



**SEA TURTLE
PROTECTION
MEASURES INCLUDING
NEST RELOCATION
AND NEST SUCCESS
EVALUATION FOR THE
NEW PASS
MAINTENANCE
DREDGE AND BEACH
DISPOSAL PROJECT**

A Final Report

Submitted to:

Hendry Corporation
5107 South Westshore Boulevard
Tampa, FL 33611

Submitted by:

Mote Marine Laboratory
1600 Ken Thompson Parkway
Sarasota, FL 34236

Prepared by:

Jerris J. Foote, Principal Investigator
Tracey Mueller, Staff Biologist

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INTRODUCTION

Hendry Corporation, St. Petersburg, Florida was authorized under U.S. Army Corps of Engineers Contract number DACW17-97-C-0036 to maintenance dredge New Pass in Sarasota County, Florida. Sand dredged from the pass was placed at beach disposal sites on Longboat Key and Lido Key. The beach disposal sites, construction and buffer areas correspond approximately to Florida Department of Environmental Protection (FDEP), formerly Florida Department of Natural Resources (DNR), coastal construction control monuments T-22 south to approximately R-39. The FDEP permit for this project contained specific provisions for marine turtle monitoring. The following summarizes these conditions.

Coincident with dredging and placement of material in the beach disposal areas during the sea turtle nesting season (May 1 through October 31), monitoring for sea turtle activity and nest relocation out of the project area began April 1st, 1997. Turtle monitoring activities included performance of daily visual inspections of the beach at sunrise by persons permitted by the Florida Department of Environmental Protection (FDEP) (**Appendix A**). A log of the results of turtle egg monitoring and recovery activities (**Appendix B**) was kept and submitted weekly to Hendry Corporation who in turn submitted a copy to the Chief, Environmental Branch, Jacksonville District.

Only those nests which were to be affected by construction activities were relocated. All nests were relocated between sunrise and 9:00 a.m. daily. The nest relocation areas had prior approval from FDEP and were in secure settings where artificial lighting did not interfere with hatchling orientation. Self-releasing above ground individual cages were utilized on relocated nests to exclude predators. Nests located within the project boundaries but in areas which were not to be impacted by construction or fill activities were left *in situ*. These nests were caged with restraining cages when hatching was eminent if construction activity or lighting from construction activity could have endangered the hatchlings. Nest relocation in association with construction activities ceased when construction activities no longer threatened nests.

MARINE TURTLE MONITORING

BACKGROUND

Beginning April 1, 1997, daily monitoring of the beaches adjacent to New Pass in Sarasota County were begun to fulfill the Florida Department of Environmental Protection (FDEP) permit conditions and to fulfill the scope of work contracted by Mote Marine Laboratory (MML) personnel with Hendry Corporation. MML personnel are permitted through the FDEP under the 1997 marine turtle permits #054 and #028.

For the purposes of this report, each identified sea turtle emergence was classified as resulting in either a "false crawl" or a "nest". A false crawl was defined as an emergence which did not result in egg deposition. The following are examples of false crawls: 1) a turtle that moved onto the beach but did not excavate a nest cavity and returned to the water, or 2) a turtle that moved up the beach, excavated a nest cavity or numerous nest cavities but for unknown reasons did not deposit any eggs in the nest (often these aborted nest excavations are left uncovered by the turtle). A nest was defined as a turtle emergence which resulted in the turtle successfully depositing eggs. Where an emergence resulted in what "appeared" to the experienced patrol personnel to be a successful nest but the eggs were not verified, the site was identified as a "possible nest" and was monitored along with the nests to observe for hatching. These possible nests were reclassified as either nests or false crawls depending on the outcome.

Throughout the construction period, marine turtle monitoring personnel walked the beach within the project boundaries. During the initial pass down the beach, false crawls were recorded and nests were marked with PVC flags. At the end of the pass, the monitoring personnel returned to the marked area. If the nest was determined to be endangered, it was carefully hand excavated. The eggs were placed in a bucket lined with sand and were transported to the designated relocation area. All nests, whether relocated or left *in situ*, were marked and encircled by four wooden stakes connected with yellow surveyors flagging tape and signage identifying the site as a protected sea turtle nest. Each nest was additionally marked with the date the nest was laid and the original location of the nest. Nest location was documented by two methods. In the field, monitoring personnel located nests by relative position to the nearest street address, building, or other landmark. These descriptions were checked in the Laboratory's offices against annotated aerial photographs to associate the locations to the nearest FDEP (formerly Florida Department of Natural Resources [DNR]) coastal construction control line monuments.

After 49 days incubation, nests were monitored in the early morning and again in the evening. Observance of one or more of the following was used to determine the first day of hatch to calculate incubation periods: 1) a hatchling or hatchlings present at the surface, 2) a hatchling crawl or crawls in the sand leading out from the nest area, and/or 3) a depression or emergence hole in the sand directly over the nest.

LONGBOAT KEY

The project area including beach disposal site, construction area and buffer zone began at approximately DNR monument T-22 and extended south to New Pass at approximately 400 ft. south of R-29. For ease in visualizing this area corresponds to the north end of The Privateer I, 1000 Longboat Club Drive south past Sands Point Condominium Association at 100 Sands Point Drive.

Nests found within the construction and disposal areas of south Longboat Key beach were relocated north to suitable beach habitat between DNR monument R-19 and 700 ft. south of R-21 (between the Players Club at 1451 Gulf of Mexico Drive and Beachplace Association at 1111 Gulf of Mexico Drive).

Fire ants began to be observed in and around 12 relocated nests. Guidelines for marine turtle permit holders specify treatment of sea turtle nests that are invaded by fire ants during incubation, hatching, or emergence. This treatment consists of keeping the nest surface area clean and free from organic debris. Amdro, a fire ant bait which has been approved for use around sea turtle nests, was placed in a semi-circle around affected nests.

Monitoring procedures resulted in the documentation of 23 nests and 30 false crawls for a total of 53 emergences on the Longboat Key section of the project area. Seven nests located in the dune vegetation, landward of beach fill activity, were left in situ. Three of these nests hatched successfully while construction activity was not impacting the area. Four *in situ* nests hatched during the construction activities. Restraining cages (**Appendix C**) were placed over two of these nests at approximately 45 days incubation. Restraining cages are box cages made of 1/4 X 1/4 inch mesh which allow enough room inside for the hatchlings to emerge completely from the sand but are entrapped to prevent hatchling disorientation, or death from construction activities. Restraining cages must be checked for hatchlings at shortly after sunset and at least twice a night beginning at 45 days incubation and ending when the cage is removed three days after the initial hatch. The cages were checked once between 11 p.m. and 1 a.m., and once between 5 and 7 a.m. All hatchlings removed from the two restraining cages were safely released away from the project area.

All 23 nests were evaluated for nest success. Of the 16 nests that were relocated a hatch success of 89% was recorded, emergence success was 95% and the average incubation was 56 days (range 52-67 days). A hatch success of 88.5% was recorded for seven nests left in situ, emergence success was 93% and the incubation average was 61 days (range 49-76 days).

LIDO KEY

The project area including beach disposal site, construction area and buffer zone began at approximately DNR monument R-31 (New Pass) and extended south to approximately DNR monument R-39 which is located at Suntide Island Beach Club, 850 Ben Franklin Drive, Lido Key.

Nests found within the construction and disposal area of Lido Key were relocated south of the

project to suitable beach habitat at South Lido Park. The approved relocation area in South Lido Park was near the mouth of Big Sarasota Pass, south and east of DNR monument R-44. All nests relocated to South Lido Park were caged with 24" square box cages made of 2" X 4" wire mesh. The cages have flanges at the bottom to prevent raccoons from digging down and into the nests from the side of the cage. The 2" X 4" wire mesh is large enough to allow hatchlings to leave the cage after hatch and classified as "self-release" cages (Appendix C). The nests were caged as raccoon predation of unprotected nests has historically been common on South Lido Key. Raccoon tracks were documented around the exterior of the nest cages throughout the 1997 season. Raccoons were able to reach into three of the cages through the 2 X 4" mesh and depredate the three nests. After this predation was documented, larger 36" square, box cages were made to replace the previous cages. The three damaged nests were partially excavated to remove broken eggs and organic debris, clean damp sand was used as fill and the 36" square cages were positioned over the nests. These larger cages succeeded in protecting the nests from raccoon predation for the rest of the season.

Monitoring resulted in the documentation of 20 nests and 20 false crawls for a total of 40 marine turtle emergences for the Lido Key portion of the New Pass project area. All 20 of the nests were evaluated for nest success. Of the 18 nests that were relocated a hatch success of 82% was recorded, emergence success was 88% and the average incubation was 58 days (range 51-61 days). A hatch success of 82% was recorded for the two in situ nests, emergence success was 80% and the incubation average was 55 days (range 54-56 days).

RESULTS AND DISCUSSION

Beach monitoring procedures resulted in the documentation of a total of 43 nests and 50 false crawls (Table 1) for the entire New Pass maintenance dredge and beach disposal project. The above numbers include both Longboat Key (approximately 7400 ft.) and Lido Key (approximately 8000 ft.) project shorelines. All of the nests were completed by *Caretta caretta* (loggerhead), no *Chelonia mydas* (green turtle) nests were documented within the project areas.

The first emergence documented within the project boundaries was a false crawl on May 4th on Longboat Key at the north end of the project, 1000 Longboat Club Drive. The last emergence was a nest made on July 28th on Lido Key at the south end of the project, 700 Ben Franklin Drive. A Marine Turtle nesting Final Project Summary and a FDEP Nest Success reporting Form, species: *Caretta caretta* (loggerhead) were completed for the project (Figures 1 and 2, See Appendix D).

INCUBATION

The average incubation was calculated for *in situ* and relocated nests. Nests left *in situ* (n=9) on the beach, or not relocated, had an average incubation rate of 59 days (range 49-76 days). Nests that were relocated (n=34) had an average incubation of 57 days (range 51-67 days). There appeared to be no significant difference in incubation for *in situ* versus relocated nests.

Table 1. Marine turtle nesting data for New Pass Maintenance Dredge Project: Beach disposals areas on Longboat Key and Lido Key - 1997.

Key	Date	Address	FLDNR	Approx. Ft.so.	Nest	Moved	Date hatched	Type screen	No. Hatched	Total Eggs
Longboat										
LB	04-May-97	1000 LCD / PRIVATEER	T-22	100	FC	No				
LB	04-May-97	222 SPD / INN ON THE BEACH	R-28	0	FC	No				
LB	13-May-97	455 LCD / PIERRE	R-26	600	FC	No				
LB	17-May-97	535 LCD / THE SANCTUARY	R-26	0	FC	No				
LB	17-May-97	585 LCD / THE SANCTUARY	R-25	200	N	No	01-Aug-97		104	142
LB	17-May-97	655 LCD / REGENT'S PLACE	R-24	0	N	Yes	12-Jul-97		98	101
LB	20-May-97	220 SPD / INN ON THE BEACH	R-28	800	FC	No				
LB	20-May-97	220-100 SPD	R-28	800	N	Yes	26-Jul-97		98	101
LB	24-May-97	220 SPD / INN ON THE BEACH	R-28	0	FC	No				
LB	24-May-97	220 SPD / INN ON THE BEACH	R-28	100	FC	No				
LB	24-May-97	565 LCD / SANCTUARY	R-23	500	N	No	31-Jul-97		108	112
LB	29-May-97	801 LCD / REGENTS COURT	T-23	300	FC	No				
LB	30-May-97	821 LCD / REGENTS COURT	T-23	0	N	No				
LB	01-Jun-97	1000 LCD / PRIVATEER	T-22	100	N	Yes	02-Aug-97		81	86
LB	01-Jun-97	655 LCD / REGENTS PLACE	R-24	0	N	Yes	28-Jul-97		129	132
LB	02-Jun-97	601 LCD / LONGBOAT KEY TOWERS	R-24	650	FC	No	28-Jul-97		117	123
LB	05-Jun-97	801 LCD / REGENTS COURT	T-23	300	N	Yes	29-Jul-97		101	102
LB	09-Jun-97	821 LCD / REGENTS COURT	T-23	0	N	Yes	03-Aug-97		115	133
LB	11-Jun-97	575 LCD / THE SANCTUARY	R-25	500	N	Yes	05-Aug-97		113	116
LB	13-Jun-97	1000 LCD / PRIVATEER	T-22	200	FC	No				
LB	13-Jun-97	603 LCD / LONGBOAT KEY TOWERS	R-24	450	FC	No				
LB	14-Jun-97	801 LCD / REGENTS COURT	T-23	200	FC	No				
LB	14-Jun-97	801 LCD / REGENTS COURT	T-23	400	N	Yes	09-Aug-97		121	126
LB	20-Jun-97	775 LCD / BEACHES	T-23	600	FC	No				
LB	21-Jun-97	1000 LCD / PRIVATEER	T-22	100	FC	No				
LB	21-Jun-97	565-585 LCD / SANCTUARY	R-25	100	N	Yes	16-Aug-97		79	92
LB	22-Jun-97	545-565 LCD / SANCTUARY	R-25	800	FC	No				

BFD = Ben Franklin Drive
 LCD = Longboat Club Drive
 SPD = Sands Point Drive

R = Restraining
 B = Self-Releasing Box

Table 1 (continued). Marine turtle nesting data for New Pass Maintenance Dredge Project: Beach disposals areas on Longboat Key and Lido Key - 1997.

