

**ABUNDANCE AND DISTRIBUTION OF MARINE TURTLES WITHIN
NEARSHORE HARDBOTTOM AND ASSOCIATED HABITATS**

FWCC PURCHASE ORDER: 3WCA90023

NMFS GRANT #: 2414

TRANSECT SURVEY DATA COLLECTION RESULTS

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MAY 2005

INTRODUCTION

Nearshore hardbottom habitats have recently been recognized as potentially very important developmental habitats for marine turtles, particularly the green turtle, *Chelonia mydas* (Ehrhart et al 1996). These habitats have received very limited research attention compared to more protected lagoonal habitats, owing in part to the difficulty of working in nearshore open ocean environments.

In 2003, the Florida Wildlife Research Institute (FWRI) received grant #xxxxxxx from the National Marine Fisheries Service to investigate the abundance and distribution of marine turtles in nearshore hardbottom habitats on the east central Florida coast. This study contains two distinct components. The first component is to gather quantitative information in the field on sea turtle abundance in nearshore ocean areas offshore of St. Lucie and Martin Counties. These data are gathered through visual surveys along discrete belt transects positioned parallel to the beach within 1000 meters of shore, within and adjacent to hard bottom habitats.

The second component of the study is to relate these data to data from the Sea Turtle Stranding and Salvage Network to determine the component of strandings in the area that most likely represent turtles residing in nearshore areas, and to determine if and how numbers of strandings likely involving nearshore resident turtles vary seasonally and over the last 10 years.

FWRI contracted with Inwater Research Group, Inc. (IRG) to accomplish the first component of the study, and this report presents the results and findings of the field assessments of sea turtle abundance and distribution in the nearshore areas of St. Lucie and Martin Counties.

MATERIALS AND METHODS

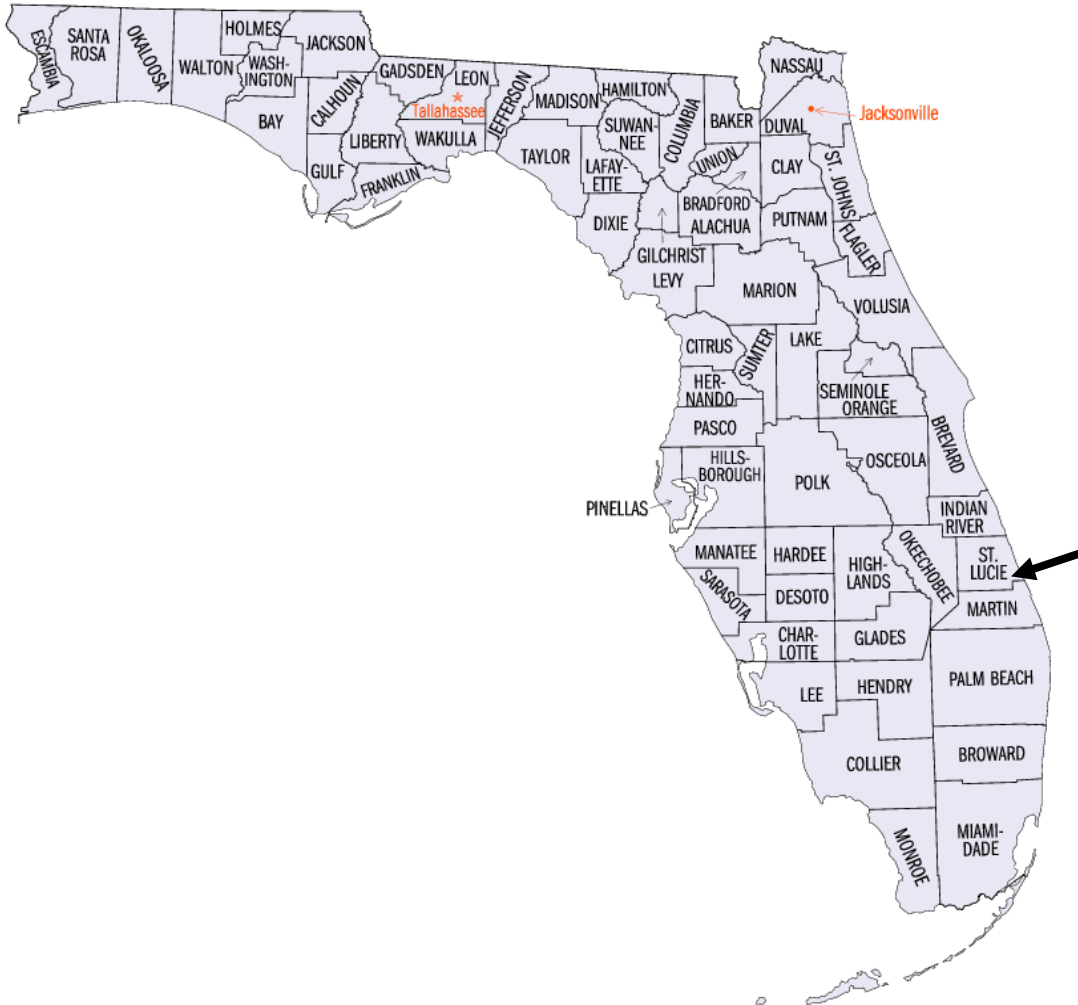
The Study Area

The sea turtle abundance surveys were conducted in the area just offshore of St. Lucie and Martin Counties in east central Florida (Figure 1). This area of Florida is characterized by extensive nearshore limestone/cocquina/sabellariid worm rock reefs (Perkins et al 1997). The biological communities of these reefs in the east central Florida area have been described in Nelson (1989) and Gore et al (1978). Anecdotal observations, and the extensive incidental capture data from the St. Lucie Nuclear Power Plant, located near the middle of the study area, suggest that significant numbers of turtles inhabit the nearshore environment.

The area selected for surveys extends from 4 km north of Ft. Pierce Inlet (offshore of North Hutchinson Island) to 6 km south of St. Lucie Inlet (offshore of Jupiter Island), a distance of approximately 48km. Within this overall study area, six specific transect locations were established, containing a total of eight permanently established transects. Each transect was exactly 3 kilometers long and oriented parallel to the beach. Transect locations were selected based on analysis of aerial photography that clearly showed areas of hardbottom habitat. All transects were within or adjacent to submerged hardbottom, and all transects were within 1000 meters of shore and inside the 10m depth contour. Four of the eight transects were designated as inshore transects, located within 200m of the beach. The inshore transects were positioned such that turtles within the surf zone immediately adjacent to the beach could be sighted and identified. The remaining four transects were designated as offshore transects, located at least 400 meters off the beach. The establishment of both inshore and offshore transects allows for an analysis of cross-shore differences in turtle abundance levels. Each of the transect locations is briefly described below.

Transect Location 1 (North Hutchinson Island) (Figure 2) is located 1-4 km north of the Fort Pierce Inlet, and contains both an inshore and an offshore transect. The area is characterized by an extensive limestone reef outcropping extending at least 800m offshore. The inshore transect (transect #1) was located 150 meters off the beach and had an average water depth of 3.8 meters. The hardbottom habitat consisted of low relief limestone with an algae dominated community. The offshore transect (transect #2) was located 550 meters off the beach in an average water depth of 4.5 meters. The biological community is similar to that found on the inshore transect.

Figure 1. Location Map showing project area, Martin and St. Lucie Counties.





