughout the nesting season, please describe your survey schedule (how many days per week, what days of the week). It is recommended to adhere to a fixed schedule if 7 days/week is not possible (e.g., 5 days/week every week), and these days would preferably be consecutive.

n/a			
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If you did not survey 7 days per week, how were tracks counted on the day that surveys resumed after a missed day? It is recommended that only new tracks be counted during these surveys.

n/a			
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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

3. NESTING BEACH MANAGEMENT INFORMATION

If nests were RELOCATED, were they relocated **Individually** (Ex: simply moving the nest directly landward of the original location or otherwise maintaining natural nest spacing) or in a **Group** (i.e., self-releasing and/or restraining hatchery) with other beach relocated nests? **Both**

Please give reasons for relocating nests. (Example: nest located below high tide line, in high foot traffic area, etc.)

Nest located within 20 feet of previous evening's wrack line or in an artificially lighted FWC designated "donor" area

If **ALL** relocated nests were not inventoried, please give reason.

Nests were not evaluated if washed out our predated.

If a **HATCHERY** was used, please give reasons AND specific location:

n/a

If predator control methods other than screening/caging were employed, please describe below:

None

How many nests were negatively affected by predators other than humans during the course of the season? <i>Note: this includes both partially and completely predated nests.</i>	MARKED Nests	2
	UNMARKED Nests	n/a

List all non-human predators documented predated nests this season:

How many nests were negatively affected by the nesting female or another nesting sea turtle ?	MARKED Nests	0
	UNMARKED Nests	n/a

How many nests were negatively affected by roots (i.e., damaged eggs, impeded hatchling emergence)?	MARKED Nests	0
	UNMARKED Nests	n/a

How many nests were negatively affected by erosion, accretion, inundation, and storm-related events ? <i>Note: this does not include stake loss.</i>	MARKED Nests	9
	UNMARKED Nests	n/a

Please give details: **9 CC washover/inundation**

How many nests were taken or disturbed by humans (Example: nest dug into, eggs removed, etc.)? <i>Note: this does not include stake removal.</i>	MARKED Nests	1
	UNMARKED Nests	n/a

Please give details: **1 CC vandalized**

How many disorientation events occurred on this survey area in 2010? **14**

If disorientation events occurred, have all **disorientation reports** been submitted to FWC? **Yes or No** **Yes**

I certify the above information to be true and accurate to the best of my knowledge. (type in name & date)

	Date:
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**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
FISH AND WILDLIFE RESEARCH INSTITUTE
SEA TURTLE NESTING REPORT FOR 2010**

1. PRINCIPAL PERMIT HOLDER INFORMATION

Principal Permit Holder:	Lou Fisher	Permit Number:	108
Beach Name: Hollywood/Hallandale Beach			

2. GENERAL NESTING DATA

	<i>C. caretta</i> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
Total # of Nests	128	2	0	0	0
Total # of Non-Nesting Emergences (False Crawls)	213	6	0	0	0
Date (mm/dd/yy) of First Documented Nest	05/14/10	06/23/10			
Date (mm/dd/yy) of Last Documented Nest	08/16/10	09/22/10			

Total # of Nests Prior to 15 May:	1	0	0	0	0
Total # of Nests After 31 Aug:	0	1	0	0	0

Comments:

In the spaces below, please provide information on the initial nest treatment (e.g., in situ, screened, relocated, etc.). For example, if the initial treatment was in situ with no protection, it should be included in "(a) # of Nests left in place without additional protection" even if you later relocate the nest due to erosion.

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS LEFT IN PLACE (a + b + c + d)	49	2	0	0	0
(a) # of Nests left in Place without Additional Protection	49	2	0	0	0
(b) # of Nests left in Place with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Nests left in Place with Self-Releasing Cage	0	0	0	0	0
(d) # of Nests left in Place with Restraining Cage	0	0	0	0	0

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> (Loggerhead)	<i>C. mydas</i> (Green Turtle)	<i>D. coriacea</i> (Leatherback)	<i>E. imbricata</i> (Hawksbill)	<i>L. kempii</i> (Kemp's Ridley)
TOTAL # OF NESTS RELOCATED (a + b + c + d + e + f)	79	0	0	0	0
(a) # of Relocated Nests without Additional Protection	79	0	0	0	0
(b) # of Relocated Nests with Self-Releasing Flat Screen	0	0	0	0	0
(c) # of Relocated Nests with Self-Releasing Cage	0	0	0	0	0
(d) # of Relocated Nests with Restraining Cage	0	0	0	0	0
(e) # of Relocated Nests to Self-Releasing Hatchery	0	0	0	0	0
(f) # of Relocated Nests to Restraining Hatchery	0	0	0	0	0



Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
Sea Turtle Nest Success Reporting Form for 2010
Species: *Caretta caretta* (Loggerhead)

Beach Name:	Hollywood/Hallandale 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	49	49	37	3858	2326	134	96	19	214	1062	7	
Left in Place/Self Releasing Screen												
Left in Place/Self Releasing Cage												
Left in Place/Restraining Cage												
Relocated/No Additional Protection	79	79	73	7253	3878	247	99	40	500	2480	9	
Relocated/Self Releasing Screen												
Relocated/Self Releasing Cage												
Relocated/Restraining Cage												
Relocated/Self Releasing Hatchery												
Relocated/Restraining Hatchery												
Definition of Terms												
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>												
<p># of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (1) undamaged and unpipped eggs; and (2) damaged eggs</p>												
Additional Information												



Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
Sea Turtle Nest Success Reporting Form for 2010
Species: *Chelonia mydas* (Green Turtle)

Beach Name:	Hollywood/Hallandale Beach						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 Damaged Eggs
Left in Place/No Additional Protection	2	2	1	117	98	1	3	0	0	15	0	
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												
Definition of Terms												
<p>Relocated: Clutch was relocated from the original site of deposition.</p> <p>Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided.</p> <p>Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided.</p> <p>Hatchery: A fenced or caged area where many nests are reburied.</p> <p>Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg.</p> <p>Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation.</p> <p>Important: 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. Please check to make sure this is the case.</p>												
Additional Information												
<p>#of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i>, a count of eggshells.</p> <p># of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest)</p> <p># of Unhatched Eggs: (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 2010
Species: *Dermochelys coriacea* (Leatherback)

Beach Name:		Hollywood/Hallandale Beach					Permit Holder:			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 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												
Definition of Terms												
Relocated: Clutch was relocated from the original site of deposition. Self-Releasing: A screen, cage or hatchery through which hatchlings escape unaided. Restraining: A screen, cage, or hatchery that does not allow hatchlings to escape unaided. Hatchery: A fenced or caged area where many nests are reburied. Pipped: Hatchling broken through eggshell but not completely free of eggshell - not a hatched egg. Damaged Eggs: Eggs damaged by predators, roots, nesting females, or during relocation. Important: 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. Please check to make sure this is the case.												
Additional Information												
# of Eggs in Evaluated Nests: In <i>relocated</i> nests, direct count of eggs; for nests <i>left in place</i> , a count of eggshells. # of Hatchlings Emerged: Count only those hatchlings that emerged unaided (prior to nest evaluation) # Empty Shells - (Live and Dead Hatchlings in Nest) # of Unhatched Eggs: (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 2010**

Species: *E. imbricata* (Hawksbill)