Key	Date	Address	FLDNR	Approx. Ft.so.	Nest	Moved	Date hatched	Type screen	No. Hatched	Total Eggs
LB	23-Jun-97	1000 LCD / PRIVATEER	T-22	100	FC	No				
LB	23-Jun-97	575-565 LCD / SANCTUARY	R-25	400	N	No	11-Aug-97		123	125
LB	23-Jun-97	775 LCD / BEACHES	T-23	800	FC	No				
LB	24-Jun-97	601 LCD / LONGBOAT KEY TOWERS	R-25	0	N	No	20-Aug-97		73	83
LB	24-Jun-97	775 LCD / BEACHES	T-23	600	N	Yes	15-Aug-97		112	121
LB	27-Jun-97	601 LCD / LONGBOAT KEY TOWERS	R-24	800	N	Yes	18-Aug-97		96	107
LB	28-Jun-97	821 LCD / REGENTS COURT	T-23	0	N	Yes	29-Aug-97		61	130
LB	30-Jun-97	1000 LCD / PRIVATEER	T-22	50	FC	No				
LB	04-Jul-97	585 LCD / SANCTUARY	R-25	200	N	Yes	25-Aug-97		116	124
LB	04-Jul-97	585-575 LCD / SANCTUARY	R-23	300	FC	No				
LB	05-Jul-97	891 LCD / REGENTS COURT	T-22	600	N	No	30-Aug-97	R	87	91
LB	06-Jul-97	821 LCD / REGENTS COURT	T-23	0	N	No	30-Aug-97	R	87	110
LB	09-Jul-97	603 LCD / LONGBOAT KEY TOWERS	R-24	450	N	Yes	30-Aug-97		63	81
LB	10-Jul-97	815 LCD / REGENTS COURT	T-23	200	FC	No				
LB	15-Jul-97	1000 LCD / PRIVATEER	T-22	150	FC	No				
LB	15-Jul-97	401 LCD / L'AMBIANCE	R-27	0	FC	No				
LB	15-Jul-97	455 LCD / PIERRE	R-26	600	FC	No				
LB	15-Jul-97	655 LCD / REGENTS PLACE	R-24	0	FC	No				
LB	16-Jul-97	575 LCD / THE SANCTUARY	R-25	400	FC	No				
LB	18-Jul-97	100 SPD / SANDS POINT	R-29	0	N	Yes	12-Sep-97		86	103
LB	18-Jul-97	1000 LCD / PRIVATEER	T-22	400	FC	No				
LB	18-Jul-97	801 LCD / REGENTS COURT	T-23	400	FC	No				
LB	21-Jul-97	775 LCD / BEACHES	T-23	600	N	Yes	14-Sep-97		73	87
LB	23-Jul-97	1000 LCD / PRIVATEER	T-22	100	FC	No				
LB	23-Jul-97	655 LCD / REGENTS PLACE	R-24	0	FC	No				
LB	23-Jul-97	775 LCD / BEACHES	T-23	700	FC	No				

BFD = Ben Franklin Drive

LCD = Longboat Club Drive

SPD = Sands Point Drive

R = Restraining

B = Self-Releasing Box

Table 1 (continued). Marine turtle nesting data for New Pass Maintenance Dredge Project: Beach disposals areas on Longboat Key and Lido Key - 1997.

Key	Date	Address	Approx.			Moved	Date hatched	Type screen	No. Hatched	Total Eggs
			FLDNR	Ft.so.	Nest					
Lido	05-May-97	400 BFD / LIDO PAVILION	R-37	900	FC	No	30-Jul-97	B	109	111
LIDO	17-May-97	800 BFD / LIDO AMBASSADOR	R-38	600	FC	No	02-Aug-97	B	103	107
LIDO	20-May-97	NORTH LIDO	R-32	0	FC	No	05-Aug-97	B	51	72
LIDO	21-May-97	233 BFD / HOLIDAY INN	T-36	400	FC	No	05-Aug-97	B	103	109
LIDO	21-May-97	373 BFD	R-37	250	FC	No	04-Aug-97	B	76	85
LIDO	30-May-97	NORTH LIDO	R-33	0	N	Yes	31-Jul-97	B	118	124
LIDO	02-Jun-97	700 BFD / RADISSON	R-38	575	N	Yes	07-Aug-97	B	70	73
LIDO	02-Jun-97	NORTH LIDO	R-34	0	N	Yes	10-Aug-97		81	100
LIDO	02-Jun-97	NORTH LIDO	R-32	200	N	Yes	12-Aug-97	B	70	133
LIDO	05-Jun-97	NORTH LIDO	R-34	700	N	Yes				
LIDO	10-Jun-97	NORTH LIDO	R-33	0	N	Yes				
LIDO	10-Jun-97	NORTH LIDO	R-31	400	N	Yes				
LIDO	14-Jun-97	LIDO PUBLIC BEACH	T-36	800	FC	No				
LIDO	15-Jun-97	233 BFD / HOLIDAY INN	R-36	500	N	No				
LIDO	16-Jun-97	NORTH LIDO	R-33	300	N	Yes				
LIDO	17-Jun-97	373 BFD	R-37	300	FC	No				
LIDO	22-Jun-97	155 BFD / LIDO TOWERS (S)	T-36	0	FC	No				
LIDO	22-Jun-97	NORTH LIDO	R-31	400	FC	No				
LIDO	23-Jun-97	LIDO PUBLIC BEACH	R-38	375	FC	No				
LIDO	24-Jun-97	NORTH LIDO	R-35	750	FC	No				
LIDO	25-Jun-97	700 BFD / RADISSON	R-38	500	FC	No				
LIDO	25-Jun-97	NORTH LIDO	R-33	200	N	Yes	19-Aug-97	B	0	0
LIDO	01-Jul-97	615 BFD	R-38	200	N	Yes	25-Aug-97	B	99	104
LIDO	01-Jul-97	NORTH LIDO	R-32	400	N	Yes	28-Aug-97	B	99	109

BFD = Ben Franklin Drive

LCD = Longboat Club Drive

SPD = Sands Point Drive

R = Restraining

B = Self-Releasing Box

Table 1 (continued). Marine turtle nesting data for New Pass Maintenance Dredge Project: Beach disposals areas on Longboat Key and Lido Key - 1997.

Key	Date	Address	Approx.		Moved	Date hatched	Type screen	No. Hatched	Total Eggs
			FLDNR	Nest					
LIDO	04-Jul-97	333 BFD	R-37	0	No				
LIDO	04-Jul-97	373 BFD	R-37	300	No				
LIDO	04-Jul-97	400 BFD / LIDO PAVILLION	R-38	0	Yes	28-Aug-97	B	45	71
LIDO	04-Jul-97	NORTH LIDO	R-32	500	No				
LIDO	05-Jul-97	305 BFD	T-36	800	No				
LIDO	05-Jul-97	NORTH LIDO	R-32	400	No				
LIDO	06-Jul-97	NORTH LIDO	R-33	0	No				
LIDO	06-Jul-97	NORTH LIDO	R-32	0	Yes	30-Aug-97	B	88	106
LIDO	07-Jul-97	NORTH LIDO	R-31	0	No	30-Aug-97		93	111
LIDO	09-Jul-97	NORTH LIDO	R-31	100	Yes	02-Sep-97	B	78	110
LIDO	10-Jul-97	800 BFD / LIDO AMBASSADOR	R-38	850	Yes	06-Sep-97	B	106	110
LIDO	17-Jul-97	NORTH LIDO	R-31	900	No				
LIDO	17-Jul-97	NORTH LIDO	R-32		Yes	10-Sep-97	B	91	97
LIDO	17-Jul-97	NORTH LIDO	R-33	0	Yes	12-Sep-97	B	88	112
LIDO	21-Jul-97	400 BFD / LIDO PAVILLION	R-38	100	No				
LIDO	28-Jul-97	700 BFD / RADISSON	R-38	300	Yes	28-Sep-97	B	56	98

BFD = Ben Franklin Drive

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R = Restraining
B = Self-Releasing Box

HATCH AND EMERGENCE SUCCESS

All 43 nests were excavated for nest success evaluation. The distribution of mean hatch success is shown in Table 2. Hatch success ranged from 85% in relocated nests to 87% in *situ* nests. The overall hatch success rate was 86% for both relocated and *in situ* nests.

Table 2. Hatch success for relocated and *in situ* (not relocated) nests.

	<u>Relocated</u> n=34	<u><i>in situ</i></u> n=9	<u>Total</u> n=43
Eggs Depredated	80	0	80
Eggs Hatched	3079	837	3916
Eggs Unhatched	402	118	520
Live Pipped	11	0	11
Dead Pipped	<u>41</u>	<u>5</u>	<u>46</u>
Total # of Eggs	3613	960	4573
Percent Hatch Success	85%	87%	86%

Each evaluated nest is excavated three days or 72 hours after the initial hatch. The delayed nest excavation allows the majority of hatchlings to emerge from the nest on their own. Hatchlings that have emerged on their own are more vigorous and better equipped to handle the trek down the shoreline to the water. Once in the water these hatchlings also have a better chance at survival as their external yolk sacs have been completely utilized and/or absorbed allowing the hatchling to dive more readily and swim more vigorously.

Excavations of the 43 nests revealed that out of a of 3916 hatched eggs, 260 live hatchlings and 78 dead hatchlings remained in the nests while 3578 emerged on their own within the 72 hour time frame (Table 3). Ninety two percent emergence success was recorded from relocated nests as compared to 90% emergence success for *in situ* nests. The overall emergence success for the evaluated nests was 91%.

Table 3. Hatchling emergence success for relocated and *in situ* (not relocated) nests.

	<u>Relocated</u> n=34	<u>in situ</u> n=9	<u>Total</u> n=43
Eggs Hatched	3079	837	3916
Live in Nest	(217)	(43)	(260)
Dead in Nest	(41)	(37)	(78)
Total # Emerged	<u>2821</u>	<u>757</u>	<u>3578</u>
Total Eggs Hatched	3079	837	3916
Percent Emerged	92%	90%	91%

HATCHLING DISORIENTATION EVENTS

A total of three hatchling disorientations (**Appendix E**) were recorded for the project area. After emerging from the nest, hatchlings typically move away from shadows (e.g., dune vegetation, tree silhouettes, and unlighted structures) and move toward the lighter, open horizon of the water (Salmon *et al.*, 1992). Hatchlings are attracted to artificial lighting (Witherington, 1991; 1992; 1996) and instead of heading toward the water will travel great distances to artificially lighted areas. This activity of looping around or traveling in a direction other than to the water is termed a disorientation. Disorientations often lead to death of the hatchlings from dehydration, predation, or being run over. Disorientations may involve from one hatchling to an entire nest.

Table 4. Summary of marine turtle hatchling disorientation events (n=3).

<u>Incident Date</u>	<u>Nest Location</u>	<u>#Hatchlings Disorienting</u>	<u>% of Hatch Disorienting</u>	<u>Direction Traveled</u>
8/10-11/97	~500' S R-36	47	100%	N & E-street & motel
8/11/97	~400' S R-25	116	100%	S & SW
8/20-21/97	~R-25	69	99%	N & W

The three disorientation events involved nests that were laid in dune vegetation (n=2) or within a rock revetment (n=1) and had been classified as false crawls (**Table 4**). The disorientation events were observed during the morning patrols. In each case the nest was located and excavated.