Transect 1 hardbottom habitat



Transect 2 hardbottom habitat

Transect location 2 (South Hutchinson Island) (Figure 3) is located from 1-4 km south of Ft. Pierce Inlet, and contains both an inshore and an offshore transect. Nearshore limestone reef in this area extends approximately 600 meters offshore. The inshore transect (transect 3) was located 125 meters off the beach in an average water depth of 3.0 meters. The hardbottom habitat of the inshore transect consists of low to moderate relief algae covered rock with considerable coverage of the sabellariid worm *Phragmatopoma lapidosa*. The offshore transect was located 450 meters off the beach in an average water depth of 4.0 meters. The hardbottom habitat of the offshore transect was characterized by somewhat higher relief than the inshore transect. The offshore transect also included a section of artificial reef, constructed as mitigation for beach restoration activities south of Ft. Pierce Inlet. The reef was constructed of limestone boulders, and was approximately 2 years old at the time of the surveys.



Transect 3 hardbottom habitat



Transect 4 hardbottom habitat

Transect Location 3 (South Hutchinson Island) (Figure 4) is located 6.5 to 9.5 km south of Ft. Pierce Inlet, and is an offshore transect location. This transect (transect #5) is located 450 meters off the beach. This transect had the greatest average water depth of any transect in the study at 4.9 meters. The hardbottom habitat on this transect was low relief limestone reef. The reef had a very flat, almost pavement like appearance, with a dense algal cover.



Transect 5 hardbottom habitat

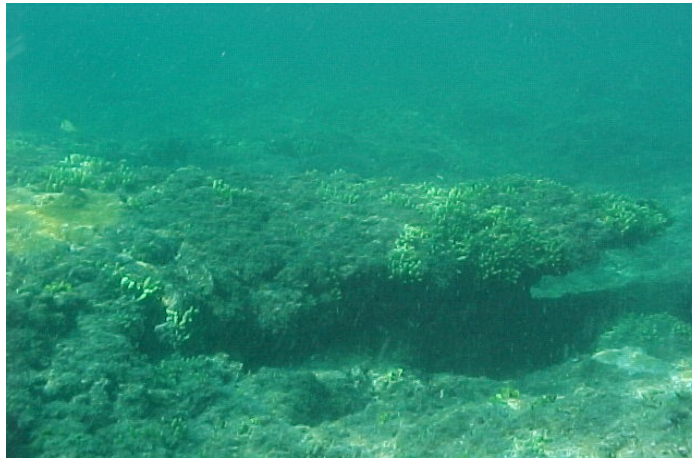
Transect location 4 (South Hutchinson Island) (Figure 5) was located 0.5 to 3.5 km south of the St. Lucie Nuclear Power Plant intake structure, and is an inshore transect. The transect (transect #6) is located 125 meters off the beach and has an average depth of 1.3 meters. The hardbottom habitat in this area is in a very narrow band, generally less than 100 meters wide and beginning very close to the beach, in some cases attached to the shoreface. There is considerable vertical relief, and the reef is often emergent at low tide. The reef in this area is characterized by very extensive coverage of *Phragmatopoma*, with green, red, and brown algae associated.

Transect location 5 (South Hutchinson Island) (Figure 6) is in several ways similar to Location 4, in that both areas have high relief, emergent, shoreface attached reef dominated by *Phragmatopoma*. However, the cross-shore extent of the reef is much greater at Transect Location 5. This location is from 3.2 to 0.2 km north of St. Lucie Inlet, and contains an inshore transect (transect 7). The transect is located from 125 to 175 meters off the beach, in an average water depth of 2.0 meters.



Transect 7 hardbottom habitat

Transect Location 6 (Jupiter Island) (Figure 7) is located 1 to 4 km south of the St. Lucie Inlet, within the boundary of St. Lucie Inlet State Park, and contains an offshore transect (transect 8). The transect is located 1000 meters off the beach, in an average water depth of 3.1 meters. The nearshore reef in this area is characterized by very high relief (often 2+ meters). In addition to algae, sponges are also very evident, as are some hard corals. The reef tract in this area is quite wide, and is separated from the shore by a relatively deep, sandy area approximately 600 m wide. This transect location generally had the highest water clarity, except during periods of high volume discharge from the St. Lucie Inlet.



Transect 8 hardbottom habitat

Visual Census Technique

Turtle abundance was evaluated using a visual census technique developed by IRG that has proven to be a simple and efficient method to gather quantitative data over relatively large areas. Observations of turtles sighted are recorded as a vessel moves slowly along the 3 km transect lines described above. The endpoints of the transects are defined by GPS waypoints, insuring that the transects are precisely repeatable. The vessel is equipped with an elevated spotting tower to aid in

sighting turtles both at and below the water surface. As the vessel moves along the transect line at 8-9 kph, two experienced observers in the spotting tower note all observations of turtles. For each sighting, data collected include species, distance and bearing from the transect line (distance inshore or offshore of the line), and the location of the sighting relative to the water surface (at or below surface). A GPS waypoint is recorded for each sighting.

At the start of each transect, a variety of environmental data are recorded, including sea state, cloud cover, wind speed and direction, water temperature, and water clarity. The sampling method is sensitive to wave conditions, which can dramatically affect the ability of the observers to efficiently spot turtles. For this reason, sampling was restricted to periods with wave heights of 0.75m or less, with no “whitecaps” or breaking waves, other than wave break on the beach.

A total of 15 sampling events were conducted between June 2004 and May 2005, for a total transect effort of 360 km (15 events x 8 transects/event x 3 km/transect). It was originally thought that in order to assure acceptable sighting conditions, sampling events would need to be restricted to the period from May-September, when generally calm conditions prevail. However, it was found that by paying very close attention to wind patterns associated with the passage of cold fronts, short “windows” of acceptable conditions could be identified and exploited in the winter months. The data set collected reflects observations collected over almost an entire calendar year, providing a more complete picture of turtle use of nearshore habitats than data collected in summer alone.

The data collected may be quantified in two ways. The first method is to consider the transect as a one-dimensional line, and record all turtle observations from that line. This results in a “turtles per transect kilometer” that provides a simple metric for comparing abundances between areas. The second method is two-dimensional, and considers the transect as a belt transect with a defined width. In this method, only turtles sighted within a specified distance inshore or offshore of the transect line are counted. The width of the belt transect is selected based on the maximum distance at which it is considered that turtles may be reliably sighted under minimum acceptable conditions. This results in an estimate of density, expressed as turtles per hectare. This approach has the advantage of allowing estimates of total population to be generated; assuming the total area of appropriate habitat is known. Data are presented by both methods in this report. The width of the belt transect was set at 100m (50m on each side of the transect line). This results in a belt transect area for each 3km transect of 300,000 square meters (=30 hectares = 0.3 square kilometers). The data provided allow for simple calculations to be made at any belt transect width desired.

RESULTS

A total of 248 turtles (49 loggerheads, 198 greens, and 1 leatherback) were observed over the 15 sampling events. Appendix 1 contains the full data set for all turtle observations, including the latitude and longitude for each observation. Appendix 2 contains a graphic summary of turtle sightings, with the location of each sighting plotted on a nautical chart base map. A summary of turtle observations for each transect is provided below in Table 1.