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

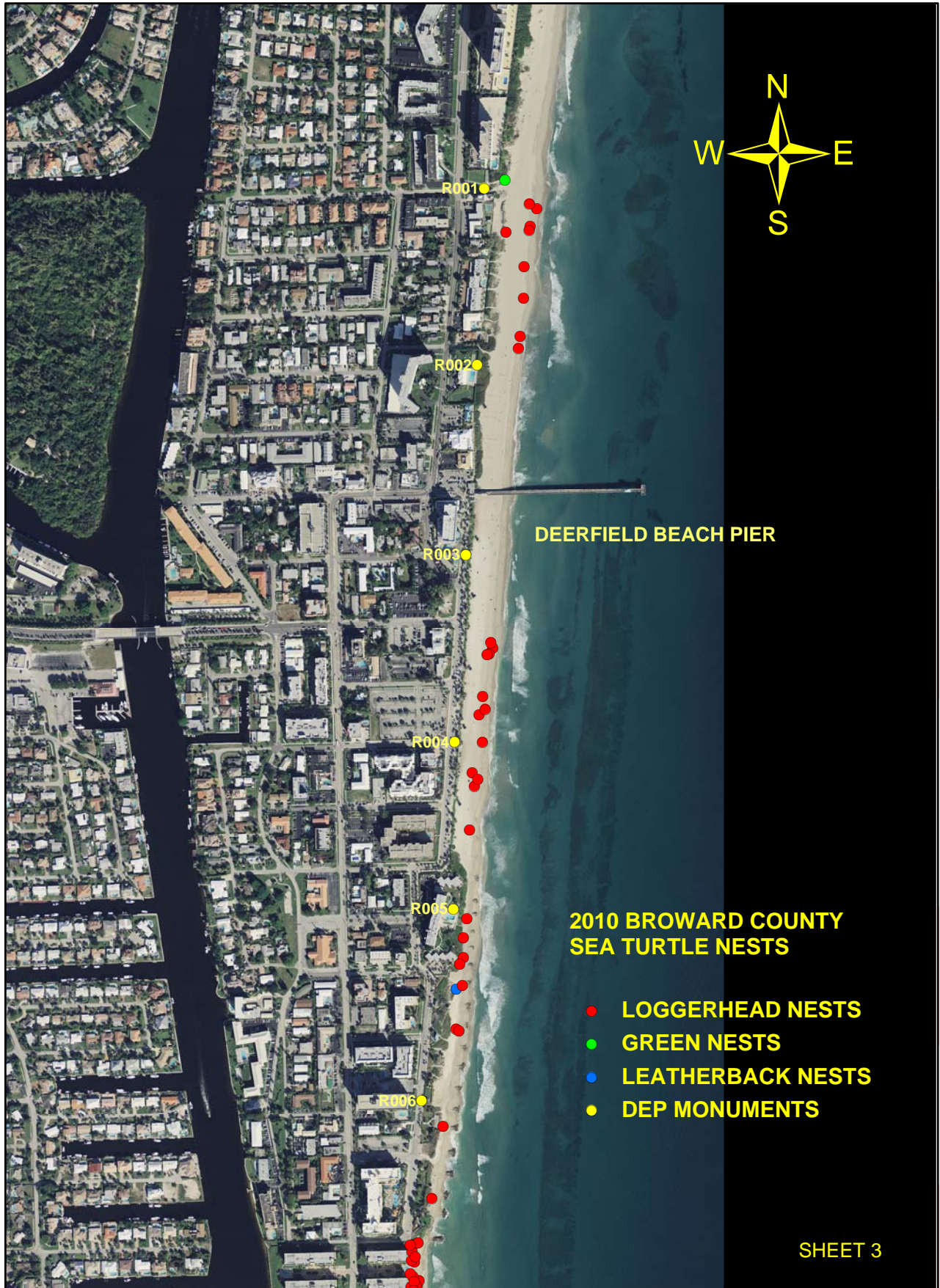


Florida Fish and Wildlife Conservation Commission
Fish and Wildlife Research Institute
Sea Turtle Nest Success Reporting Form for 2010
Species: *Lepidochelys kempii* (Kemp's Ridley)

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

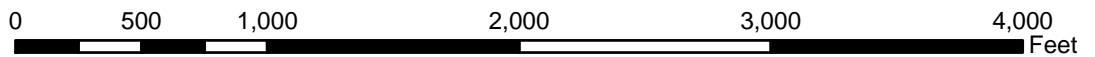
**Appendix 6: Distribution of Loggerhead, Green, and Leatherback Nests
Presented on 2010 Coastal Aerial Photographs.**