Monitoring for the New Pass maintenance dredge and beach disposal project was completed on September 18, 1997 with the end of construction and final acceptance by the U.S. Army Corps of Engineers. Nest monitoring continued until 10/01/97 when the last nest from the project area was excavated for evaluation.

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APPENDIX A

Florida Department of Environmental Protection

Marine Turtle Permits
#028 and #054



Department of Environmental Protection

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

MARINE TURTLE PERMIT

Ms. Jerris J. Foote
Mote Marine Laboratory
1600 Thompson Parkway
Sarasota, Florida 34236

TP #028

Permit Expires: 31 January 1998

Renewal, permitted activities unchanged.

Authorized To: (1) conduct stranding/salvage activities, (2) conduct nesting surveys, (3) relocate nests, (4) screen nests with self-releasing screen/cage, (5) screen nests with restraining cage.

Authorized Nesting Survey Area: Venice Beach, Brohard Beach and North Casperson Beach (from the Venice jetties south through North Casperson Beach).

Authorized Research Projects: None.

Authorized Personnel: J. Foote, C. Faith, C. Gruschke, H. Little, P. Myers, G. Muth, E. Phero, N. Phero, R. Ringel, A. Resseguie, C. Wilson, F. Verderosa, A.G. Rosequist, D. Rosequist, M. Salisbury (DVM), L. Lackman (DVM), B. Brown (DVM), R. Hines (DVM).

General Conditions: Permitted individuals must adhere to the FDEP marine turtle permit guidelines developed under a Section 6 Cooperative Agreement between FDEP and the U.S. Fish and Wildlife Service.

Special Conditions: None.

David W. Arnold, Chief
Bureau of Protected Species Management
Division of Marine Resources

Date

1/27/97

cc: Sandy MacPherson, Southeast Regional Sea Turtle Coordinator, USFWS
FMP, District(s) 4
FDEP, Tequesta Office



Department of Environmental Protection

Lawton Chiles
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherell
Secretary

MARINE TURTLE PERMIT

Ms. Vicki Wiese
Mote Marine Laboratory
1600 Thompson Parkway
Sarasota, Florida 34236

TP #054

Permit Expires: 31 January 1998

Renewal, permitted activities amended.

Authorized To: (1) conduct stranding/salvage activities, (2) conduct nesting surveys, (3) screen nests with self-releasing screen/cage, (4) relocate nests, (5) hold turtles for rehabilitation, (6) hold loggerheads for educational display, (7) conduct necropsies, (8) tag nesting females, (9) maintain and display preserved specimens, (10) tag and release turtles, (11) screen nests with restraining cage, (12) conduct public turtle watches, (13) collect blood samples.

Authorized Nesting Survey Area: Longboat Key (Sarasota County section), Lido Key and Siesta Key (Manatee County Line south to Midnight Pass).

Authorized Research Projects: (1) Collection of blood samples from netted marine turtles, authorized 2/1997.

Authorized Personnel: V. Wiese, J. Foote, N. Park, G. Case, G. Brown, J. Tyminski, M. McLeod, J. Nickelson, M. Hastings, P. Stolberg, D. Liebler, D. Dockery, J. Corey, A. Cannon, M. Liem, K. Boots-Brand, S. Olsen, D. Marshall, T. Freck, J. Beech, J. Lawton, C. Silver, T. Mueller, M. Dawson, C. Manire (DVM).

General Conditions: Permitted individuals must adhere to the FDEP marine turtle permit guidelines developed under a Section 6 Cooperative Agreement between FDEP and the U.S. Fish and Wildlife Service.

Special Conditions: The tagging of nesting females may only be conducted on Casey Key.

David W. Arnold, Chief
Bureau of Protected Species Management
Division of Marine Resources

2-14-97
Date

cc: Sandy MacPherson, Southeast Regional Sea Turtle Coordinator, USFWS
FMP, District(s) 4
FDEP, Tequesta Office

APPENDIX B

**Log of Results for
Monitoring New Pass**

Weekly reports for the New Pass monitoring (4/1 through 6/16/97) were originally submitted together with the Longboat Pass weekly data. For purposes of this report the New Pass data has been extracted and is being submitted on one form.



MOTE MARINE LABORATORY Marine Turtle Nesting Summary Report

This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, Florida 34236
 Telephone (day): 941/388-4441; 388-4331 (evening): 941/346-3106
 Beach Name: South Longboat Key, and Lido Key
(North Lido and Lido Public Beach)

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: S t. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mile km/mi (circle unit):
 County: Sarasota
 Survey Report For: 4/01/97 (include month/day):
 End Date of Survey Report: through 6/16/97 (include month/day):
 # Days Per Week Surveyed: seven (include month/day):

- Area surveyed daily at sunrise

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	18	0	0	0
Total # of Nests	20	0	0	0
Total # Relocated Nests	16	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons.

Describe predator control methods employed (if any): Self-release cages were placed over nests which were relocated to South Lido Park because raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

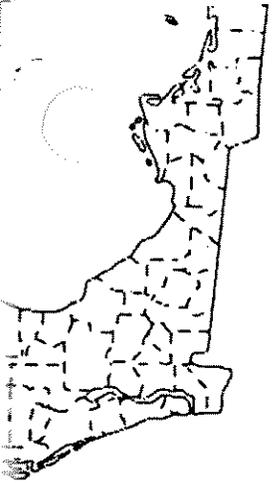
How many persons were involved in actually surveying your assigned beach during 1997? _____