TABLE 1. TRANSECT OBSERVATION SUMMARY

| Transect | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | Total | |
|----------|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|-----|
| # | date | cc | cm | cc | cm | cc | cm | cc | cm | cc | cm | cc | cm | cc | cm | cc | cm | cc | cm |
| 1 | 6-13-04 | 0 | 1 | 0 | 3 | 1 | 1 | 0 | 2 | 1 | 8 | 0 | 9 | 0 | 0 | 0 | 0 | 2 | 24 |
| 2 | 7-23-04 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 7 | 0 | 4 | 0 | 0 | 2 | 12 |
| 3 | 7-24-04 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 2 | 1 | 1 | 0 | 8 | 0 | 0 | 0 | 0 | 5 | 13 |
| 4 | 7-25-04 | 2 | 0 | 2 | 1 | 1 | 3 | 0 | 1 | 0 | 2 | 0 | 3 | 0 | 1 | 1 | 1 | 6 | 12 |
| 5 | 8-5-04 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 8 |
| 6 | 8-7-04 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 5 | 0 | 3 | 0 | 6 | 0 | 0 | 2 | 17 |
| 7 | 8-17-04 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 1 | 1 | 2 | 4 | 7 |
| 8 | 8-20-04 | 2 | 0 | 1 | 1 | 5 | 0 | 1 | 1 | 3 | 0 | 0 | 9 | 1 | 2 | 2 | 1 | 15 | 14 |
| 9 | 1-27-05 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 5 |
| 10 | 1-27-05 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 7 |
| 11 | 2-16-05 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 9 |
| 12 | 3-13-05 | 1 | 1 | 2 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 9 | 0 | 2 | 0 | 1 | 5 | 17 |
| 13 | 4-9-05 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 0 | 3 | 0 | 1 | 1 | 10 |
| 14 | 4-14-05 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 2 | 0 | 1 | 2 | 15 |
| 15 | 4-23-05 | 0 | 1 | 2 | 3 | 1 | 7 | 0 | 1 | 0 | 0 | 0 | 8 | 0 | 5 | 0 | 3 | 3 | 28 |
| All | | 7 | 8 | 9 | 14 | 12 | 20 | 6 | 16 | 8 | 18 | 1 | 78 | 2 | 34 | 4 | 10 | 49 | 198 |

* cc= loggerhead turtle, cm=green turtle

** Additionally, 1 leatherback turtle was observed on transect 5 on 8/20/04

A summary of the environmental conditions encountered during transect sampling is presented in Table 2 below. Weather conditions, in particular sea state, dramatically affect the ability of observers to efficiently spot turtles, and so particular attention was paid to these factors. The best conditions were found when winds were light from the south, southeast, or east. West, southwest, or northwest winds, even when quite strong, also produced good spotting conditions as the offshore winds tended to blow the seas flat. Water temperature was highly variable, with a maximum of 82 degrees in August 2004 and a minimum of 62 degrees in January 2005. Water clarity was considerably greater in summer months, as generally holds true in the area. It seemed that a lingering effect of the hurricanes in September 2004 may have been the deposition of a distinct silt layer in the nearshore which would become resuspended easily by wave action, resulting in quite poor water clarity in most of the winter 2005 sampling events.

Table 2. Transect Environmental Conditions

| Event # | Date | Wind | Cloud cover | Seas | Water temp. | Water clarity |
|---------|---------|--------------|---------------|--------|-------------|---------------|
| 1 | 6-13-04 | SE 5 mph | Clear | 0 ft | 78 F | 15-20 ft |
| 2 | 7-23-04 | NE 5-10 mph | Partly cloudy | 1 ft | 78 F | 10-15 ft |
| 3 | 7-24-04 | SE 10 mph | Clear | 1-2 ft | 80 F | 20 ft |
| 4 | 7-25-04 | E 10-15 mph | Clear | 2-3 ft | 81 F | 15-20 ft |
| 5 | 8-5-04 | SE 10-15 mph | Cloudy | 2 ft | 79 F | 10-15 ft |
| 6 | 8-7-04 | W 5-10 mph | Clear | 0 ft | 78 F | 10-15 ft |
| 7 | 8-17-05 | SE 5-10 mph | Clear | 1 ft | 82 F | 5-10 ft |
| 8 | 8-20-04 | E 5 mph | Partly cloudy | 0 ft | 82 F | 2-3 ft |
| 9 | 1-27-05 | W 10 mph | Partly Cloudy | 1-2 ft | 62 F | 5 ft |
| 10 | 1-27-05 | NE 5 mph | Partly cloudy | 1-2 ft | 63 F | 5 ft |
| 11 | 2-16-05 | SE 5-10 mph | Partly Cloudy | 1-2 ft | 71 F | 5-10 ft |
| 12 | 3-13-05 | W 10-15 mph | Clear | 1 ft | 67 F | 2-3 ft |
| 13 | 4-9-05 | W 15 mph | Clear | 1-2 ft | 71 F | 2-5 ft |
| 14 | 4-14-05 | NW 10-15 mph | Clear | 1-2 ft | 72 F | 3-5 ft |
| 15 | 4-23-05 | W 15 mph | Clear | 1 ft | 73 F | 2-3 ft |

An examination of the data in Table 1 reveals considerable differences in turtle abundance among the transect sites, particularly for green turtles. Transect six, at Walton Rocks Beach, had a green turtle abundance more than twice as great as the next most abundant site, and over 3 times as great as the average abundance of all sites. Loggerhead abundance showed less variation between sites, and loggerheads were consistently less abundant than green turtles at all the transect sites. Figure 8 presents abundance (turtle sightings per kilometer) for both green turtles and loggerheads. Figure 9 presents the data in the form of density (turtles per square kilometer). To generate a density figure, an effective transect width of 100 meters (50 meters on each side of the transect line) was assumed, which results in an area coverage of 0.3 square kilometers for each 3 km long transect. In this analysis, any turtle observations that were more than 50 meters from the transect line were discarded. This eliminated 10 observations, three green turtles and seven loggerheads.

Green turtles were considerably more likely to be observed on the inshore transects (transects 1,3,6, and 7) than on the offshore transects (transects 2,4,5, and 8). There were 0.78 green turtle observations per kilometer on the inshore transects as compared to 0.32 observations per kilometer on the offshore transects.

Loggerhead turtles were more or less equally likely to be observed on inshore and offshore transects. There were 0.12 loggerhead observations per kilometer on the inshore transects, as compared to 0.14 observations per kilometer on the offshore transects.