2010 SEA TURTLE NESTS



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

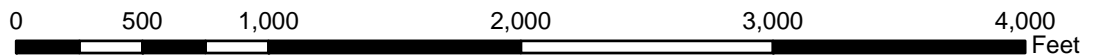
2010 SEA TURTLE NESTS



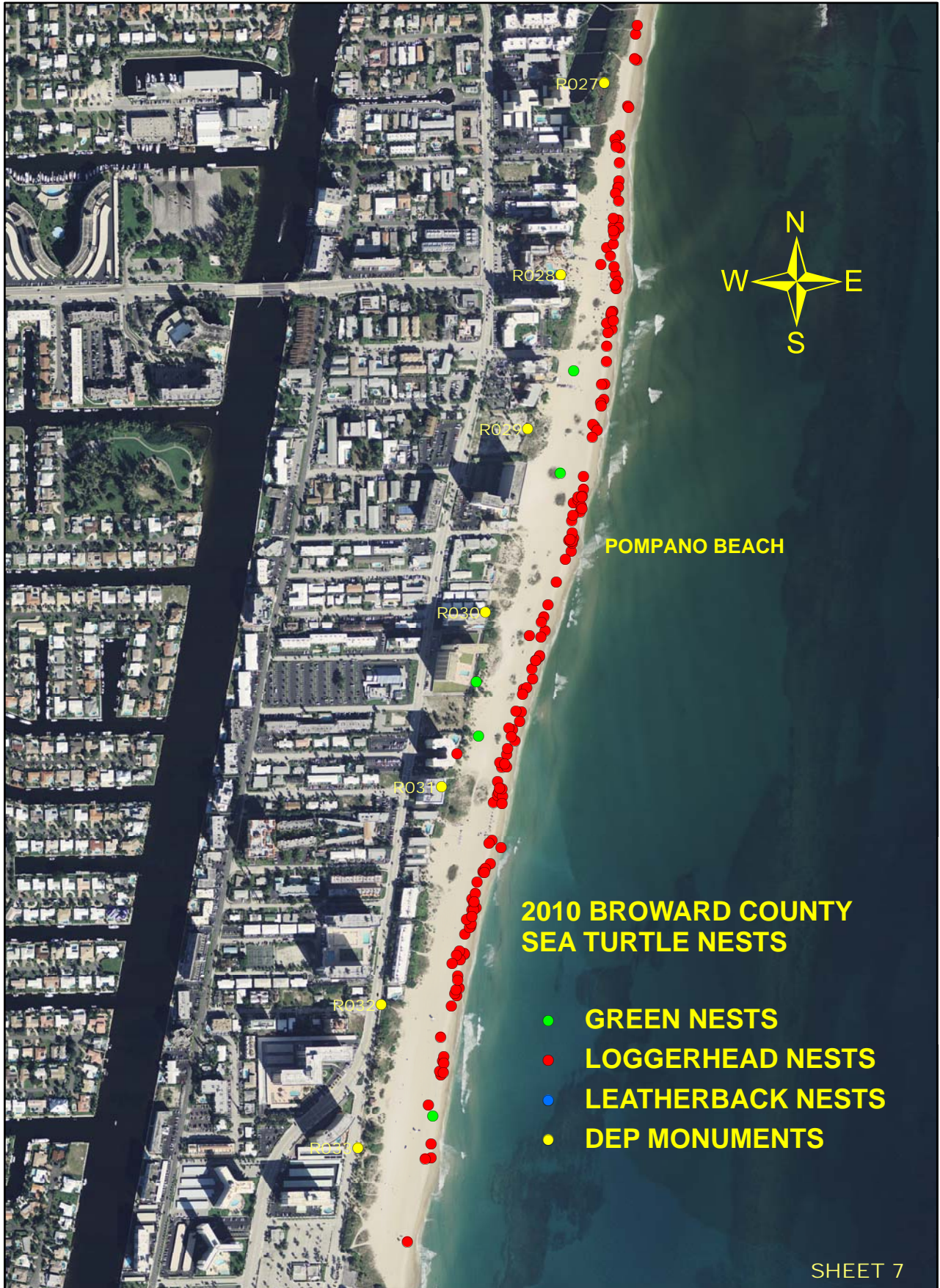
2010 SEA TURTLE NESTS



2010 SEA TURTLE NESTS

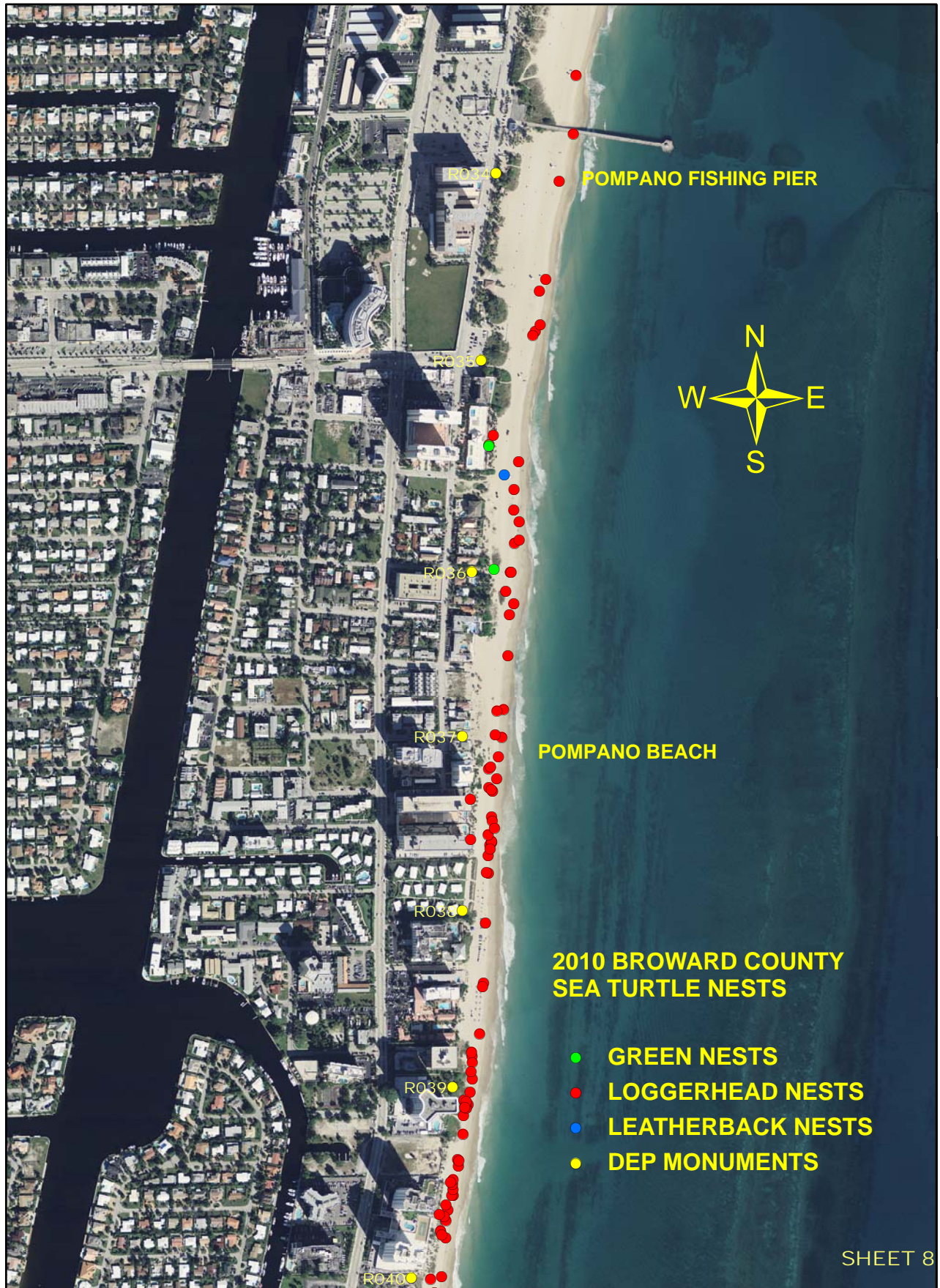


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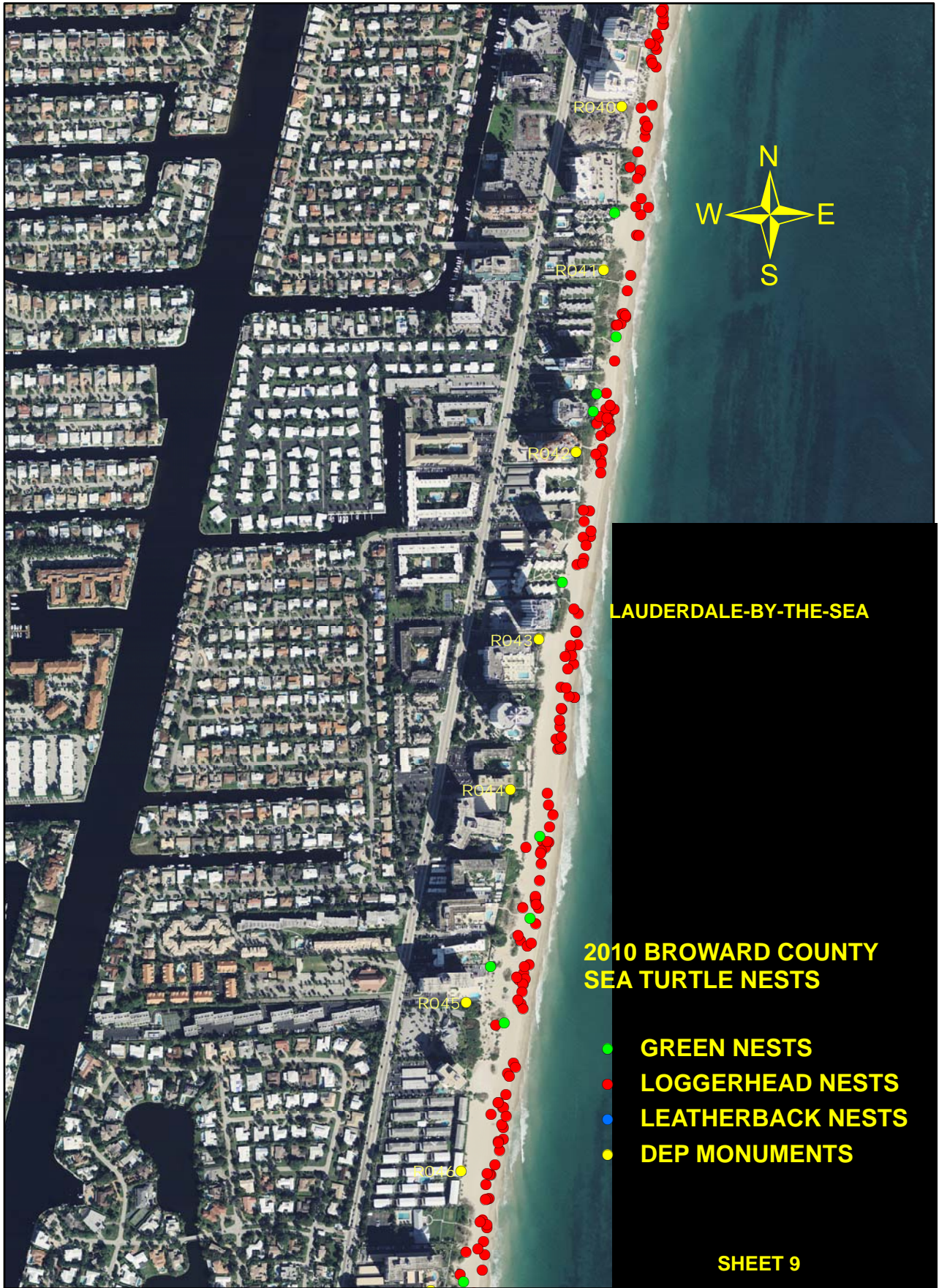
0 387.5 775 1,550 2,325 3,100 Feet