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

Signature of Principal Permit Holder

Date

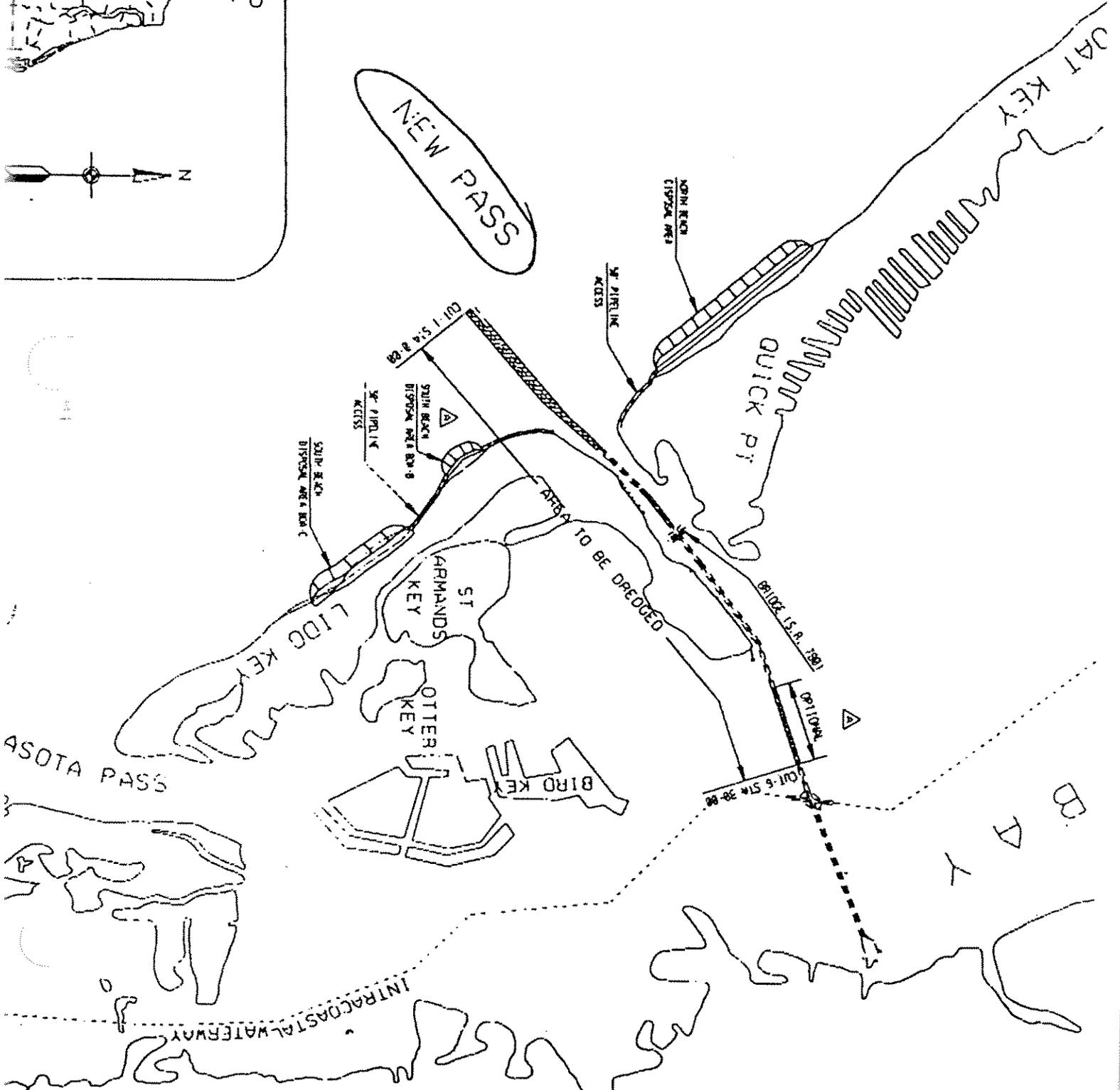
LOCATION MAP
STATE OF FLORIDA



411 through 4128
No activity

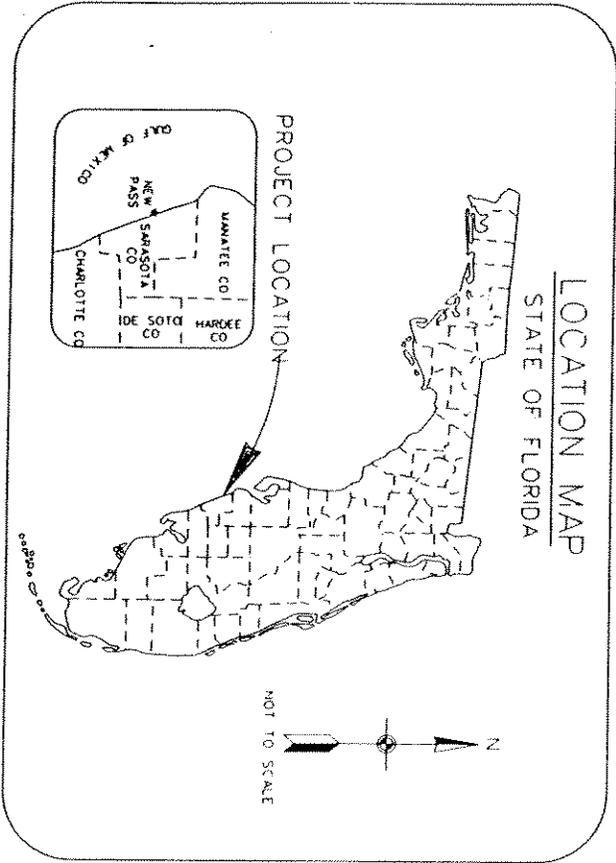
MEXICO

NEW PASS

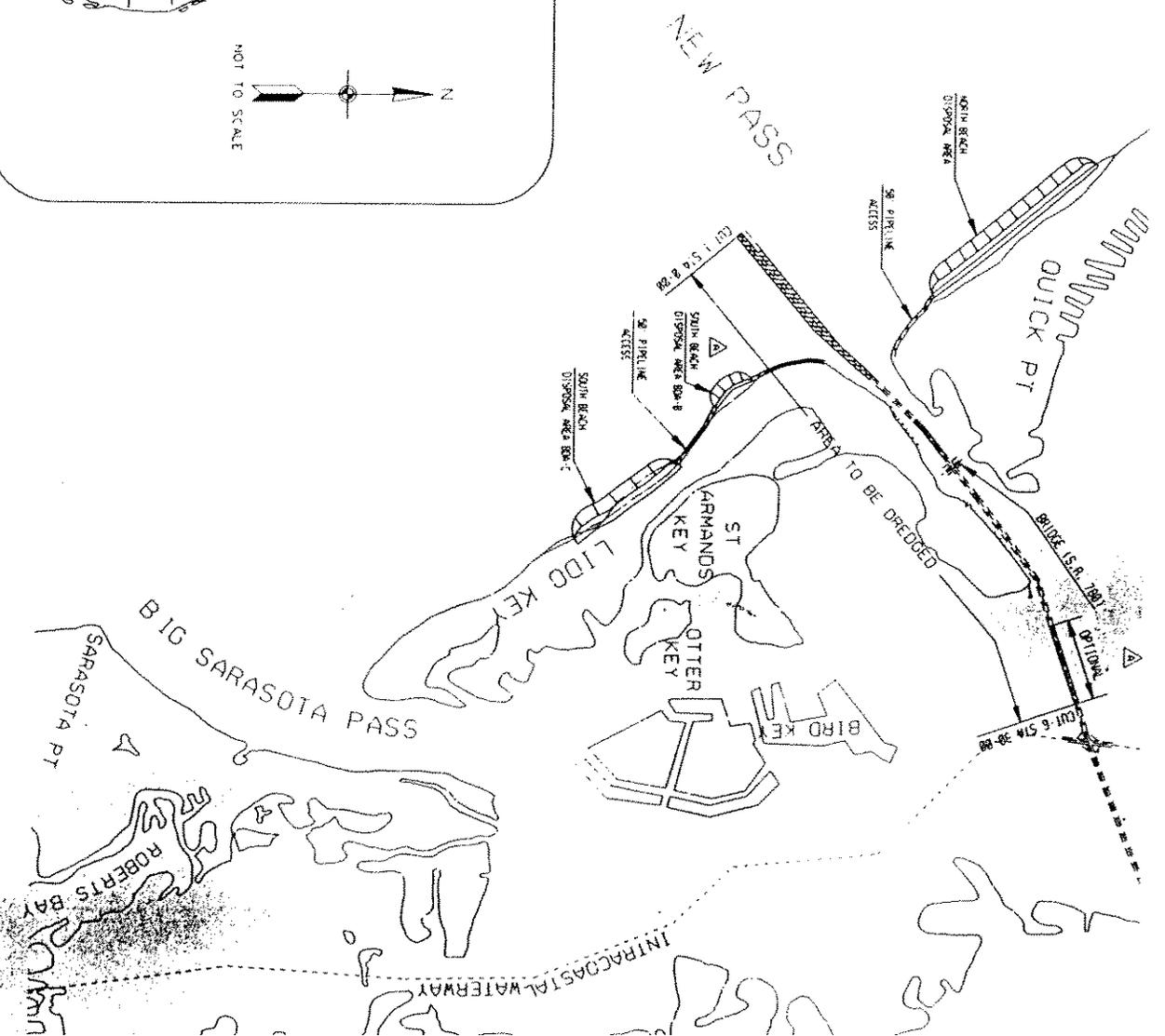


5/7 through 5/12
No activity

EX ICC



VICINITY MAP



5

4

3

A

B

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 cellular 941/374-4979
 Beach Name: South Longboat Key and Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/SL Lucie County Line; South Boundary: SL Lucie Inlet

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 7/22/97 (include month/day): _____
 End Date of Survey Report: through 7/28/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____

Area surveyed daily at sunrise: surveys began 4/1/97

Amended

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	3			
Total # of Nests	2 1			
Total # Relocated Nests	2 1			

- Note:**
- False Crawl = emergence by an adult female that does not result in a nest
 - Relocated = nest reburied at a different site on the beach, not in a hatchery
 - Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 - In situ = natural nest left in place where deposited
 - Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

One nest was located at the southernmost boundary of the

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons.

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes.

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

Percival Fort
Signature of Principal Permit Holder

7/22/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 cellular 941/374-4979
 Beach Name: South Longboat Key and Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 7/15/97 (include month/day): _____
 End Date of Survey Report: through 7/21/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____

Area surveyed daily at sunrise: surveys began 4/1/97

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	9	0	0	0
Total # of Nests	4	0	0	0
Total # Relocated Nests	4			

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons.

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes.

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

Kevin White
Signature of Principal Permit Holder

7/14/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 cellular 941/374-4979
 Beach Name: South Longboat Key and Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 7/8/97 (include month/day): _____
 End Date of Survey Report: through 7/14/97 (include month/day): _____
 # Days Per Week Surveyed: 7 (include month/day): _____

Area surveyed daily at sunrise: surveys began 4/1/97

Amended

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	1	0	0	0
Total # of Nests	2 3	0	0	0
Total # Relocated Nests	2 3	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

One nest was located at the southernmost boundary of the

LOCATION MAP
STATE OF FLORIDA



MEXICO

NEW PASS

BOAT KEY

(Note in plan) - 1/5 West
from the
center of
Boat Key
to the
center of
New Pass

Mr. AIRLINK
KISS

QUICK PT.

(Note in plan) - 1/5 West
from the
center of
New Pass
to the
center of
St. Armands
Key

Mr. AIRLINK
KISS

ST. ARMANDS
KEY

AREA TO BE DREDGED

BRIDGE U.S.R. 180

(Note in plan) - 1/5 West
from the
center of
St. Armands
Key
to the
center of
Lido Key

Mr. AIRLINK
KISS

SHIP
DISPOSAL
AREA

LIDO KEY

OTTER
KEY

BIRD KEY

OPTIONAL

OUT-6 514 38-88

ASOTA PASS

B
I
D
Y

INTRACOASTAL WATERWAY

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area

Were hatchling disorientation events documented during 1996? Yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 5

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

Jerriso J. Frate
Signature of Principal Permit Holder

7/7/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): (941) 388-4441/388-4331 (evening): (941) 346-3106
 Beach Name: South Longboat Key/Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 7/01/97 (include month/day): _____
 End Date of Survey Report: through 7/7/97 (include month/day): _____
 # Days Per Week Surveyed: 7 (include month/day): _____

Area surveyed daily at sunrise; surveys began 4/1/97

Amended 7/14

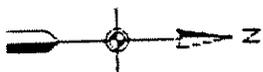
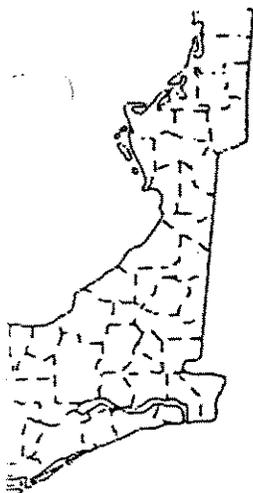
NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	67	0	0	0
Total # of Nests	8	0	0	0
Total # Relocated Nests	5	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

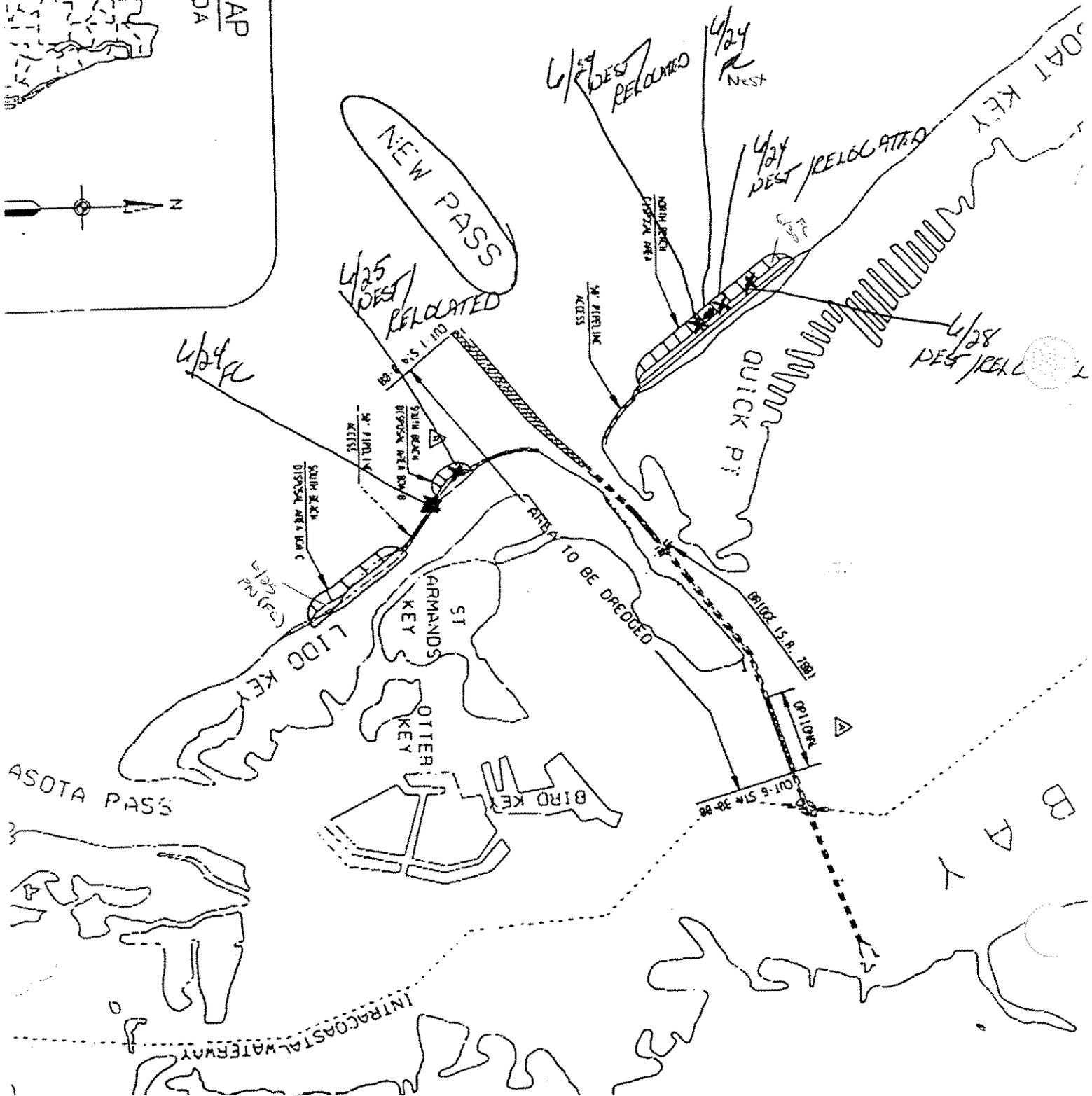
COMPLETE THE BACK OF THIS FORM ALSO

0817-121

LOCATION MAP
STATE OF FLORIDA



MEX ICD



Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons

Describe predator control methods employed (if any): A self-release cage was placed over the nest from Lido Key after it was relocated out of the project area as raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes:

How many persons were involved in actually surveying your assigned beach during 1997? 5

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

Jennifer J. Fode
Signature of Principal Permit Holder

6/30/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Pkwy.
Sarasota, FL. 34236
 Telephone (day): 941/388-4441/388-433 (evening): 941/348-3106
 Beach Name: South Longboat Key/Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approximately 2.5 mi km/mi (circle unit):
 County: Sarasota
 Survey Report For: 6/24/97 (include month/day):
 End Date of Survey Report: through 6/30/97 (include month/day):
 # Days Per Week Surveyed: 7 (include month/day):
 Time of day surveyed: Sunrise *Amended*

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	2 3	0	0	0
Total # of Nests	4 5	0	0	0
Total # Relocated Nests	3 4			

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

One false crawl was located at the southernmost boundary of the nest area

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons

Describe predator control methods employed (if any): No nests were caged between 6/17/97 and 6/23/97

Were hatchling disorientation events documented during 1996? yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 5

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

Jerome J. Foster
Signature of Principal Permit Holder

6/25/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441; 388-4331 (evening): 941/346-3106
 Beach Name: South Longboat Key/Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approximately 2.5 mi km/mi (circle unit):
 County: Sarasota
 Survey Report For: 6/17/97 (include month/day)
 End Date of Survey Report: through 6/23/97 (include month/day)
 # Days Per Week Surveyed: 7 Time of Day Surveyed: sunrise

AMEDED 8/11/97

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	10 9	0	0	0
Total # of Nests	2 2	0	0	0
Total # Relocated Nests	1	0	0	0

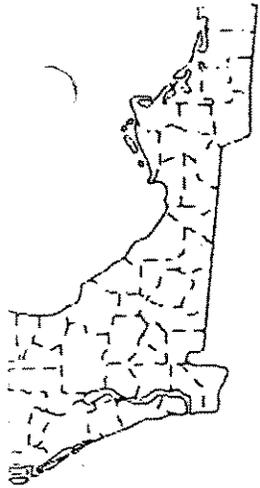
Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