Figure 8. Loggerhead and Green Turtle Abundance

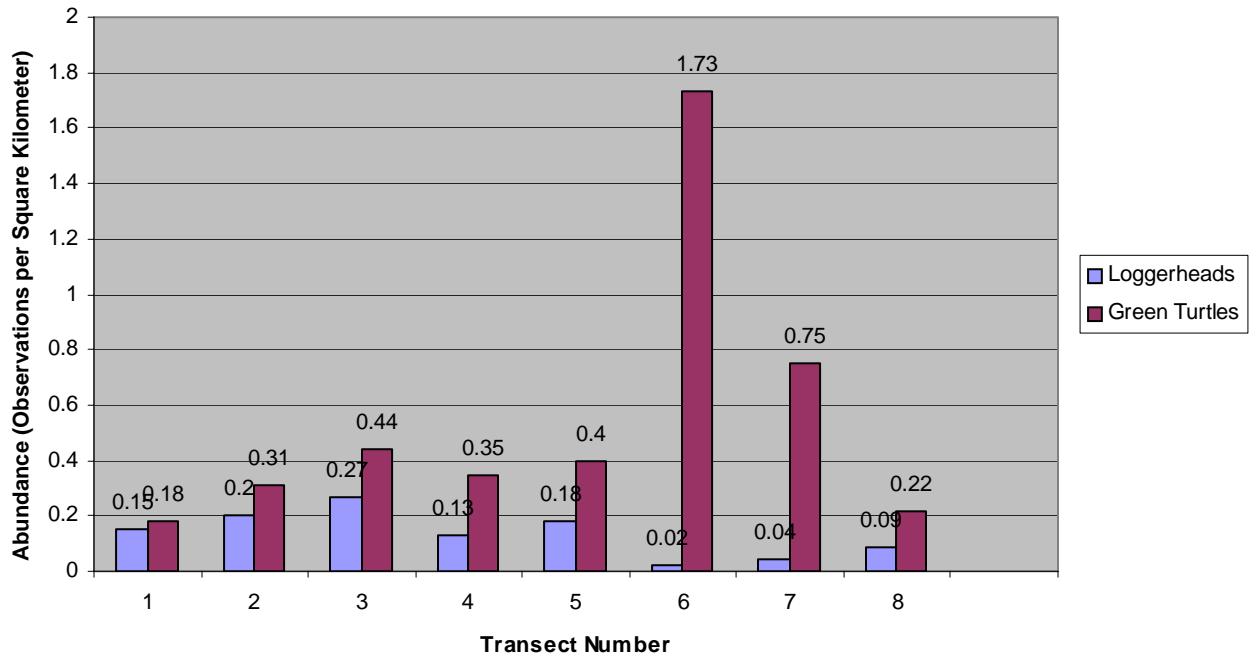
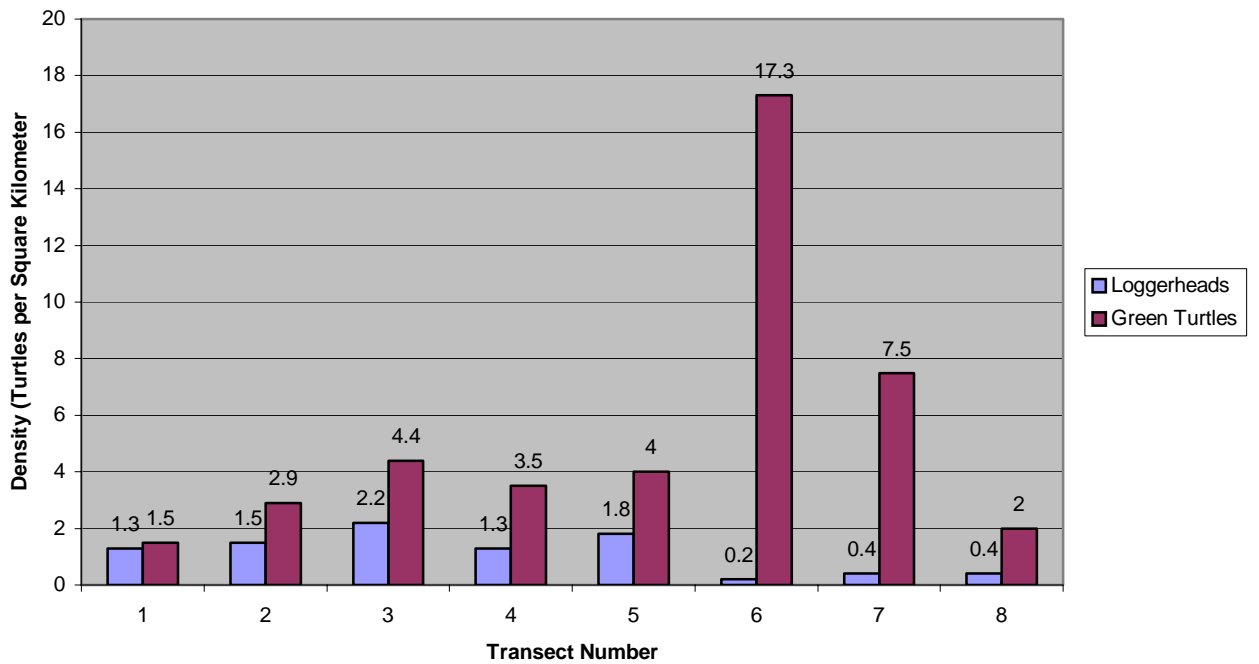


Figure 9. Loggerhead and Green Turtle Density



Green turtles were almost equally as likely to be observed on the winter transects (January through April, N=7) as on the summer transects (June through August, N=8). The summer transects averaged 0.56 green turtle observations per kilometer, as compared to 0.54 observations per kilometer on the winter transects. This is in spite of the considerably better water clarity in the summer sampling events, which should generally make turtles easier to spot.

Loggerhead turtles were more commonly observed on summer transects as compared to winter transects. An average of 0.19 loggerhead turtles were observed per kilometer in the summer transects, as compared to 0.07 observations per kilometer in winter.

DISCUSSION AND CONCLUSIONS

The results of this study are consistent with the results of a previous study using the same methodology in similar habitats conducted in Indian River County (IRG 2004). In both studies, green turtles were considerably more abundant over nearshore hardbottom habitats than loggerheads, and turtle abundance, particularly green turtle abundance, was consistently greater on transects located very close to shore as compared to hardbottom habitat slightly farther offshore.

Both studies also showed a very non-uniform distribution of turtles in nearshore hardbottom habitats. In both studies, there were certain areas (Ambersand Beach in Indian River County and Walton Rocks Beach in St. Lucie County) where green turtles were more than twice as abundant than at any other sites. These green turtle “hotspots” may have very important implications for management of the species, in that certain areas may be in more critical need of protection than others. The visual assessment techniques used in this study provides a relatively quick and efficient means of identifying these hotspots. Knowing the locations of these green turtle hotspots could be very important in, for example, determining the potential impacts of beach restoration projects that impact hardbottom habitats.

The documentation that green turtles apparently use these nearshore habitats year round is also an important finding, and one that is consistent with the large numbers of green turtle captures in the winter months at the St. Lucie Nuclear Power Plant. Very little field work has been done in nearshore oceanic habitats in the winter in the past due to generally rough conditions. We found in this study that the visual assessment technique can indeed be used, albeit with some difficulty in scheduling, in the winter months in east central Florida.

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APPENDIX 1.
DATA SUMMARY

TRANSECT 1

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 6/12/2004 | Chelonia mydas | N27.50196 W80.29862 | 100 | Offshore | At |
| 7/23/2004 | Chelonia mydas | N27.49218 W80.29531 | 50 | Offshore | At |
| 7/25/2004 | Caretta caretta | N27.50232 W80.29859 | 150 | Offshore | At |
| 7/25/2004 | Caretta caretta | N27.50817 W80.30067 | 150 | Offshore | At |
| 8/5/2004 | Chelonia mydas | N27.49255 W80.29572 | 20 | Inshore | At |
| 8/7/2004 | Caretta caretta | N27.17567 W80.15359 | 70 | Inshore | At |
| 8/17/2004 | Chelonia mydas | N27.51149 W80.30263 | 300 | Offshore | At |
| 8/20/2004 | Caretta caretta | N27.51058 W80.30195 | 150 | Inshore | At |
| 8/20/2004 | Caretta caretta | N27.50899 W80.30124 | 200 | Offshore | At |
| 3/13/2005 | Caretta caretta | N27.48920 W80.29521 | 5 | Inshore | At |
| 3/13/2005 | Caretta caretta | N27.50814 W80.30118 | 5 | Inshore | At |
| 4/9/2005 | Chelonia mydas | N27.48682 W80.29359 | 50 | Inshore | At |
| 4/14/2005 | Caretta caretta | N27.49014 W80.29469 | 100 | Inshore | At |
| 4/14/2005 | Chelonia mydas | N27.49500 W80.29638 | 60 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.49510 W80.29595 | 10 | Offshore | At |