2010 SEA TURTLE NESTS



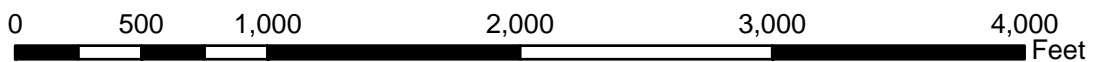
0 500 1,000 2,000 3,000 4,000 Feet

2010 SEA TURTLE NESTS

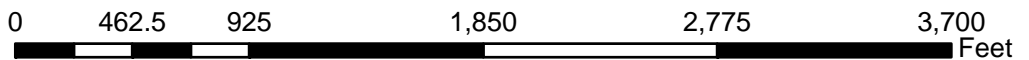
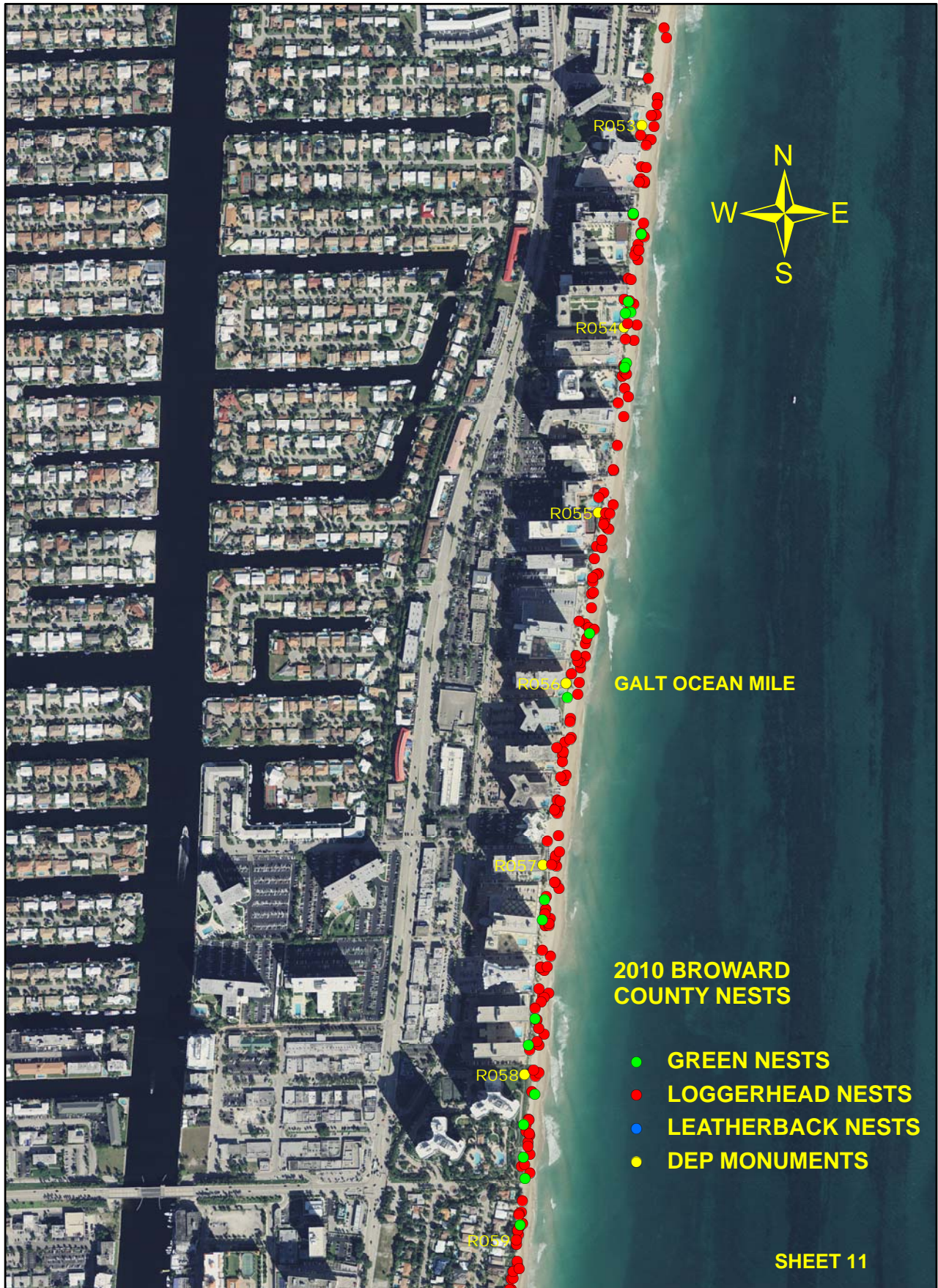