613-619

MEXICO

LOCATION MAP
STATE OF FLORIDA



NEW PASS

US DIST
RELOCATED

NORTH BEACH
CRIPPLE AREA A

SPR AIRLINE
ACCESS

BOAT KEY

QUICK PJ

US DIST
RELOCATED

CUT 1 STA 1+00
28+00

SPR AIRLINE
ACCESS

SOUTH BEACH
DISPOSED AREA B

SOUTH BEACH
DISPOSED AREA C

AREA TO BE DREDGED

BRIDGE U.S.R. 190

CUT 10+00

CUT 6 STA 38+00

LILOG KEY

ST
ARMANDS
KEY

OTTER
KEY

BIRD KEY

ASOTA PASS

INTRACOASTAL WATERWAY

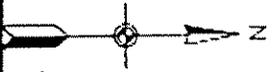
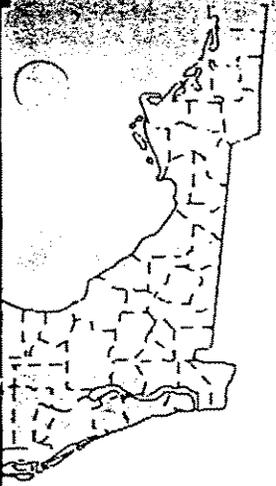
B
D
Y

5113 to 5119 report

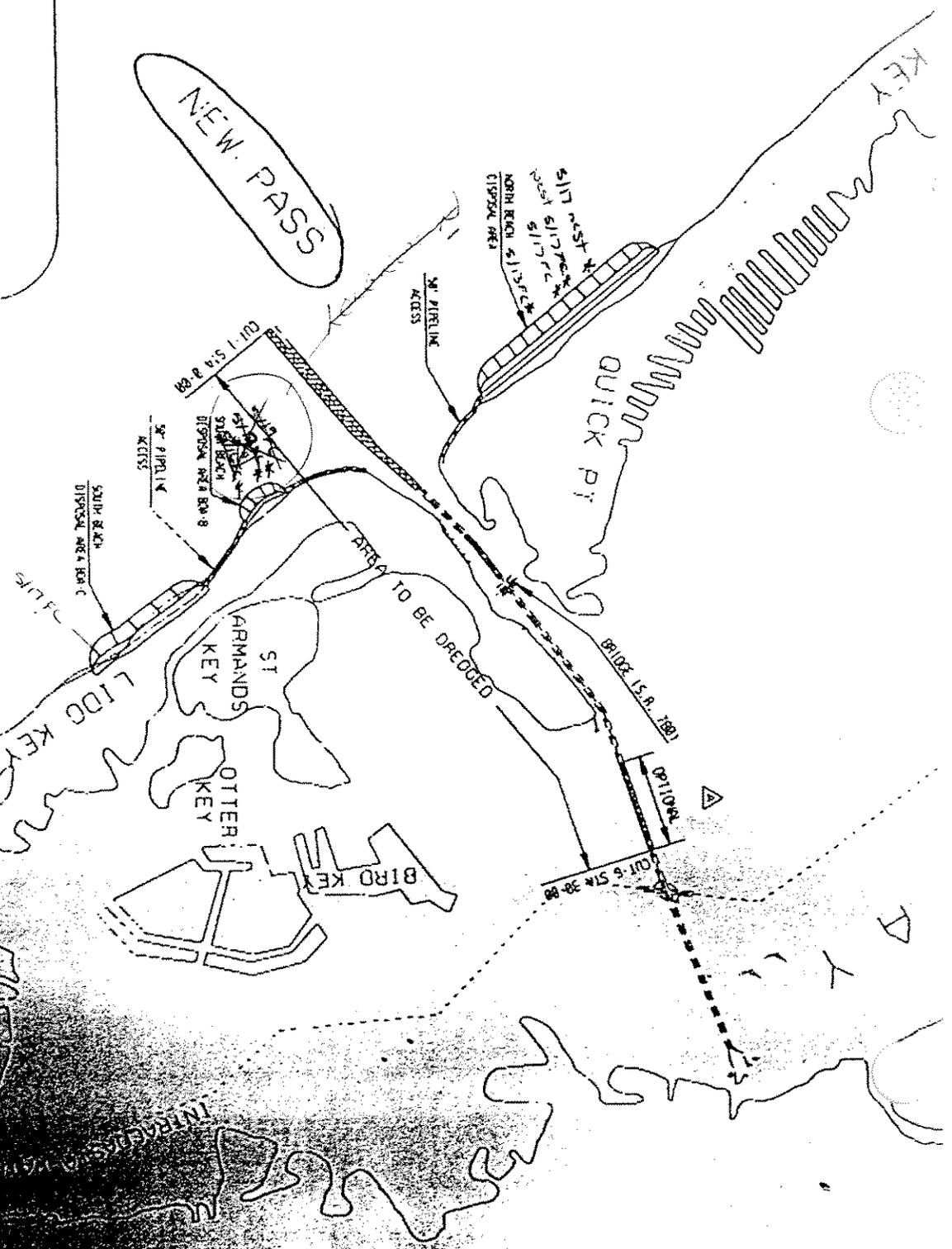
5113 - 5119

MEXICO

LOCATION MAP
STATE OF FLORIDA



NEW PASS



PASOTA PASS

INTEGRATED WETLANDS

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-2106
 Beach Name: cellular 941/374-4979
South Longboat Key and Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 7/29/97 (include month/day): _____
 End Date of Survey Report: through 8/04/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____

Area surveyed daily at sunrise: surveys began 4/1/97

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0			
Total # of Nests	0			
Total # Relocated Nests	0			

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons.

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes.

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

James J. Fort
Signature of Principal Permit Holder

8/14/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 cellular 941/374-4979
 Beach Name: South Longboat Key and Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 8/05/97 (include month/day): _____
 End Date of Survey Report: through 8/11/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____

Area surveyed daily at sunrise: surveys began 4/1/97

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0			
Total # of Nests	0			
Total # Relocated Nests	0			

- Note:**
- False Crawl = emergence by an adult female that does not result in a nest
 - Relocated = nest reburied at a different site on the beach, not in a hatchery
 - Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 - In situ = natural nest left in place where deposited
 - Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons.
Six nests from project area were partially destroyed by predation between 8/05/97 and 8/11/97

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes.

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

James H. Harte
Signature of Principal Permit Holder

8/11/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 cellular 941/374-4979
 Beach Name: South Longboat Key and Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 8/12/97 (include month/day): _____
 End Date of Survey Report: through 8/18/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____

Area surveyed daily at sunrise: surveys began 4/1/97

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0	0	0	0
Total # of Nests	0	0	0	0
Total # Relocated Nests	0	0	0	0

- Note:
- False Crawl - emergence by an adult female that does not result in a nest
 - Relocated - nest reburied at a different site on the beach, not in a hatchery
 - Hatchery - permanent fenced area where nests are reburied and concentrated in a group
 - In situ - natural nest left in place where deposited
 - Screened - protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nesses affected if known): Raccoons. Fire Ants.

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes.

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

[Signature]
Signature of Principal Permit Holder

8/18/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 cellular 941/374-4979
 Beach Name: South Longboat Key and Lido Key

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 mi. km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 8/19/97 (include month/day): _____
 End Date of Survey Report: through 8/25/97 (include month/day): _____
 # Days Per Week Surveyed: 7 (include month/day): _____

Area surveyed daily at sunrise: surveys began 4/1/97

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0	0	0	0
Total # of Nests	0	0	0	0
Total # Relocated Nests	0	0	0	0

** Total # in situ nests screened: 2 (please refer to back of report) **
 Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons. Fire Ants. Three nests from project area were threatened by ant. predation between 8/19/97 and 8/25/97.

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area.

Amdro was placed landward of nests which were threatened by ants. Yes.
Were hatchling disorientation events documented during 1996? Yes.

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

Jessie J. Tate
Signature of Principal Permit Holder

8/25/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 Beach Name: cellular 941/374-4979
South Longboat Key, and Lido Key (North Lido
and Lido Public Beach)

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: S t. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 miles km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 8/26/97 (include month/day): _____
 End Date of Survey Report: 9/02/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____
 Area surveyed daily at sunrise: surveys began 4/01/97.

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0	0	0	0
Total # of Nests	0	0	0	0
Total # Relocated Nests	0	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons and fire ants.
Raccoons continue to "investigate" caged nests at South Lido but have been unable to get to the nests because of the cages. Fire ants were found at 2 nest locations.

Describe predator control methods employed (if any): Amdro was placed landward of the nest cavity at the 2 above mentioned locations. Self-release box cages with 4" flanges at the bottom of the cage have been placed over all nests relocated to South Lido.

Were hatchling disorientation events documented during 1996? yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

Jessie J. Feate
Signature of Principal Permit Holder

9/2/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 Beach Name: South Longboat Key, and Lido Key (North Lido and Lido Public Beach)

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx 2.5 miles km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 9/03/97 (include month/day): _____
 End Date of Survey Report: 9/08/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____
 surveys began 4/01/97; Area surveyed daily at sunrise.

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0	0	0	0
Total # of Nests	0	0	0	0
Total # Relocated Nests	0	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests are relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons, fire ants. No nests were predated between 9/03/97 and 9/08/97. However, raccoons remain in the area of South Lido.

Describe predator control methods employed (if any): Self-release cages have been placed over all nests relocated to South Lido.

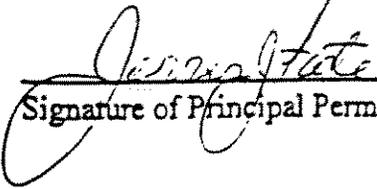
Were hatchling disorientation events documented during 1996? yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 5

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


Signature of Principal Permit Holder

9/8/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 Beach Name: South Longboat Key, and Lido Key (North Lido
and Lido Public Beach)

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 miles km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 9/09/97 (include month/day): _____
 End Date of Survey Report: through 9/15/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____

Area surveyed daily at sunrise, surveys began 4/01/97.

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0	0	0	0
Total # of Nests	0	0	0	0
Total # Relocated Nests	0	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
 In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized.

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests are relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons, fire ants, ghost crab. One nest from Longboat project area was predated by a ghost crab and fire ants.

Describe predator control methods employed (if any): Self-release cages were placed over all nests relocated to South Lido. Amdro was placed landward of the nest predated by fire ants.

Were hatchling disorientation events documented during 1996? yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 5

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

James J. Tate
Signature of Principal Permit Holder

9/16/97
Date

MOTE MARINE LABORATORY

Marine Turtle Nesting Summary Report



This form must be typed or printed legibly in ink and signed

Turtle Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, FL 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 Beach Name: South Longboat Key and Lido (North Lido and
Lido Public Beach)

Describe survey boundaries geographically, be specific and use known landmarks that can be found on a map (or send a marked map). Example - North Boundary: 1.5 miles south of the Martin/St. Lucie County Line; South Boundary: St. Lucie Inlet.

North Survey Boundary: Approximately DNR Monument T-22
 South Survey Boundary: Approximately DNR Monument R-39
 Beach Length: Approx. 2.5 miles km/mi (circle unit): _____
 County: Sarasota
 Survey Report For: 9/16/97 (include month/day): _____
 End Date of Survey Report: 9/18/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____

Area surveyed daily at sunrise, surveys began 4/01/97.
 This report represents the final weekly report.

NESTING SUMMARY TABLE	CC	CM	DC	UNKNOWN
Total # of False Crawls	0	0	0	0
Total # of Nests	0	0	0	0
Total # Relocated Nests	0	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project.

Predators (type predator and number of nests affected if known): Raccoons & ghost crabs

Describe predator control methods employed (if any): A self-release cage was placed over nests from Lido Key after they were relocated out of the project area because raccoons are a known predator in the area.

Were hatchling disorientation events documented during 1996? Yes

Have all disorientation reports have been submitted o DEP? YES NO not as of this date.