TRANSECT 2

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 6/13/2004 | Chelonia mydas | N27.51060 W80.29867 | 200 | Offshore | At |
| 6/13/2004 | Chelonia mydas | N27.49359 W80.29049 | 50 | Offshore | At |
| 6/13/2004 | Caretta caretta | N27.49124 W80.29373 | 50 | Inshore | At |
| 7/24/2004 | Caretta caretta | N27.49434 W80.29364 | 300 | Offshore | At |
| 7/24/2004 | Chelonia mydas | No location | 50 | Inshore | At |
| 7/24/2004 | Caretta caretta | N27.49715 W80.29455 | 0 | On | Below |
| 7/25/2004 | Caretta caretta | N27.48609 W80.29151 | 10 | Offshore | At |
| 7/25/2004 | Chelonia mydas | N27.49278 W80.29346 | 50 | Inshore | At |
| 7/25/2004 | Caretta caretta | N27.51171 W80.29977 | 30 | Inshore | At |
| 8/20/2004 | Chelonia mydas | N27.48942 W80.29068 | 80 | Offshore | At |
| 8/20/2004 | Chelonia mydas | N27.49575 W80.29314 | 5 | Offshore | At |
| 1/27/2005 | Chelonia mydas | N27.51169 W80.29991 | 15 | Offshore | At |
| 2/16/2005 | Chelonia mydas | N27.49177 W80.29052 | 10 | Offshore | At |
| 3/13/2005 | Caretta caretta | N27.50127 W80.29486 | 35 | Offshore | At |
| 3/13/2005 | Caretta caretta | N27.50055 W80.29448 | 300 | Offshore | At |
| 4/9/2005 | Chelonia mydas | N27.49661 W80.29363 | 40 | Offshore | At |
| 4/14/2005 | Chelonia mydas | N27.50438 W80.29708 | 5 | Inshore | At |
| 4/14/2005 | Chelonia mydas | N27.50240 W80.29626 | 5 | Inshore | At |
| 4/14/2005 | Chelonia mydas | N27.49560 W80.29327 | 40 | Inshore | At |
| 4/23/2005 | Caretta caretta | N27.49659 W80.29348 | 15 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.49743 W80.29383 | 25 | Offshore | At |

TRANSECT 2 (CONT.)

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 4/23/2005 | Chelonia mydas | N27.49854 W80.29425 | 150 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.50698 W80.29704 | 0 | On | At |
| 4/23/2005 | Caretta caretta | N27.51101 W80.29852 | 20 | Offshore | At |

TRANSECT 3

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 6/13/2004 | Caretta caretta | N27.46085 W80.28536 | 50 | Offshore | At |
| 6/13/2004 | Chelonia mydas | N27.46177 W80.27665 | 20 | Inshore | At |
| 6/13/2004 | Chelonia mydas | N27.46084 W80.27665 | 25 | Offshore | At |
| 7/23/2004 | Caretta caretta | N27.43690 W80.27665 | 75 | Inshore | At |
| 7/24/2004 | Caretta caretta | N27.45075 W80.28263 | 30 | Inshore | At |
| 7/24/2004 | Caretta caretta | N27.44208 W80.27883 | 50 | Offshore | Below |
| 7/24/2004 | Chelonia mydas | N27.43893 W80.27747 | 40 | Offshore | At |
| 7/25/2004 | Caretta caretta | N27.45877 W80.28534 | 60 | Inshore | At |
| 7/25/2004 | Chelonia mydas | N27.45776 W80.28508 | 45 | Inshore | Below |
| 7/25/2004 | Chelonia mydas | N27.45678 W80.28482 | 30 | Inshore | At |
| 7/25/2004 | Chelonia mydas | N27.45444 W80.28370 | 60 | Inshore | At |
| 8/5/2004 | Chelonia mydas | N27.46098 W80.28171 | 20 | Inshore | At |
| 8/5/2004 | Chelonia mydas | N27.43974 W80.27515 | 5 | Offshore | At |
| 8/7/2004 | Chelonia mydas | N27.45065 W80.28139 | 15 | Offshore | At |
| 8/7/2004 | Chelonia mydas | N27.45370 W80.28295 | 0 | On | At |
| 8/7/2004 | Chelonia mydas | N27.46236 W80.28653 | 75 | Inshore | At |
| 8/17/2004 | Caretta caretta | N27.44626 W80.28001 | 300 | Inshore | At |
| 8/17/2004 | Chelonia mydas | N27.45226 W80.28235 | 100 | Offshore | At |
| 8/20/2004 | Caretta caretta | N27.44630 W80.27992 | 125 | Offshore | At |
| 8/20/2004 | Caretta caretta | N27.44734 W80.28032 | 150 | Inshore | At |
| 8/20/2004 | Caretta caretta | N27.45096 W80.28166 | 0 | On | At |

TRANSECT 3 (CONT.)

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 8/20/2004 | Caretta caretta | N27.45493 W80.28312 | 10 | Inshore | At |
| 8/20/2004 | Caretta caretta | N27.45860 W80.28445 | 0 | On | At |
| 2/16/2005 | Chelonia mydas | N27.44924 W80.28138 | 70 | Onshore | At |
| 3/13/2005 | Chelonia mydas | N27.44070 W80.27801 | 0 | On | Below |
| 3/13/2005 | Chelonia mydas | N27.43891 W80.27741 | 50 | Offshore | At |
| 4/14/2005 | Chelonia mydas | N27.45258 W80.28230 | 12 | Offshore | At |
| 4/23/2005 | Caretta caretta | N27.45484 W80.28339 | 200 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.44853 W80.28064 | 75 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.44829 W80.28058 | 50 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.44788 W80.28052 | 70 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.44719 W80.28040 | 75 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.44649 W80.28012 | 125 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.44585 W80.27991 | 100 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.44268 W80.27859 | 120 | Offshore | At |

TRANSECT 4

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 6/13/2004 | Chelonia mydas | N27.44425 W80.27583 | 150 | Inshore | At |
| 6/13/2004 | Chelonia mydas | N27.44874 W80.27708 | 10 | Inshore | Below |
| 7/23/2004 | Caretta caretta | N27.44751 W80.27799 | 5 | Inshore | Below |
| 7/24/2004 | Chelonia mydas | N27.45359 W80.27909 | 2 | On | At |
| 7/24/2004 | Chelonia mydas | N27.45756 W80.28013 | 20 | Inshore | At |
| 7/25/2004 | Chelonia mydas | N27.44303 W80.27613 | 120 | Inshore | At |
| 8/20/2004 | Caretta caretta | N27.43974 W80.27469 | 0 | On | Below |
| 8/20/2004 | Chelonia mydas | N27.43886 W80.27436 | 0 | On | At |
| 1/27/2005 | Chelonia mydas | N27.44683 W80.27709 | 30 | Inshore | At |
| 1/27/2005 | Chelonia mydas | N27.45957 W80.28117 | 0 | On | At |
| 1/27/2005 | Caretta caretta | N27.45291 W80.27863 | 50 | Offshore | At |
| 1/27/2005 | Caretta caretta | N27.44198 W80.27548 | 150 | Offshore | At |
| 2/16/2005 | Chelonia mydas | N27.44952 W80.27818 | 30 | Inshore | At |
| 2/16/2005 | Chelonia mydas | N27.45300 W80.27931 | 15 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.44290 W80.27546 | 100 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.44394 W80.27580 | 100 | Inshore | At |
| 3/13/2005 | Caretta caretta | N27.44473 W80.27605 | 40 | Offshore | At |
| 3/13/2005 | Caretta caretta | N27.46136 W80.28191 | 30 | Offshore | At |
| 4/9/2005 | Chelonia mydas | N27.45838 W80.28052 | 15 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.46336 W80.28185 | 50 | Inshore | At |