0 490 980 1,960 2,940 3,920 Feet

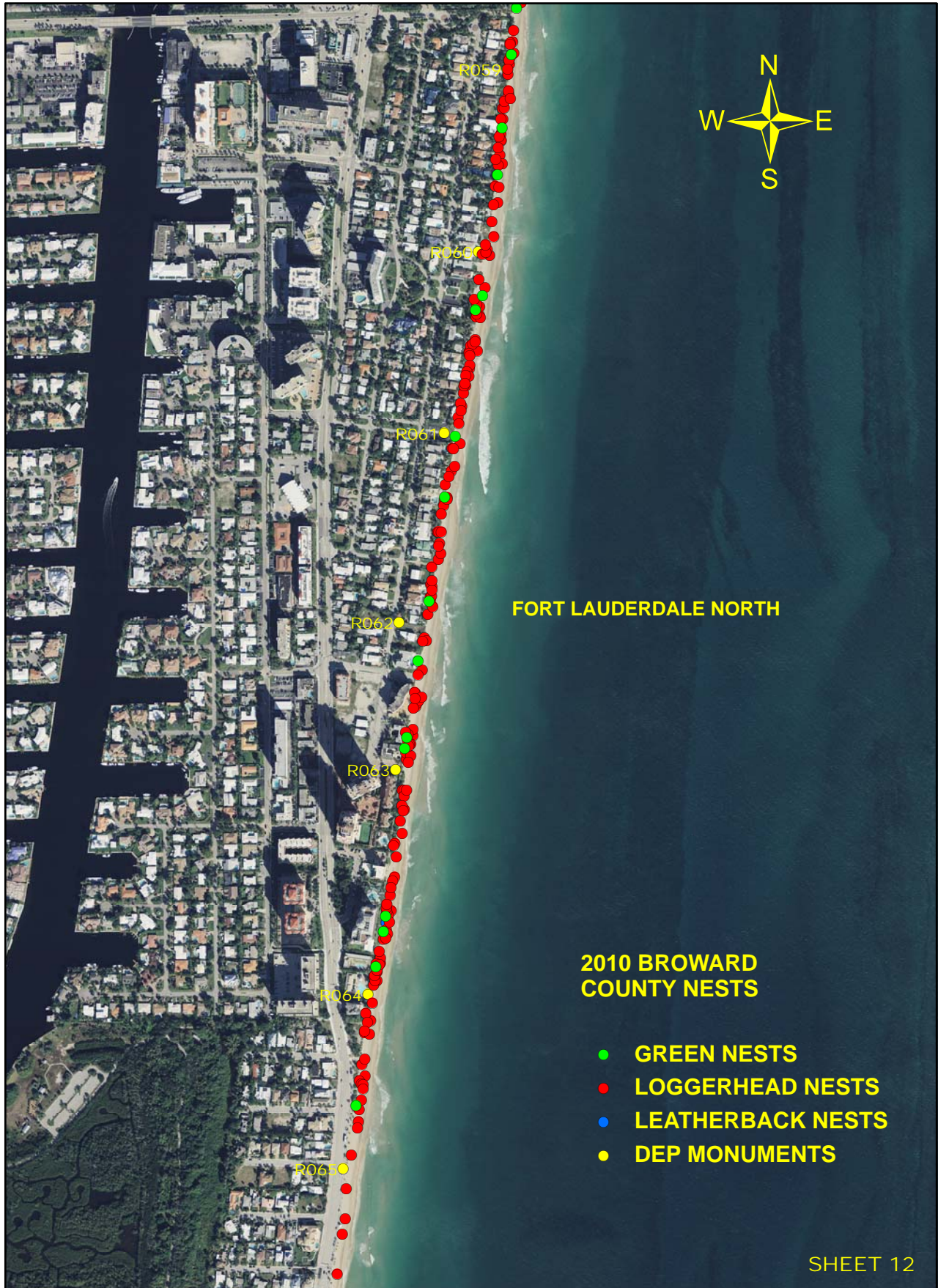
2010 SEA TURTLE NESTS



2010 SEA TURTLE NESTS

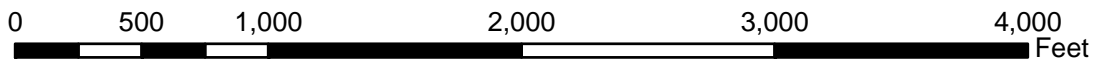
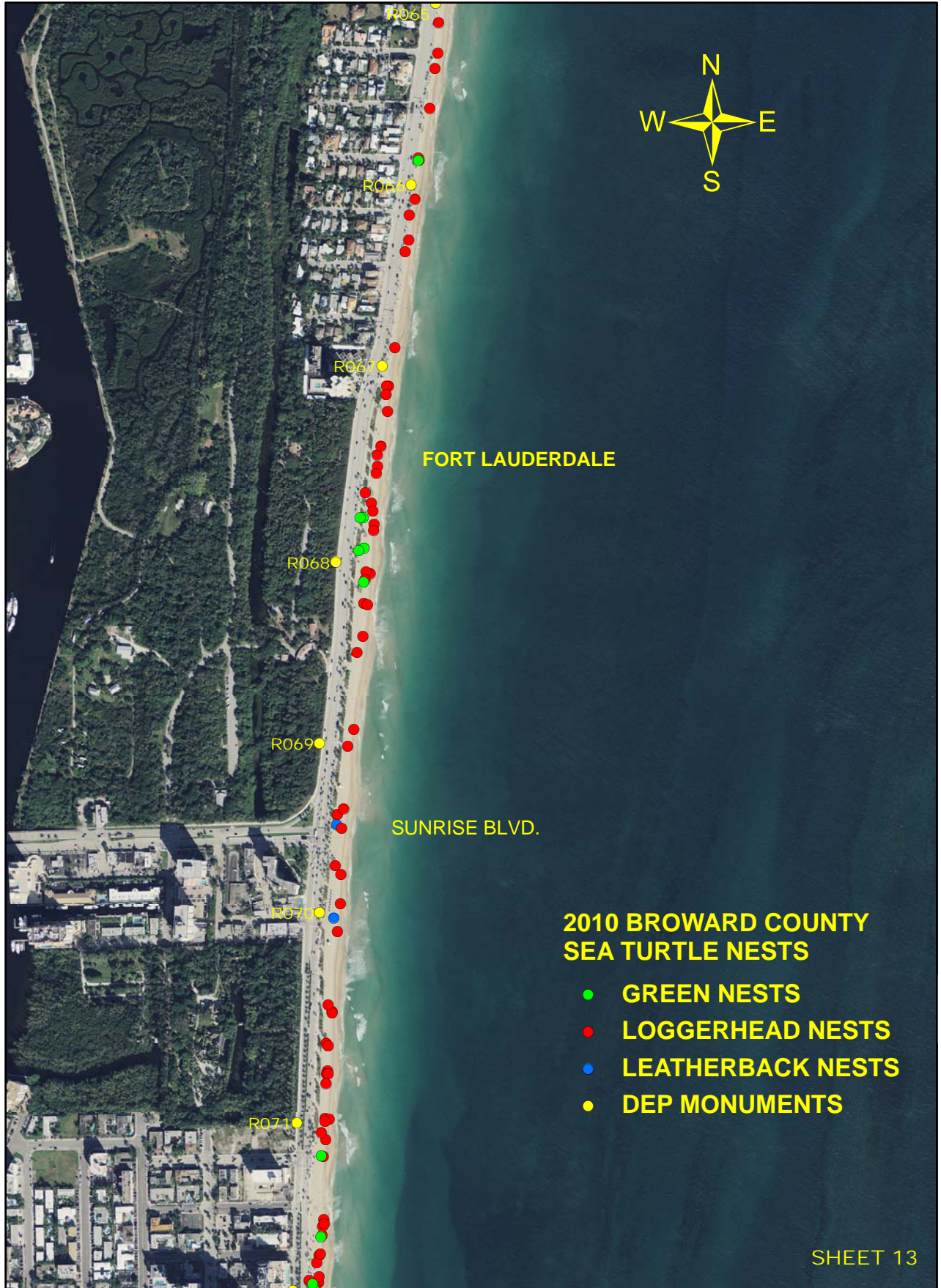