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

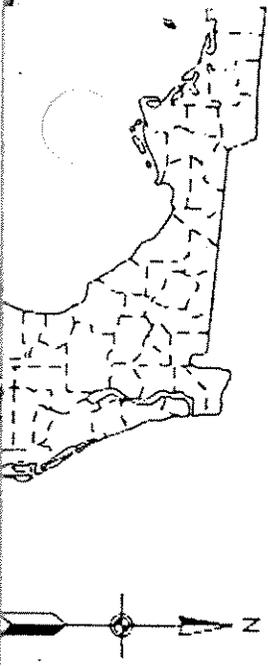
How many persons were involved in actually surveying your assigned beach during 1997? 5

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

James I. Feste
Signature of Principal Permit Holder

9/18/97
Date

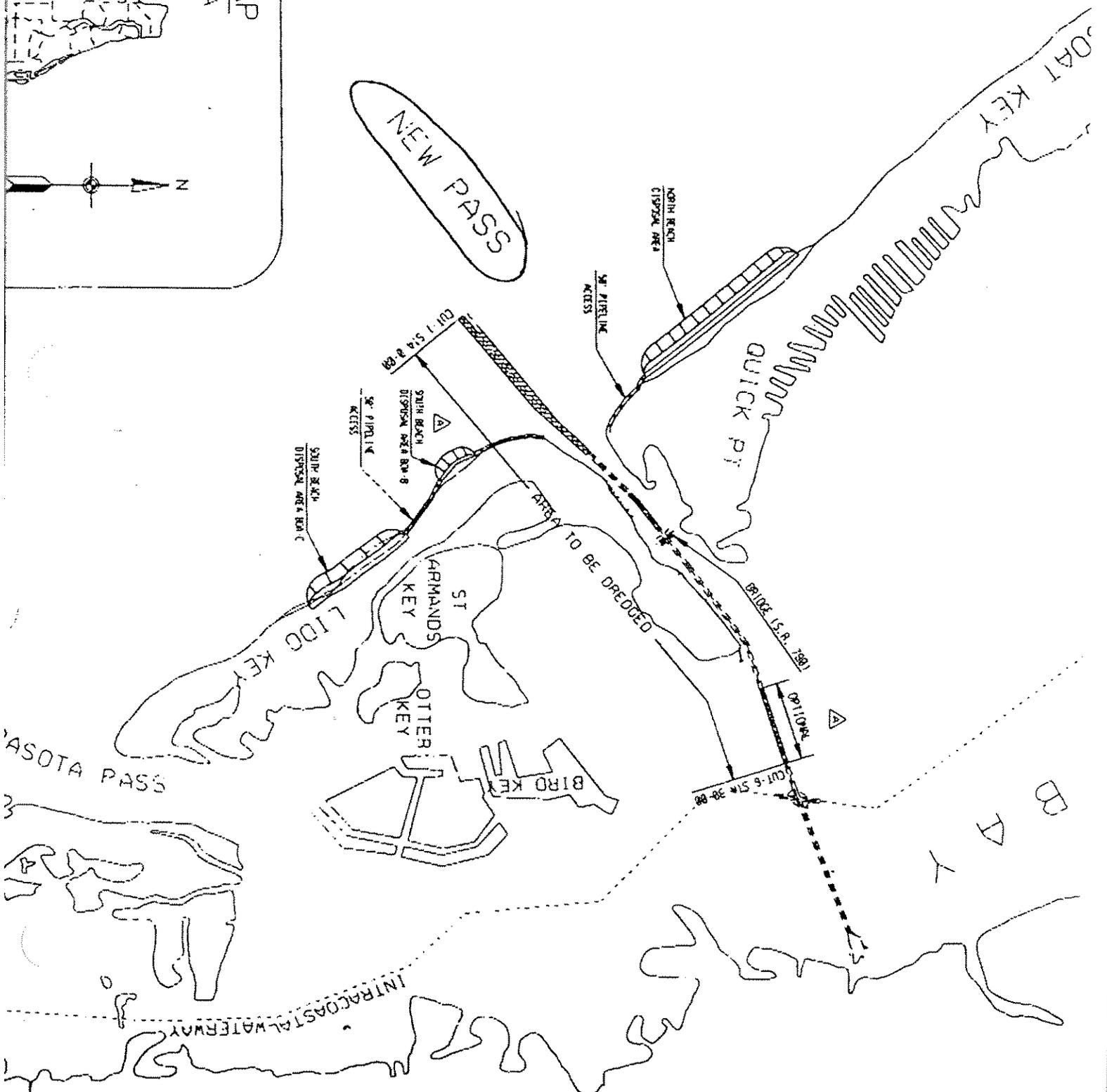
LOCATION MAP
STATE OF FLORIDA



7/29 through 9/18
No activity

MEXICO

NEW PASS



SASSA PASS

BIRD KEY

APPENDIX C

**Florida Department of Environmental Protection
Guidelines for Nest Caging**

MARINE TURTLE CONSERVATION GUIDELINES

PERMIT ACTIVITY: NEST CAGING

AUTHORIZATION SUMMARY

This section is specifically intended for those persons whose permit authorizes them to protect nests with self-releasing screen/cage or protect nests with restraining cage. These personnel are also authorized to:

- mark nests

Personnel are not authorized to conduct the following activities unless specifically stated on their permit:

- conduct nesting surveys
- relocate nests
- use self releasing hatchery
- use restraining hatchery

Personnel are not authorized to conduct the following activities without explicit permission from FDEP:

- use any caging material with a mesh size that is smaller than 2" x 4" unless authorized to protect nests with restraining cage or unless there is an area maintained along the seaward face of the cage from which hatchlings can readily escape
- use probes (other than fingers) to locate clutches

ACTIVITY DESCRIPTION

When a nest is at high risk of predation (by raccoons, foxes, pigs, coyotes, etc.), the eggs and pre-emergent hatchlings may be protected by placing a self-releasing cage over the nest. When hatchlings at a nest site are certain to be misoriented by lighting, and the lighting cannot be resolved before the hatchlings are due to emerge, then the nest may be covered by a restraining cage to keep hatchlings from crawling toward lighting. While the exact construction of cages may vary (see examples of two cages in Figure 12 and Figure 13), all restraining cages are to provide enough room for all hatchlings to completely emerge from the sand. In all self-releasing cages, the 2" X 4" mesh of the cage must be oriented so that the 4" opening is parallel to the surface of the sand. If self-releasing cages are not constructed of a material with a mesh size that is 2" X 4" or greater, than they are to have, on the seaward face of the cage, a regularly maintained area from which hatchlings can readily escape. If hatchlings are to escape through an opening in the cage, the bottom edge of the opening may not extend above the sand's surface, the top edge of the opening is to be at least 2" above the sand's surface, and the opening is to extend along the entire seaward side of the cage. Cages are to be centered exactly over the egg chamber to make it less likely that mammalian predators will burrow to the eggs from the side

GUIDELINES FOR NESTING BEACH ACTIVITIES

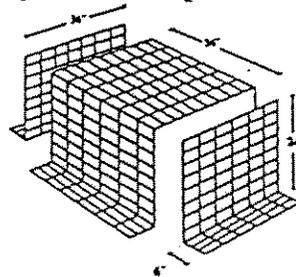
of the cage, and to make sure that any anchoring stakes placed along the edges of the cage will not enter the egg chamber.

The first step in caging a nest is to find the location of the egg chamber within the body pit. Do this by gently and systematically digging by hand, and probing with fingers only. Do not use shovels or any other tools for either digging or probing. Once the top eggs are located, use moist sand from a similar depth to re-cover the eggs. Dry sand should not be allowed to fall into the egg chamber. Once the egg chamber is re-covered to the upper level of the surrounding moist sand, gently pat the sand surface above the eggs with your hand. Temporarily mark the location of the egg chamber by carefully placing a marker a very short distance into the sand above the egg chamber. Be sure that this marker is not inserted into the egg chamber. Replace the dry sand over this area to the depth present before you began excavation. Your temporary marker should be tall enough to extend above the sand level.

Most cages are anchored by burying the outward pointing flanges (Figure 13) about one foot under the sand's surface. Center the cage over the egg chamber and trace the edges of the cage in the sand. The cage should be oriented so that the opposing sides of the cage are either parallel or perpendicular to the shoreline. Remove the cage and the temporary egg chamber marker, and carefully dig a one foot deep trench along the tracing of the edges of the cage. Place the cage into the trench and fill the trench with sand. When completed, the sand around the cage and over the egg chamber should be at the original level. If stakes are used to secure a cage, drive the stakes at an angle away from the egg chamber. Signs for marking caged nests are available from FDEP.

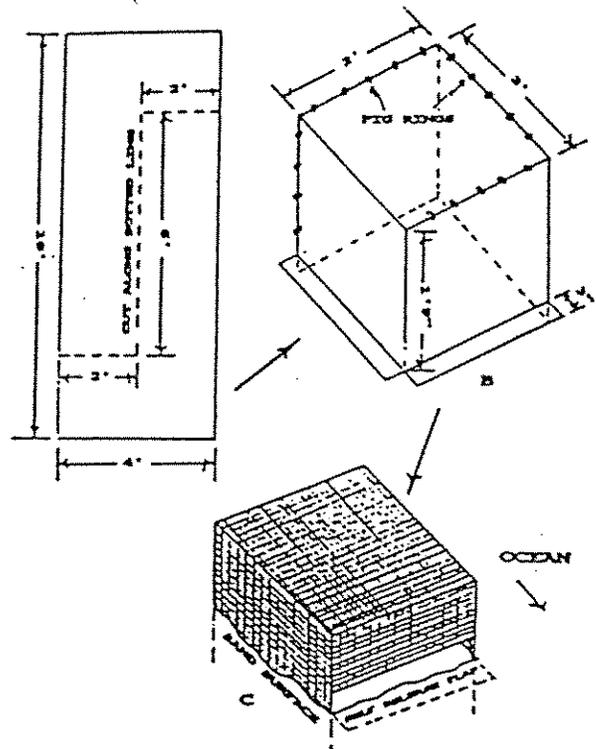
Because cages may become partially or completely dislodged, they should be checked regularly. If a restraining cage is used, each cage must be checked for hatchlings at least twice a night beginning 45 days after the clutch was deposited and ending when the cage is removed. Restraining cages must be checked for hatchlings once between 11 p.m. and 1 a.m., and once between 5 a.m. and 7 a.m. After checking the nest during the latter period, restraining cages should be opened (see Figure 12) to allow hatchlings that may emerge during the day to escape the cage. These cages may then be closed again at sunset. All hatchlings that are discovered within restraining cages are immediately released at an appropriate beach site and allowed to crawl to the water. Remember, there must be a way to get hatchlings out of a restraining cage without pulling the cage off the nest. Self-releasing cages should be checked each morning during the period of anticipated hatching, just in case some hatchlings have become trapped. Please remove all cages from the beach after hatchling emergence is completed.

Figure 12. Example of a self-releasing cage. The cage is constructed of 2" x 4" welded utility wire. Hatchlings are able to escape through the mesh of the wire. Cage design courtesy of The Conservancy.



MARINE TURTLE CONSERVATION GUIDELINES

Figure 13. Example of a cage that can be either self-releasing or restraining. The cage is constructed of 1/2" galvanized hardware cloth. It becomes self-releasing if a 3" flap is cut along the entire bottom edge of the seaward side of the cage. This flap is folded outward and downward into a trench dug in front of the cage. The flap is then buried under no more than one inch of sand, leaving a 2" tall space through which hatchlings can escape. Restrained hatchlings are collected through a 6" x 6" flap cut in the top of the screened and secured by wire ties. Cage design courtesy of Ecological Associates, Inc.



REPORTING REQUIREMENTS

The principal permit holder is to report the total number of nests that are caged as well as the type of caging used and the reasons for caging on the annual nesting summary forms.