TRANSECT 5

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 6/13/2004 | Caretta caretta | N27.41310 W80.26469 | 30 | Offshore | At |
| 6/13/2004 | Chelonia mydas | N27.41065 W80.26354 | 10 | Offshore | At |
| 6/13/2004 | Chelonia mydas | N27.41039 W80.26339 | 25 | Offshore | At |
| 6/13/2004 | Chelonia mydas | N27.40726 W80.26200 | 90 | Offshore | At |
| 6/13/2004 | Chelonia mydas | N27.40537 W80.26096 | 20 | Inshore | At |
| 6/13/2004 | Chelonia mydas | N27.39989 W80.25898 | 120 | Offshore | At |
| 6/13/2004 | Chelonia mydas | No location | 0 | On | At |
| 6/13/2004 | Chelonia mydas | N27.39842 W80.25816 | 0 | On | At |
| 6/13/2004 | Chelonia mydas | N27.39130 W80.25584 | 50 | Inshore | At |
| 6/13/2004 | Caretta caretta | N27.39042 W80.25537 | 40 | Offshore | At |
| 7/24/2004 | Chelonia mydas | N27.40665 W80.26391 | 25 | Inshore | At |
| 7/24/2004 | Caretta caretta | N27.40732 W80.26414 | 15 | Offshore | Below |
| 7/25/2004 | Chelonia mydas | N27.39737 W80.25949 | 70 | Inshore | At |
| 7/25/2004 | Chelonia mydas | N27.40244 W80.26197 | 0 | On | Below |
| 8/7/2004 | Chelonia mydas | N27.41061 W80.26352 | 10 | Inshore | At |
| 8/7/2004 | Chelonia mydas | No location | 60 | Inshore | At |
| 8/7/2004 | Chelonia mydas | N27.40683 W80.26155 | 50 | Inshore | At |
| 8/7/2004 | Chelonia mydas | N27.40435 W80.26025 | 40 | Inshore | At |
| 8/7/2004 | Caretta caretta | N27.40411 W80.26011 | 0 | On | At |
| 8/7/2004 | Green Diamond | N27.39930 W80.25792 | 80 | Inshore | At |
| 8/17/2004 | Caretta caretta | N27.40044 W80.25947 | 10 | Offshore | At |

TRANSECT 5 (Cont.)

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-------------------------|---------------------|--|---|-----------------------------|
| 8/20/2004 | Caretta caretta | N27.41478 W80.26530 | 35 | Offshore | At |
| 8/20/2004 | Caretta caretta | N27.41251 W80.26462 | 10 | Inshore | Below |
| 8/20/2004 | Dermochelys coriacea | N27.39531 W80.25667 | 30 | Offshore | At |
| 8/20/2004 | Caretta caretta | N27.39166 W80.25587 | 50 | Offshore | At |
| 1/27/2005 | Chelonia mydas | N27.39186 W80.25586 | 1 | On | At |
| 1/27/2005 | Chelonia mydas | N27.40354 W80.26093 | 0 | On | At |
| 4/9/2005 | Caretta caretta | N27.39737 W80.25768 | 25 | Inshore | At |

TRANSECT 6

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|----------------|---------------------|--|---|-----------------------------|
| 6/13/2004 | Chelonia mydas | No location | 10 | Offshore | Below |
| 6/13/2004 | Chelonia mydas | N27.33762 W80.23134 | 10 | Offshore | Below |
| 6/13/2004 | Chelonia mydas | N27.33620 W80.23092 | 10 | Inshore | Below |
| 6/13/2004 | Chelonia mydas | N27.33418 W80.23015 | 10 | Offshore | Below |
| 6/13/2004 | Chelonia mydas | N27.33410 W80.23012 | 5 | Inshore | Below |
| 6/13/2004 | Chelonia mydas | N27.33275 W80.22926 | 20 | Inshore | Below |
| 6/13/2004 | Chelonia mydas | N27.32577 W80.22665 | 10 | Inshore | Below |
| 6/13/2004 | Chelonia mydas | N27.32460 W80.22622 | 25 | Inshore | At |
| 6/13/2004 | Chelonia mydas | N27.32430 W80.22610 | 50 | Inshore | At |
| 7/23/2004 | Chelonia mydas | N27.33614 W80.23130 | 10 | Offshore | Below |
| 7/23/2004 | Chelonia mydas | N27.33589 W80.23123 | 20 | Offshore | Below |
| 7/23/2004 | Chelonia mydas | N27.33260 W80.22982 | 3 | On | Below |
| 7/23/2004 | Chelonia mydas | N27.32778 W80.22774 | 4 | Offshore | Below |
| 7/23/2004 | Chelonia mydas | N27.32749 W80.22763 | 2 | On | Below |
| 7/23/2004 | Chelonia mydas | N27.32571 W80.22702 | 2 | On | Below |
| 7/23/2004 | Chelonia mydas | N27.32476 W80.22676 | 20 | Offshore | Below |
| 7/24/2004 | Chelonia mydas | N27.32113 W80.22509 | 75 | Inshore | At |
| 7/24/2005 | Chelonia mydas | N27.32898 W80.22816 | 2 | On | Below |
| 7/24/2005 | Chelonia mydas | N27.32949 W80.22835 | 10 | Offshore | Below |
| 7/24/2005 | Chelonia mydas | N27.33101 W80.22906 | 20 | Inshore | Below |
| 7/24/2005 | Chelonia mydas | N27.33997 W80.23248 | 10 | Inshore | At |
| 7/24/2005 | Chelonia mydas | N27.34032 W80.23259 | 10 | Inshore | Below |

TRANSECT 6 (Cont.)

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|----------------|---------------------|--|---|-----------------------------|
| 7/24/2005 | Chelonia mydas | N27.34241 W80.23334 | 40 | Inshore | At |
| 7/24/2005 | Chelonia mydas | N27.34267 W80.23342 | 60 | Inshore | At |
| 7/25/2005 | Chelonia mydas | N27.32548 W80.22678 | 10 | Inshore | Below |
| 7/25/2005 | Chelonia mydas | N27.33418 W80.23023 | 50 | Inshore | At |
| 7/25/2005 | Chelonia mydas | N27.33436 W80.23035 | 15 | Inshore | At |
| 8/5/2004 | Chelonia mydas | N27.33413 W80.22986 | 80 | Inshore | At |
| 8/5/2004 | Chelonia mydas | N27.32511 W80.22651 | 10 | Offshore | Below |
| 8/5/2004 | Chelonia mydas | N27.32449 W80.22623 | 5 | Offshore | Below |
| 8/5/2004 | Chelonia mydas | N27.32223 W80.22531 | 30 | Inshore | At |
| 8/7/2004 | Chelonia mydas | N27.33610 W80.23076 | 30 | Inshore | At |
| 8/7/2004 | Chelonia mydas | N27.33281 W80.22950 | 70 | Inshore | At |
| 8/7/2004 | Chelonia mydas | N27.32014 W80.22439 | 0 | On | At |
| 8/17/2004 | Chelonia mydas | N27.32394 W80.22593 | 2 | Offshore | Below |
| 8/17/2004 | Chelonia mydas | N27.33797 W80.23134 | 50 | Inshore | At |
| 8/20/2004 | Chelonia mydas | N27.34290 W80.23346 | 20 | Inshore | Below |
| 8/20/2004 | Chelonia mydas | N27.34197 W80.23317 | 10 | Inshore | Below |
| 8/20/2004 | Chelonia mydas | N27.34188 W80.23316 | 0 | Offshore | Below |
| 8/20/2004 | Chelonia mydas | N27.33809 W80.23130 | 10 | Offshore | Below |
| 8/20/2004 | Chelonia mydas | N27.33798 W80.23125 | 10 | Offshore | Below |
| 8/20/2004 | Chelonia mydas | N27.33219 W80.22913 | 30 | Inshore | At |
| 8/20/2004 | Chelonia mydas | N27.33047 W80.22829 | 30 | Offshore | Below |
| 8/20/2004 | Chelonia mydas | N27.32924 W80.22792 | 60 | Inshore | At |

TRANSECT 6 (Cont.)