2010 SEA TURTLE NESTS

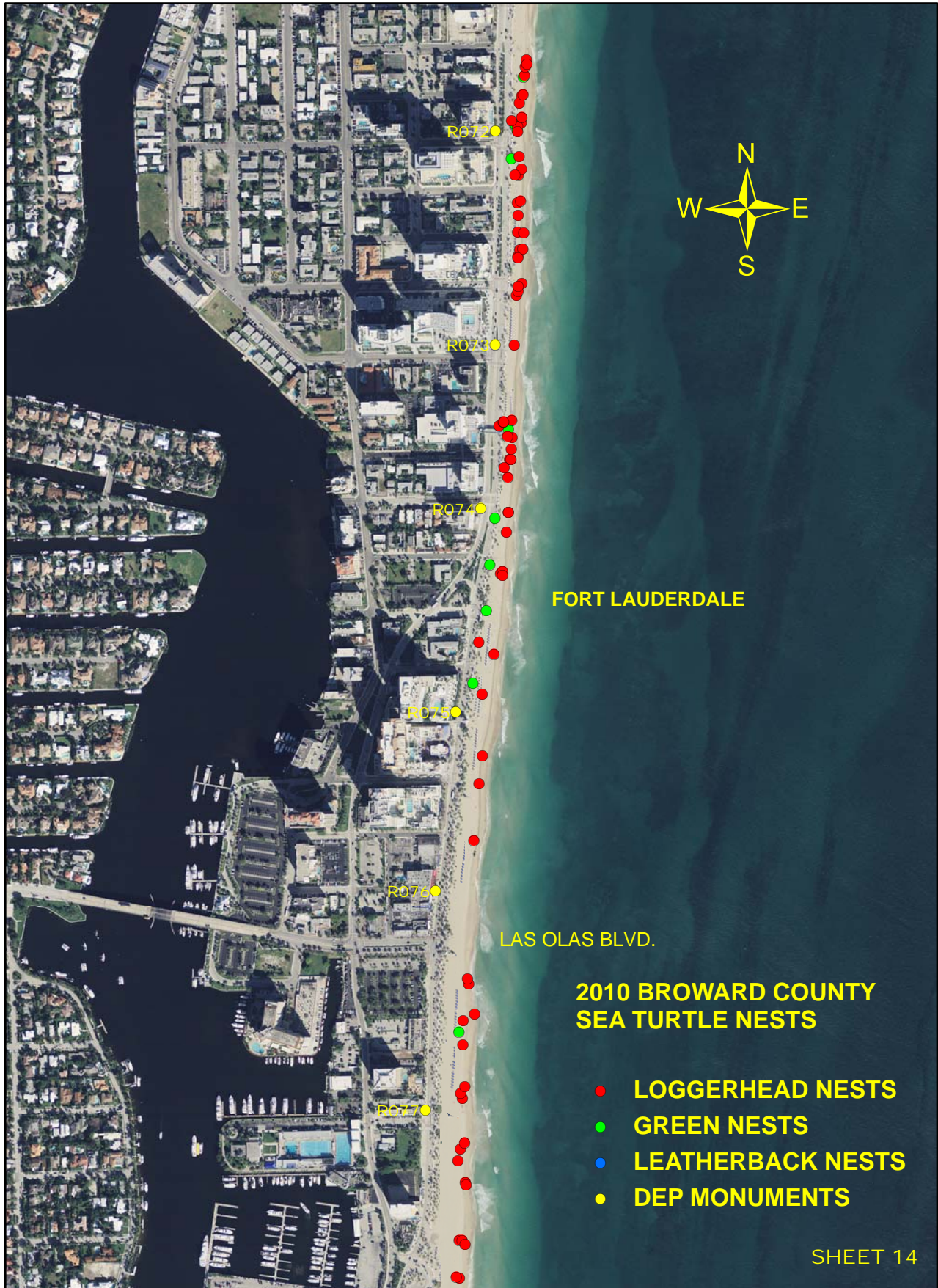


0 500 1,000 2,000 3,000 4,000 Feet

2010 SEA TURTLE NESTS



2010 SEA TURTLE NESTS



0 500 1,000 2,000 3,000 4,000 Feet

2010 SEA TURTLE NESTS

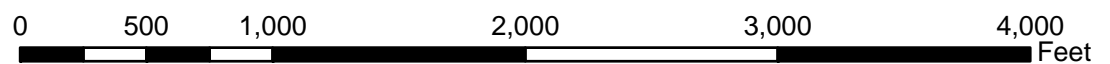


FORT LAUDERDALE SOUTH

2010 BROWARD COUNTY
SEA TURTLE NESTS

- GREEN NESTS
- LOGGERHEAD NESTS
- LEATHERBACK NESTS
- DEP MONUMENTS

SHEET 15