PERMIT ACTIVITY: NEST RELOCATION

AUTHORIZATION SUMMARY

This section is specifically intended for those persons whose permit authorizes them to relocate nests. These personnel are also authorized to:

- mark nests

Personnel are not authorized to conduct the following activities unless specifically stated on their permit:

- conduct nesting surveys
- protect nests with self-releasing screen/cage
- protect nests with restraining cage

APPENDIX D

List of Figures

- Figure 1. Mote Marine Laboratory Marine Turtle Nesting
Final Project Summary
New Pass Maintenance Dredge and Beach Disposal
- Figure 2. Florida Department of Environmental Protection
Nest Success Reporting Form for 1997
Species and *Caretta caretta* New Pass Maintenance
Dredge and Beach Disposal

MOTE MARINE LABORATORY

Marine Turtle Nesting Final Project Summary



This form must be typed or printed legibly in ink and signed

Permit Number (TP#): 028 Contract No.: DACW17-97-C-0036
 Principal Permit Holder: Jerris J. Foote
 Organization Name: Mote Marine Laboratory
 Organization Address: 1600 Thompson Parkway
Sarasota, Florida 34236
 Telephone (day): 941/388-4441 or 388-4331 (evening): 941/346-3106
 Beach Name: South Longboat Key
and Lido (North Lido and Lido Public Beach)
 North Survey Boundary: Approx. DNR Monument T-22 (middle of 1000-1050 Long. Club Dr.)
 South Survey Boundary: Approx. DNR Monument R-39 (middle of 850 Ben Franklin Dr.)
 Beach Length: Approx. 2.5 miles km/mi (circle unit): _____
 County: Sarasota
 Start Date of Survey: 4/01/97 (include month/day): _____
 End Date of Survey Report: through 9/18/97 (include month/day): _____
 # Days Per Week Surveyed: seven (include month/day): _____
 Area surveyed daily at sunrise.

NESTING SUMMARY TABLE	CC	CM	DC
Total # of Nests	43	0	0
Total # of Non-Nesting Emergencies (false crawls)	50	0	0
Date (month and day) of First Documented Nest	5/17/97		
Date (month and day) of Last Documented Nest	7/28/97		
Total # of Nests Left <i>in situ</i> (a+b+c+d)	9	0	0
(a) # of <i>in situ</i> Nests without Additional Protection	7	0	0
(b) # of <i>in situ</i> Nests with Self-Releasing Flat Screen	0	0	0
(c) # of <i>in situ</i> Nests with Self-Releasing Cage	0	0	0
(d) # of <i>in situ</i> Nests with Restraining Cage	2	0	0
Total # of Nests Relocated (a+b+c+d)	34	0	0
(a) # of Relocated Nests without Additional Protection	16	0	0
(b) # of Relocated Nests with Self-Releasing Flat Screen	0	0	0
(c) # of Relocated Nests with Self-Releasing Cage	18	0	0
(d) # of Relocated Nests with Restraining Cage	0	0	0
(e) # Relocated to Self-Releasing Hatchery	0	0	0
(f) # Relocated to Restraining Hatchery	0	0	0

Note: False Crawl = emergence by an adult female that does not result in a nest
 Relocated = nest reburied at a different site on the beach, not in a hatchery
 Hatchery = permanent fenced area where nests are reburied and concentrated in a group
In situ = natural nest left in place where deposited
 Screened = protective flat screening or portable cage screening placed over nest

COMPLETE THE BACK OF THIS FORM ALSO

Marine Turtle Nesting Summary Report Continued

Are false crawls (non-nesting crawls) counted during your survey? YES NO

Type of hatchery utilized: Self-releasing Restraining (circle one)

Reason hatchery was utilized: None utilized

Location of hatchery (be specific): N/A

Reason nests were beach relocated: Nests were relocated when found in the construction and disposal areas for the New Pass maintenance dredge project

Predators (type predator and number of nests affected if known): Raccoons, fire ants, ghostcrabs. Three nests from the project area were predated by raccoons. Two nests were affected by ghost crabs, while twelve were affected by fire ants.

Describe predator control methods employed (if any): Self-release box cages with 4" flanges at the bottom of the cage were placed over all nests relocated to South Lido because raccoons are a known predator in the area. Amdro was placed landward of nests which were predated by fire ants.

Were hatchling disorientation events documented during 1996? Yes

Have all disorientation reports have been submitted o DEP? YES NO

If you do not survey seven (7) days per week, please describe how nests are counted on the day(s) surveys are resumes: _____

How many persons were involved in actually surveying your assigned beach during 1997? 7

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

Jerrig J. Tate
Signature of Principal Permit Holder

10/29/97
Date

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION - NEST SUCCESS REPORTING FORM FOR 1997
SPECIES: *Caretta caretta* (Loggerhead)

PRINCIPAL PERMIT HOLDER:	BEACH NAME: South Longboat/North lido & Lido Public Beach										PERMIT NUMBER: 054/028
TOTAL # OF NESTS	# OF NESTS MARKED TO EVALUATE	# OF MARKED NESTS DEPREDATED	# 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 DEPREDATED EGGS
IN SITU/NO ADDITIONAL PROTECTION	7	3	2	7	583	43	37	0	5	91	0
IN SITU/FLAT SCREEN	0	0	0	0	0	0	0	0	0	0	0
IN SITU/RESTRAINING CAGE	2	2	0	2	174	0	0	0	0	27	0
IN SITU/SELF-RELEASING CAGE	0	0	0	0	0	0	0	0	0	0	0
RELOCATED/NO ADDITIONAL PROTECTION	16	16	8	16	1498	54	26	0	8	189	4
RELOCATED/FLAT SCREEN (NOT IN A HATCHERY)	0	0	0	0	0	0	0	0	0	0	0
RELOCATED/RESTRAINING CAGE (NOT IN A HATCHERY)	0	0	0	0	0	0	0	0	0	0	0
RELOCATED/SELF-RELEASING CAGE (NOT IN A HATCHERY)	18	18	6	18	1323	163	15	11	33	213	76
RELOCATED/SELF-RELEASING HATCHERY	0	0	0	0	0	0	0	0	0	0	0
RELOCATED/RESTRAINING HATCHERY	0	0	0	0	0	0	0	0	0	0	0
OTHER (EXPLAIN)	0	0	0	0	0	0	0	0	0	0	0
DEP USE ONLY											

DEFINITION OF TERMS:

IN SITU: CLUTCH WAS NOT RELOCATED FROM THE ORIGINAL SITE OF DEPOSITION
 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

IMPORTANT: THE # OF HATCHLINGS EMERGED + # OF LIVE HATCHLINGS IN NEST + # OF DEAD HATCHLINGS IN NEST + # OF DEPREDATED EGGS SHOULD EQUAL THE # OF EGGS IN EVALUATED NESTS. PLEASE CHECK TO MAKE SURE THIS IS THE CASE.

ADDITIONAL INFORMATION FOR SOME COLUMN HEADINGS:

OF MARKED NESTS DEPREDATED: COUNT ONLY THOSE DEPREDATED BY NON-HUMAN PREDATORS
 # OF EGGS IN EVALUATED NESTS: DIRECT COUNT IN RELOCATED NESTS, COUNT EGGSHELLS OF IN SITU NESTS
 # OF HATCHLINGS EMERGED: COUNT ONLY THOSE EMERGED UNAIDED (PRIOR TO NEST EVALUATION)
 # OF UNHATCHED EGGS: COUNT ONLY WHOLE, UNPIPPED EGGS
 # OF DEPREDATED EGGS: IT IS IMPORTANT TO INCLUDE DATA FROM AS MANY NESTS THAT WERE ORIGINALLY MARKED FOR NEST SUCCESS EVALUATIONS AS POSSIBLE, EVEN IF A MARKED NEST IS PARTIALLY OR COMPLETELY DEPREDATED. IF A REASONABLY ACCURATE COUNT OF DEPREDATED EGGS CAN BE MADE (FROM FRESHLY DEPREDATED NESTS ONLY), PLEASE INCLUDE THAT DATA IN THIS NEST SUCCESS REPORTING FORM.

APPENDIX E

**Marine Turtle Hatchling
Disorientation Incident Report Form**

972 02 005 F

REP

MARINE TURTLE HATCHLING DISORIENTATION INCIDENT REPORT FORM



If you have any questions please contact the Florida Marine Research Institute at the Tequesta Field Laboratory (561) 575-5455 or the St. Petersburg Laboratory (813) 896-8626

Turtle Permit No.: 054
Observer's Name: JERRIS FOOTE + TRACEY MUELLER
Affiliation: Mote Marine Laboratory
Telephone (include area code): (941) 388-4441 or (941) 388-4331

Date of Incident: 8/10-11/97
County: SARASOTA
Nearest City/Island: LIDO KEY
Name of Beach: LIDO BEACH
Nest Location (include Street Address): 233 BEN FRANKLIN DRIVE, HOLIDAY INN.

Disoriented To (include Street Address): Street Holiday Inn + Suite Towers between 155 Ben Franklin Drive and 257 Ben Franklin D
Was a probable lighting source identified? YES NO

Have there been other disorientation events observed this season at this site? YES NO all nests were relocated out of area for Newport Dredge + Beach Dredge

Type of light(s) identified:
 parking lot
 dune crossover
 pier
 street light
 single family home
 restaurant/bar
 interior condominium
 exterior condominium
other: Security light + Holiday Inn sign.

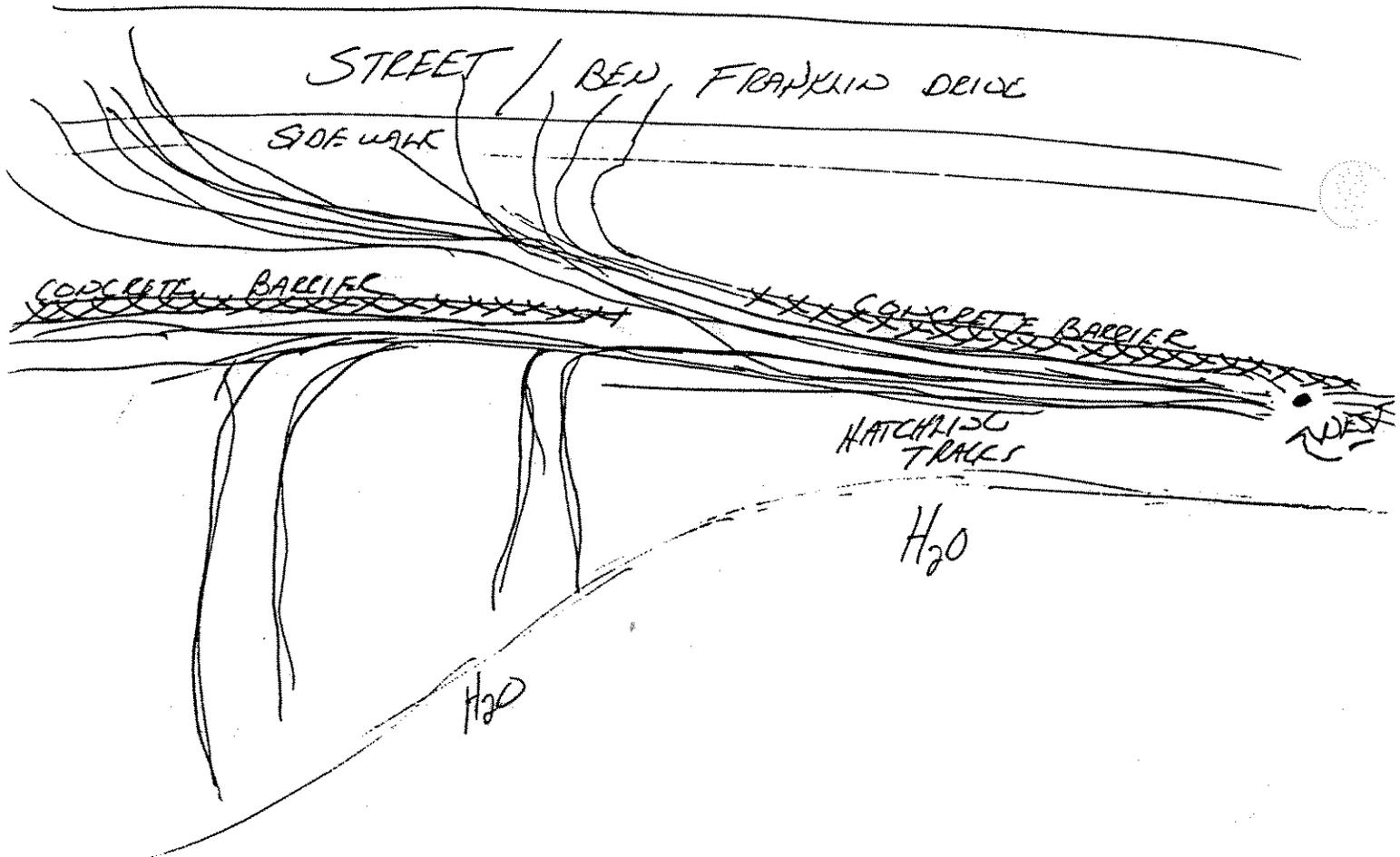
Describe lighting source, include number of lights if identified:
8 STREET LIGHTS BETWEEN 155 + 257 BEN FRANKLIN DRIVE
1 DRIVEWAY + 1 PARKING LOT LIGHT (POLE TYPE) 1 SECURITY LIGHT
OVER PARKING GARAGE (155 B.F.D.) CONDO + HOTEL INTERIOR
PLEASE CIRCLE A RESPONSE LIGHTS + HOLIDAY INN (LIGHTED) SIGN.