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|----------------|---------------------|--|---|-----------------------------|
| 8/20/2004 | Chelonia mydas | N27.32832 W80.22751 | 20 | Inshore | Below |
| 1/27/2005 | Chelonia mydas | N27.33954 W80.23186 | 50 | Inshore | At |
| 1/27/2005 | Chelonia mydas | N27.33170 W80.22905 | 50 | Inshore | At |
| 1/27/2005 | Chelonia mydas | N27.34205 W80.23281 | 10 | Inshore | At |
| 2/16/2005 | Chelonia mydas | N27.33161 W80.22881 | 50 | Inshore | At |
| 2/16/2005 | Chelonia mydas | N27.33713 W80.23085 | 100 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.33823 W80.23140 | 10 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.33691 W80.23106 | 50 | Offshore | At |
| 3/13/2005 | Chelonia mydas | N27.33658 W80.23096 | 20 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.33643 W80.23092 | 30 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.32729 W80.22722 | 15 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.32664 W80.22696 | 60 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.32607 W80.22675 | 50 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.32596 W80.22670 | 100 | Offshore | At |
| 3/13/2005 | Chelonia mydas | N27.32528 W80.22646 | 50 | Inshore | At |
| 4/9/2005 | Chelonia mydas | N27.33740 W80.23085 | 15 | Inshore | At |
| 4/9/2005 | Chelonia mydas | N27.33577 W80.23032 | 35 | Inshore | At |
| 4/9/2005 | Chelonia mydas | N27.33517 W80.23016 | 75 | Offshore | At |
| 4/14/2005 | Chelonia mydas | N27.34230 W80.23291 | 25 | Inshore | Below |
| 4/14/2005 | Chelonia mydas | N27.34176 W80.23277 | 100 | Inshore | At |
| 4/14/2005 | Chelonia mydas | N27.34046 W80.23210 | 75 | Inshore | Below |
| 4/14/2005 | Chelonia mydas | N27.33984 W80.23190 | 60 | Inshore | At |

TRANSECT 6 (cont.)

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|----------------|---------------------|--|---|-----------------------------|
| 4/14/2005 | Chelonia mydas | N27.33963 W80.23176 | 80 | Inshore | At |
| 4/14/2005 | Chelonia mydas | N27.33030 W80.22829 | 120 | Offshore | At |
| 4/14/2005 | Chelonia mydas | N27.32673 W80.22664 | 130 | Inshore | At |
| 4/14/2005 | Chelonia mydas | N27.32507 W80.22641 | 70 | Inshore | Below |
| 4/14/2005 | Chelonia mydas | N27.32251 W80.22547 | 25 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.32309 W80.22580 | 0 | On | At |
| 4/23/2005 | Chelonia mydas | No location | 0 | On | At |
| 4/23/2005 | Chelonia mydas | N27.32490 W80.22657 | 15 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.32551 W80.22681 | 20 | Offshore | At |
| 4/23/2005 | Chelonia mydas | N27.32594 W80.22703 | 0 | On | At |
| 4/23/2005 | Chelonia mydas | N27.33742 W80.23133 | 10 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.33912 W80.23195 | 20 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.33938 W80.23204 | 40 | Inshore | At |

TRANSECT 7

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 7/23/2004 | Chelonia mydas | N27.18921 W80.15900 | 5 | On | Below |
| 7/23/2004 | Chelonia mydas | N27.18688 W80.15806 | 2 | On | Below |
| 7/23/2004 | Chelonia mydas | N27.18534 W80.15767 | 15 | Inshore | Below |
| 7/23/2004 | Chelonia mydas | N27.17438 W80.15332 | 30 | Offshore | Below |
| 7/25/2004 | Chelonia mydas | N27.18386 W80.15678 | 20 | Offshore | At |
| 8/5/2004 | Chelonia mydas | N27.17567 W80.15359 | 40 | Inshore | At |
| 8/7/2004 | Chelonia mydas | N27.18646 W80.15793 | 100 | Offshore | At |
| 8/7/2004 | Chelonia mydas | N27.18540 W80.15758 | 100 | Offshore | At |
| 8/7/2004 | Chelonia mydas | No location | 80 | Offshore | At |
| 8/7/2004 | Chelonia mydas | N27.18405 W80.15703 | 100 | Offshore | At |
| 8/7/2004 | Chelonia mydas | N27.17914 W80.15533 | 50 | Offshore | At |
| 8/7/2004 | Chelonia mydas | N27.17485 W80.15267 | 120 | Offshore | At |
| 8/17/2004 | Chelonia mydas | N27.17432 W80.15303 | 20 | Offshore | At |
| 8/17/2004 | Caretta caretta | N27.17769 W80.15432 | 50 | Offshore | At |
| 8/20/2004 | Chelonia mydas | N27.18373 W80.15713 | 10 | Inshore | At |
| 8/20/2004 | Caretta caretta | N27.17583 W80.15395 | 5 | Inshore | At |
| 8/20/2004 | Chelonia mydas | N27.17411 W80.15318 | 15 | Inshore | At |
| 1/27/2005 | Chelonia mydas | N27.18789 W80.15882 | 20 | Offshore | At |
| 1/27/2005 | Chelonia mydas | N27.18201 W80.15683 | 30 | Inshore | At |
| 1/27/2005 | Chelonia mydas | N27.17490 W80.15348 | 20 | Offshore | At |
| 1/27/2005 | Chelonia mydas | N27.18396 W80.15722 | 20 | Offshore | At |

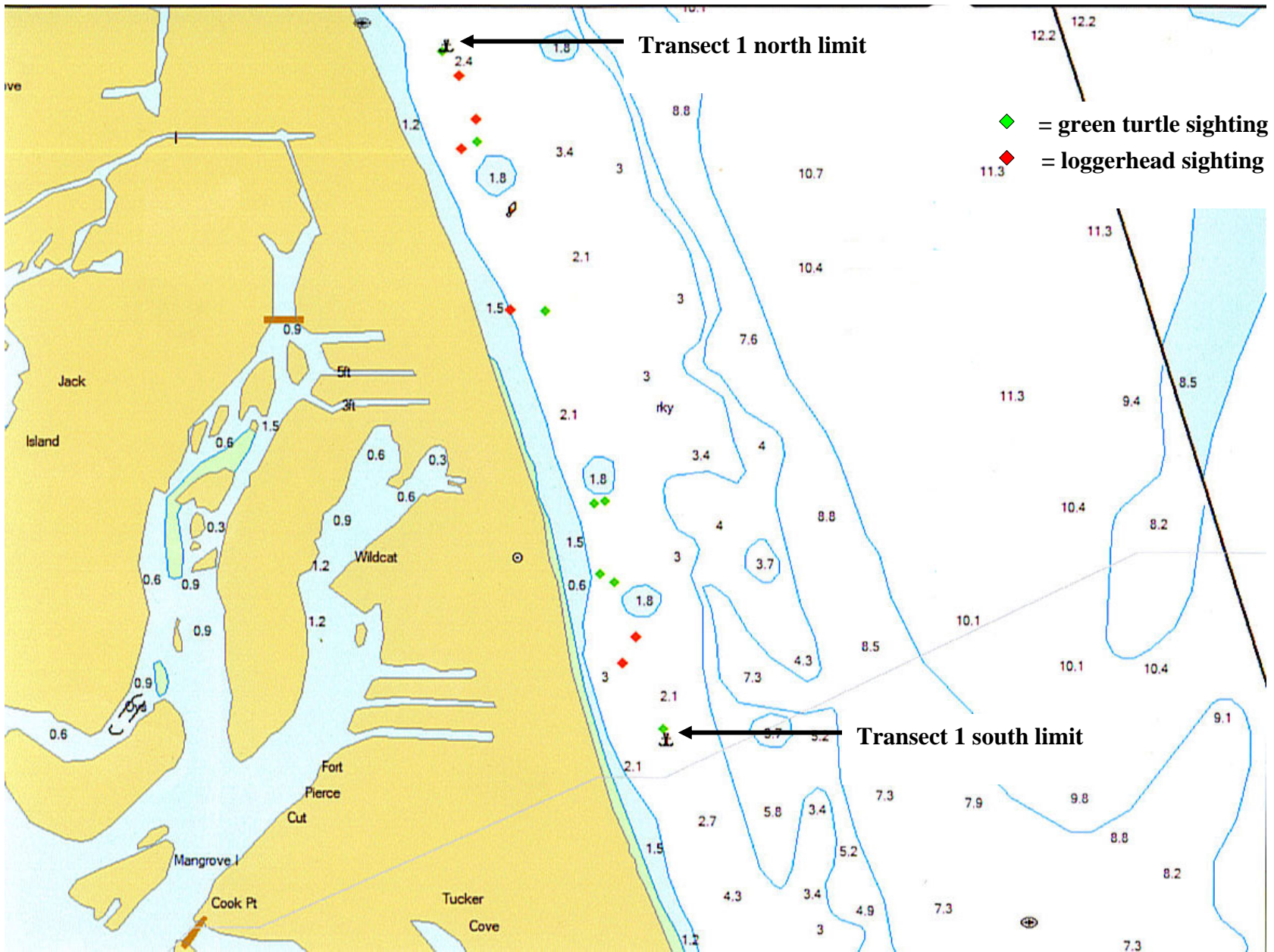
TRANSECT 7 (Cont.)