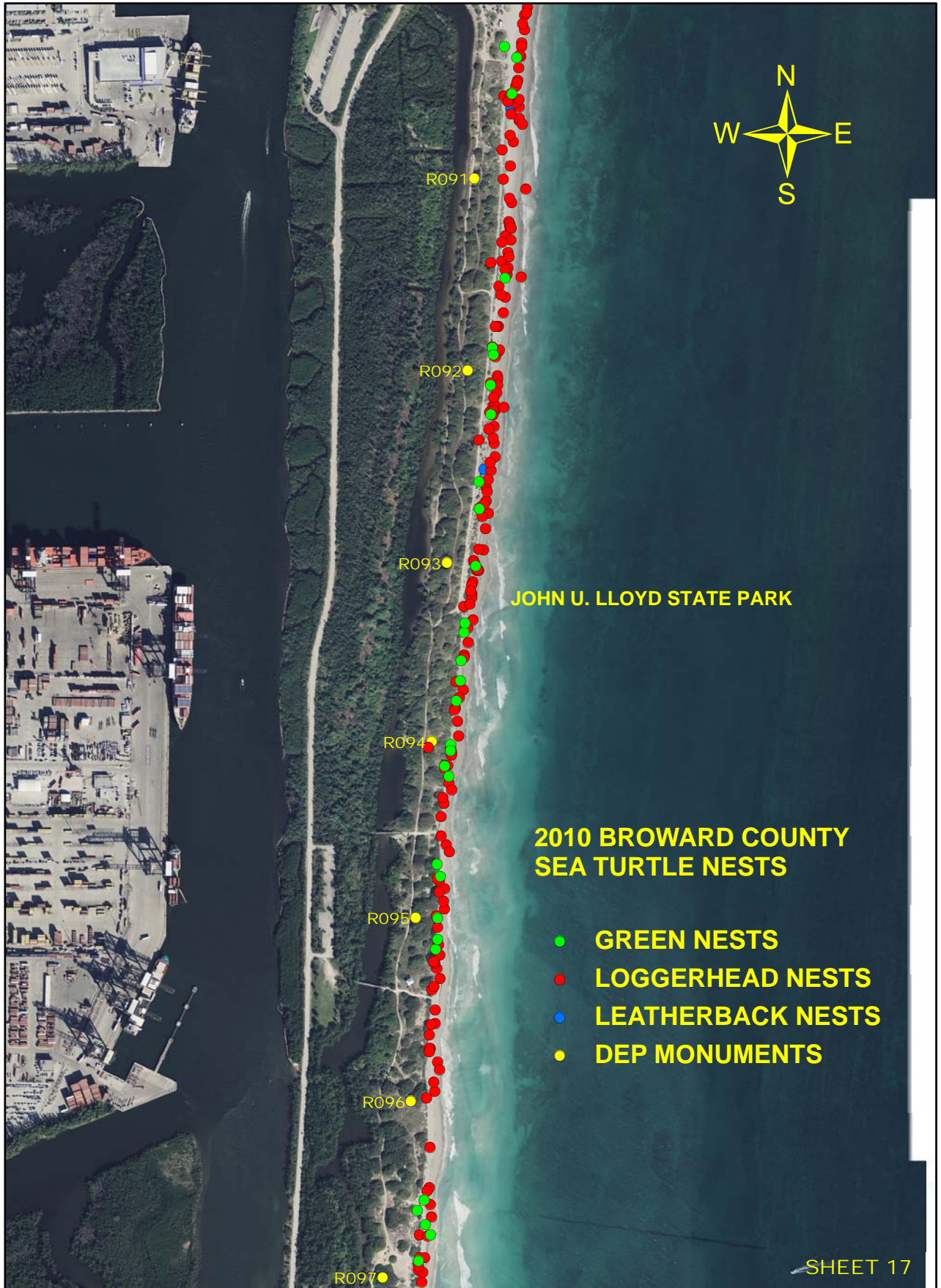


2010 SEA TURTLE NESTS



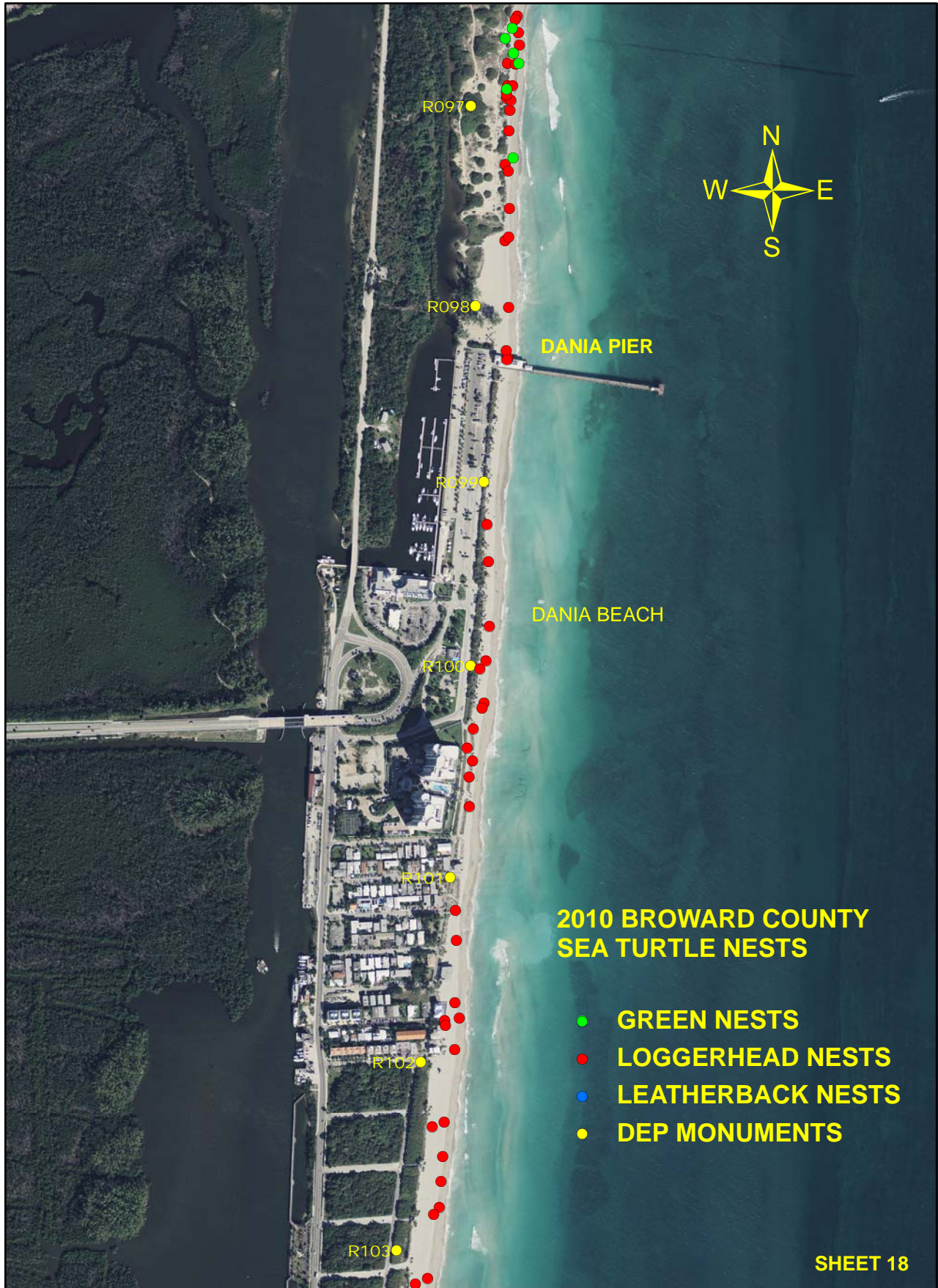
0 500 1,000 2,000 3,000 4,000 Feet

2010 SEA TURTLE NESTS



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

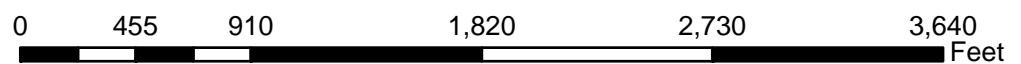
2010 SEA TURTLE NESTS



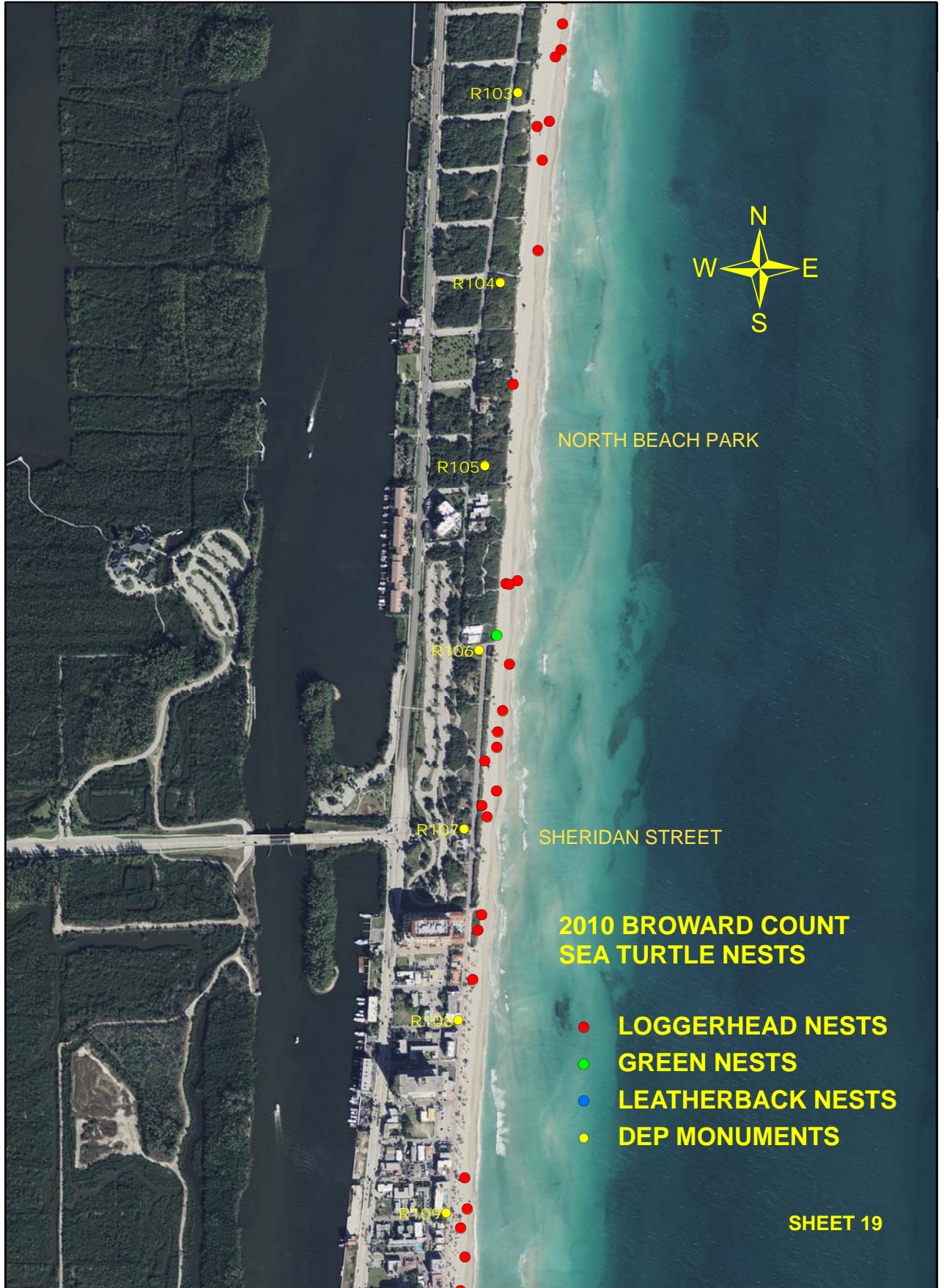
2010 BROWARD COUNTY SEA TURTLE NESTS

- GREEN NESTS
- LOGGERHEAD NESTS
- LEATHERBACK NESTS