When was the incident documented? Morning survey night survey
Was the incident photographed? YES NO
Was the nest located? YES NO
Was the nest excavated? YES NO
Did any hatchlings appear to have reached the water? YES NO

	LOGGERHEAD	GREEN	LEATHERBACK	UNIDENTIFIED
Number of Hatchlings Disoriented	47			
Number of Hatchlings Found Dead	14			
Number of Hatchlings Found Alive	2			

(Sketch on back)

Additional comments please elaborate and use back if necessary: THIS WAS AN UNMARKED NEST ORIGINALLY RECORDED AS A FC. HATCHLINGS EMERGED - ALL HEADS N + S RATHER THAN TO THE WATER. APPROXIMATELY 10-15 TRACES TO H.O. FACTOR DUNE BEACH.
Coordinate
Signature of Observer: _____ Date: 8/11/97



STREET / BEN FRANKLIN DRIVE

SIDE WALK

CONCRETE BARRIER

CONCRETE BARRIER

HATCHLING TRAILS

H₂O

H₂O

WELL

97LB04020F

97040

MARINE TURTLE HATCHLING DISORIENTATION INCIDENT REPORT FORM

If you have any questions please contact the Florida Marine Research Institute at the Tequesta Field Laboratory (561) 575-5455 or the St. Petersburg Laboratory (813) 896-8626



LBK
DEP
Mach

Turtle Permit No.: 054
Observer's Name: JAYNE CORY
Affiliation: Mote Marine Laboratory
Telephone (include area code): (941) 388-4441 or (941) 388-4331

Date of Incident: 8-11-97
County: SARASOTA
Nearest City/Island: Longboat Key
Name of Beach: Longboat
Nest Location (include Street Address): 565 Longboat Club Rd

Disoriented To (include Street Address): All Over the Beach but All made it to the water OK - None to street or vegetation
Was a probable lighting source identified? YES NO lights on DREDGE IN PASS
Have there been other disorientation events observed this season at this site? YES NO

Type of light(s) identified:

- parking lot
- dune crossover
- pic
- street light
- single family home
- restaurant/bar
- interior condominium
- exterior condominium
- other: DREDGE Lights

Describe lighting source, include number of lights if identified: _____

PLEASE CIRCLE A RESPONSE

When was the incident documented? Morning survey night survey

Was the incident photographed? YES NO

Was the nest located? YES NO

Was the nest excavated? YES NO

Did any hatchlings appear to have reached the water? YES NO

	LOGGERHEAD	GREEN	LEATHERBACK	UNIDENTIFIED
Number of Hatchlings Disoriented	<u>116</u>			
Number of Hatchlings Found Dead	<u>2 - eaten by crabs</u>			
Number of Hatchlings Found Alive	<u>10 - still in nest</u>			

(Sketch on back)

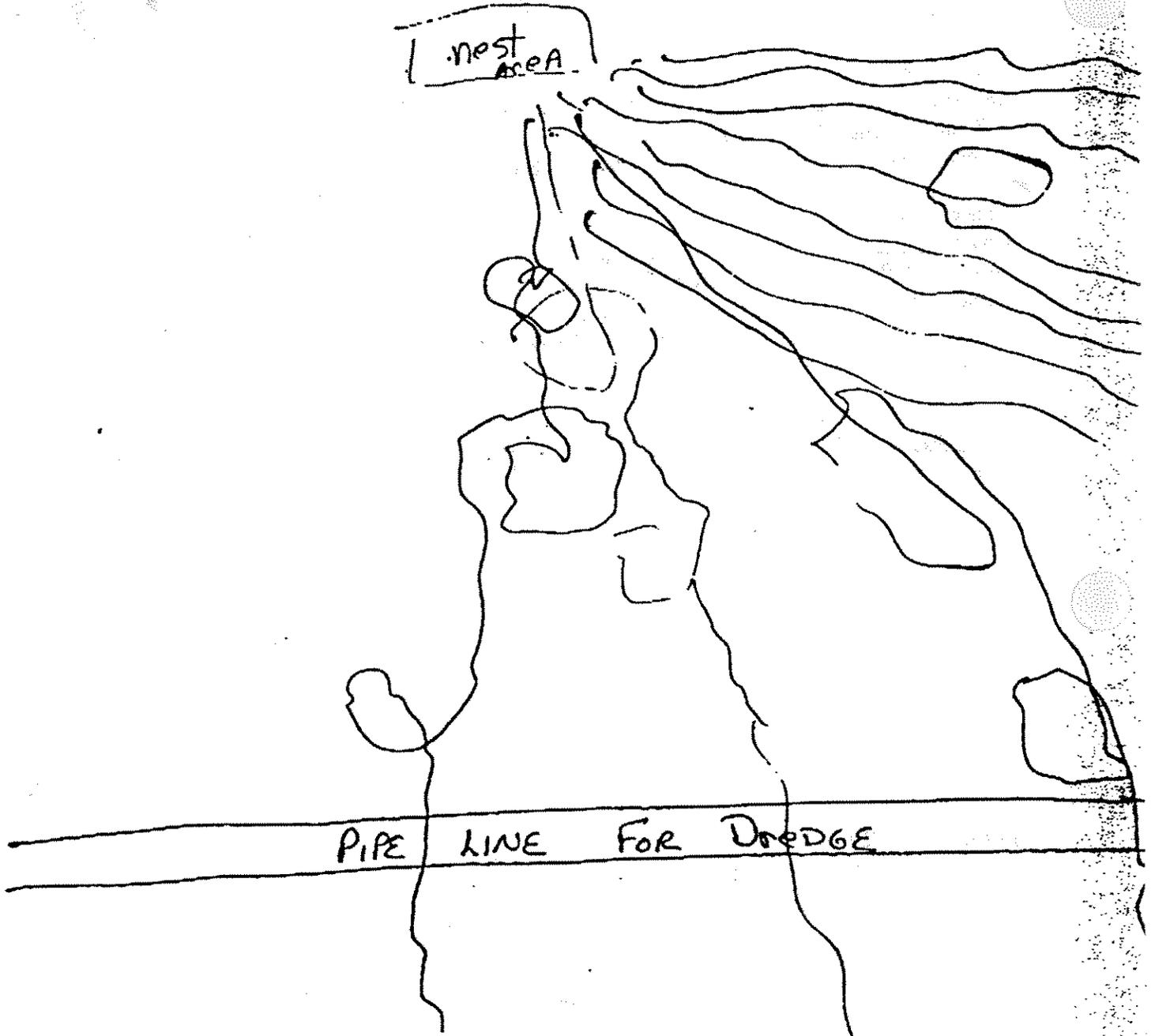
Additional comments please elaborate and use back if necessary:

At time of laying - WAS unable to identify a nest - listed as False Crawl #20

Jayne Cory

8.12.97

FC #20



Hatchlings wandered around on beach
 headed S toward bright lights on Dredge
 but eventually all made it to water - followed
 all crawls & checked beach carefully -
 no turtles found - appeared to crawl under

97LB04021F

2/1/97

21

MARINE TURTLE HATCHLING DISORIENTATION INCIDENT REPORT FORM

If you have any questions please contact the Florida Marine Research Institute at the
Tequesta Field Laboratory (561) 575-5455 or the St. Petersburg Laboratory (813) 896-8626



940

Turtle Permit No.: 054
Observer's Name: TERRIS FOOYE
Affiliation: Mote Marine Laboratory
Telephone (include area code): (941) 388-4441 or (941) 388-4331

Date of Incident: 8/20/97
County: SARASOTA
Nearest City/Island: LONGBOAT KEY
Name of Beach: LONGBOAT KEY
Nest Location (include Street Address): 601 LONGBOAT, LONGBOAT KEY
TOWERS

Disoriented To (include Street Address): W + S 9th toward Honda Corp.
Dredge Equipment

Was a probable lighting source identified? YES NO
Have there been other disorientation events
observed this season at this site? YES NO

Type of light(s) identified:
parking lot street light interior condominium
dune crossover single family home exterior condominium
pier restaurant/bar other: dredge equipment
bulldozer

Describe lighting source, include number of lights if identified: disorientation due
primarily to dredge - fuel equipment operation and
beach just to the south of this unmarked nest

PLEASE CIRCLE A RESPONSE

When was the incident documented? Morning survey night survey call from A.C.A
Was the incident photographed? YES NO
Was the nest located? YES NO
Was the nest excavated? YES NO
Did any hatchlings appear to have
reached the water? YES NO

	LOGGERHEAD	GREEN	LEATHERBACK	UNIDENTIFIED
Number of Hatchlings Disoriented	69			
Number of Hatchlings Found Dead	3			
Number of Hatchlings Found Alive	16			

(Sketch on back)

Additional comments please elaborate and use back if necessary: Nest had been
recorded as false crawl.

Terris Foye

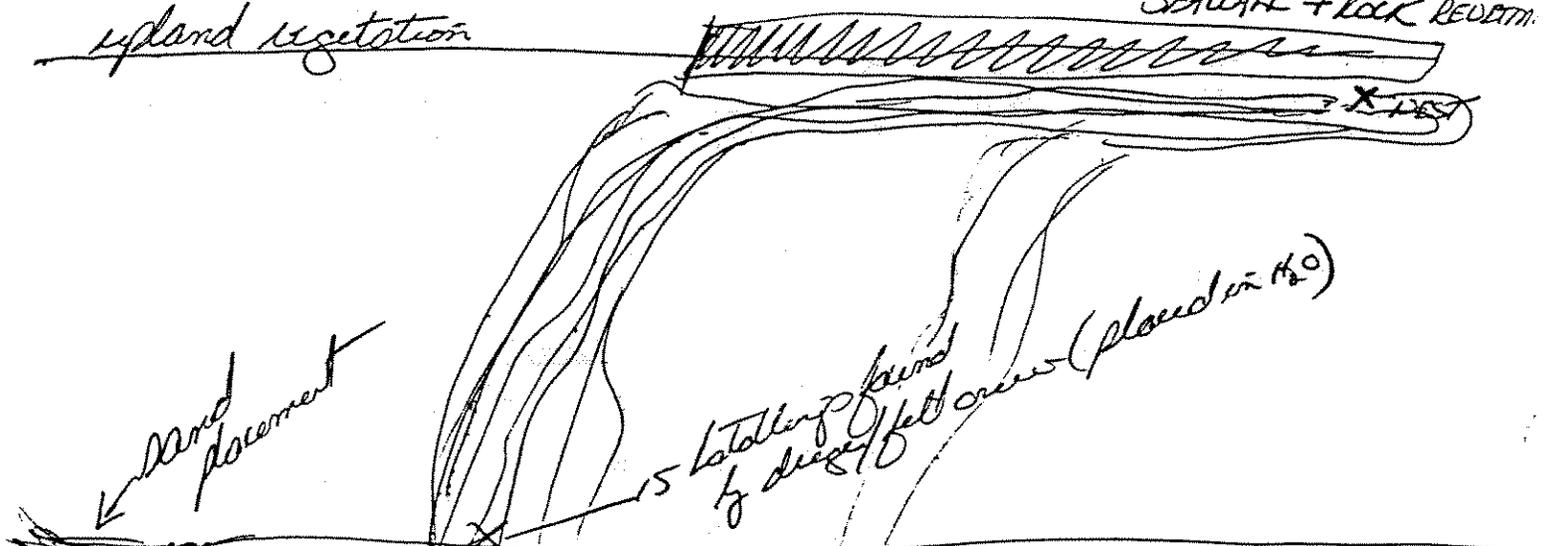
8/21/97

655
LCD RECEIVES PH.

601 LCD
LOW BAIT
NET TOWERS

upland vegetation

SEAWALL + ROCK REDEM.



DREDGE PIPELINE

dredge equipment
including bulldozers
& more

H₂O

GULF OF
H₂O

MEXICO