- DEP MONUMENTS

SHEET 18

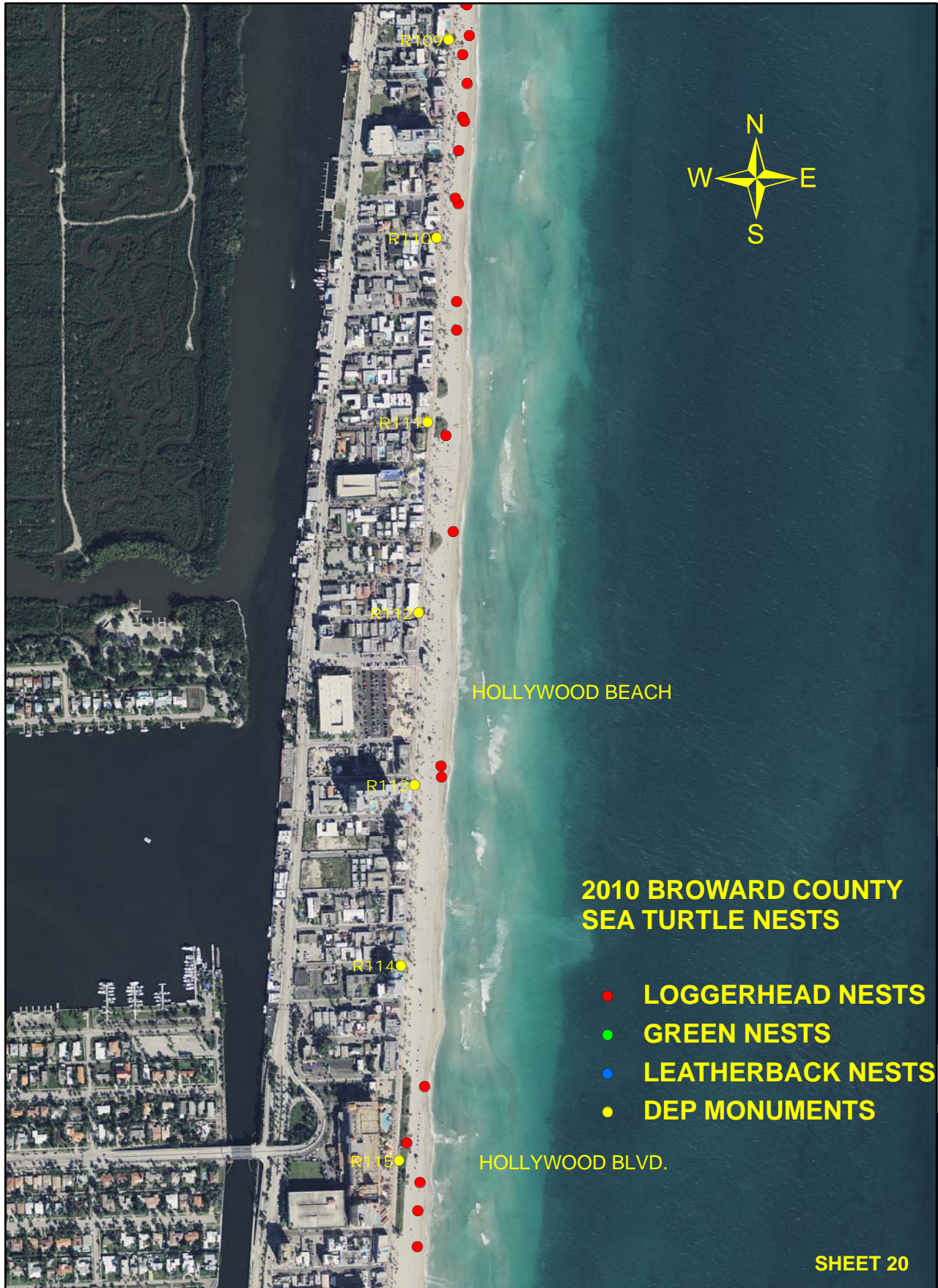


2010 SEA TURTLE NESTS



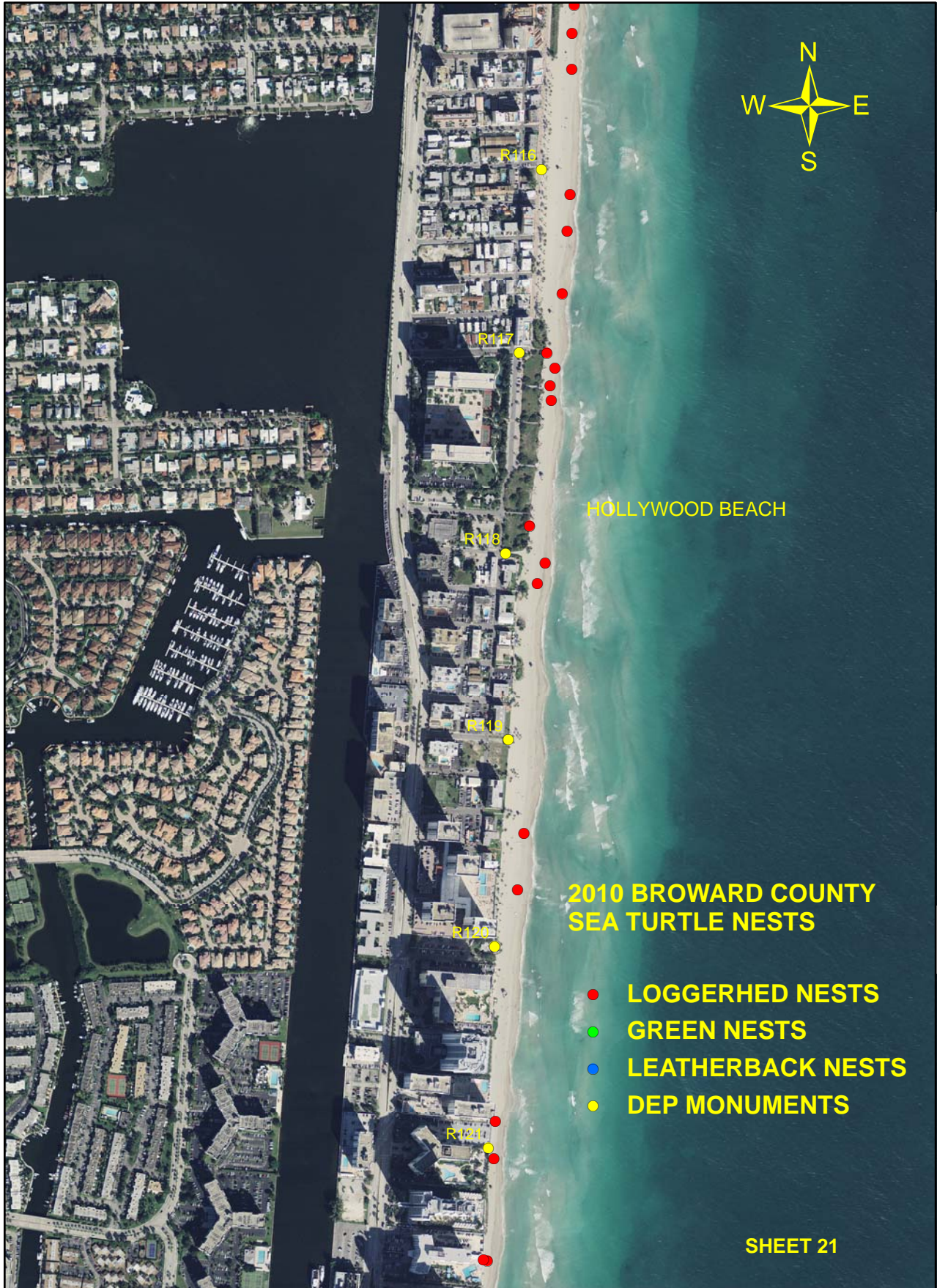
0 475 950 1,900 2,850 3,800 Feet

2010 SEA TURTLE NESTS



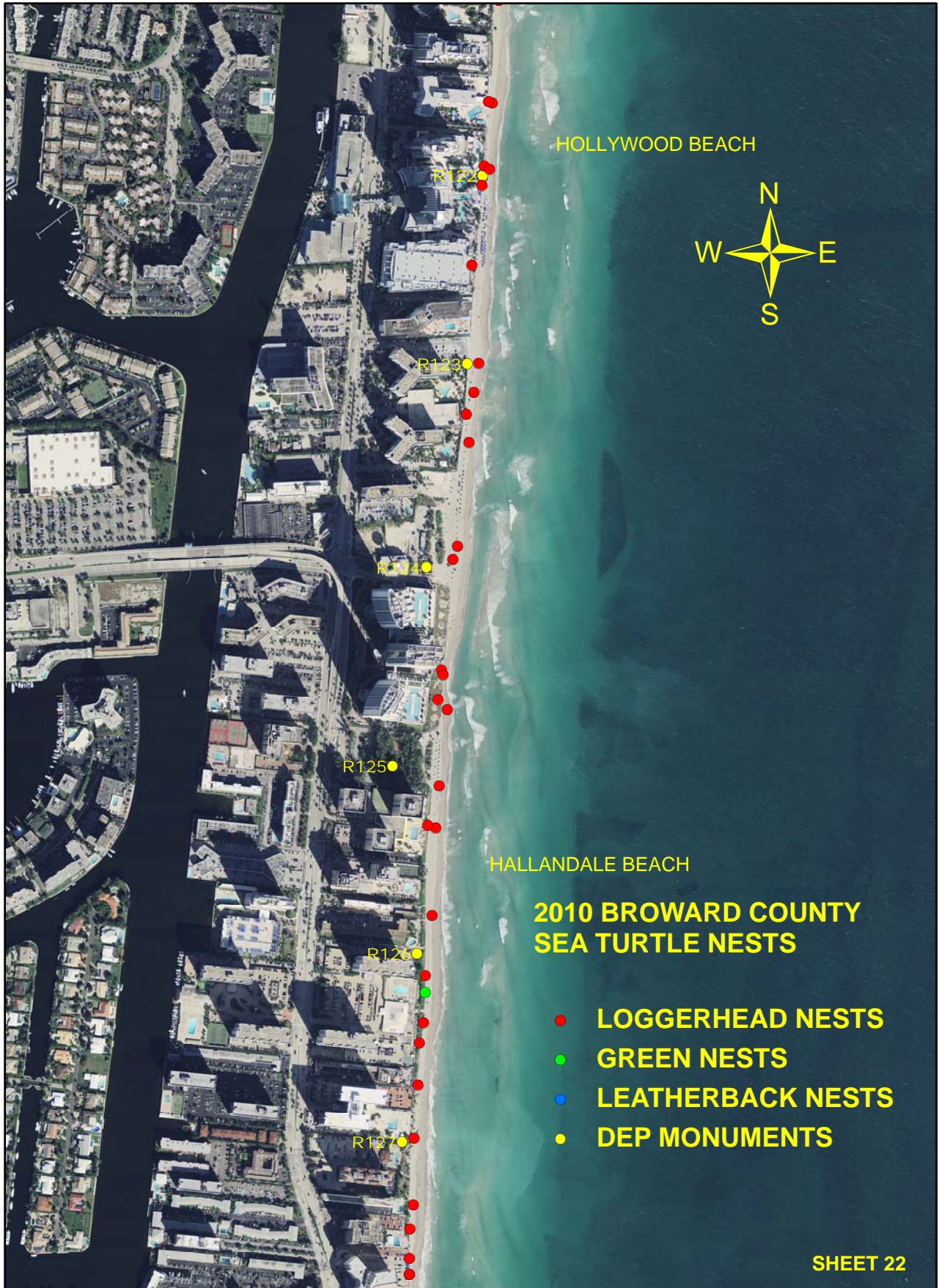
0 500 1,000 2,000 3,000 4,000 Feet

2010 SEA TURTLE NESTS



0 490 980 1,960 2,940 3,920 Feet

2010 SEA TURTLE NESTS



0 500 1,000 2,000 3,000 4,000 Feet

2010 SEA TURTLE NESTS