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|----------------|---------------------|--|---|-----------------------------|
| 2/16/2005 | Chelonia mydas | N27.17383 W80.15302 | 1 | On | At |
| 2/16/2005 | Chelonia mydas | N27.17637 W80.15404 | 10 | Inshore | At |
| 2/16/2005 | Chelonia mydas | N27.17745 W80.15458 | 0 | On | Below |
| 3/13/2005 | Chelonia mydas | N27.18540 W80.15775 | 20 | Inshore | Below |
| 3/13/2005 | Chelonia mydas | N27.17986 W80.15575 | 20 | Inshore | At. |
| 4/9/2005 | Chelonia mydas | N27.18790 W80.15845 | 20 | Offshore | At. |
| 4/9/2005 | Chelonia mydas | N27.18434 W80.15709 | 25 | Inshore | At. |
| 4/9/2005 | Chelonia mydas | N27.17500 W80.15296 | 30 | Inshore | At. |
| 4/14/2005 | Chelonia mydas | N27.18265 W80.15656 | 65 | Inshore | At. |
| 4/14/2005 | Chelonia mydas | N27.17993 W80.15557 | 15 | Inshore | At. |
| 4/23/2005 | Chelonia mydas | N27.17628 W80.15428 | 20 | Offshore | At. |
| 4/23/2005 | Chelonia mydas | No location | 20 | Inshore | At. |
| 4/23/2005 | Chelonia mydas | N27.17977 W80.15584 | 10 | Inshore | At. |
| 4/23/2005 | Chelonia mydas | N27.18041 W80.15610 | 30 | Offshore | At. |
| 4/23/2005 | Chelonia mydas | N27.18236 W80.15687 | 10 | Inshore | At. |

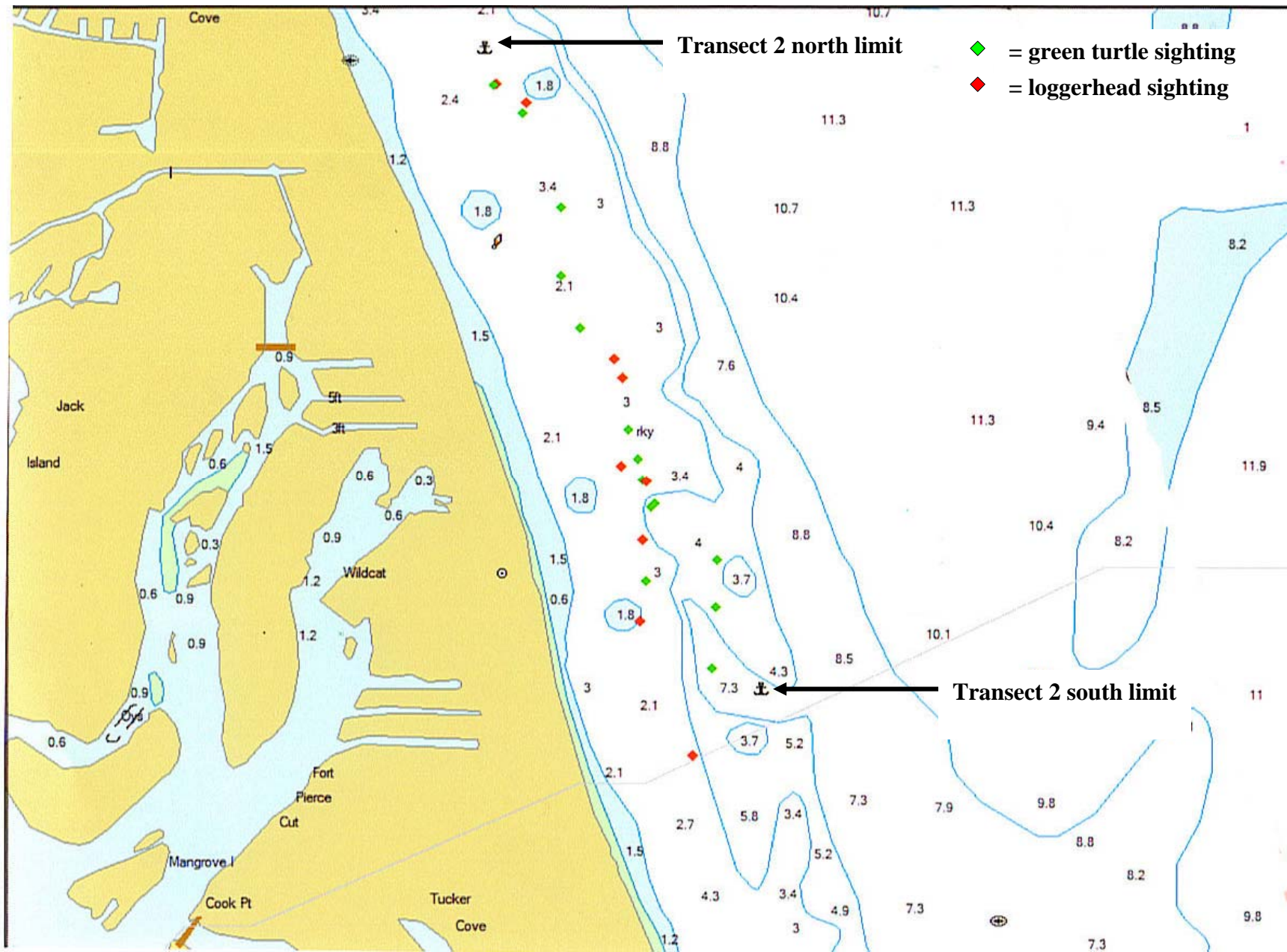
TRANSECT 8

| DATE | SPECIES | LAT/LONG | DISTANCE FROM TRANSECT (Feet) | INSHORE/OFFSHORE FROM TRANSECT | AT/BELOW SURFACE |
|-------------|-----------------|---------------------|--|---|-----------------------------|
| 7/25/2004 | Chelonia mydas | N27.13957 W80.13494 | 100 | Offshore | At |
| 7/25/2004 | Caretta caretta | N27.12749 W80.13084 | 200 | Offshore | At |
| 8/17/2004 | Caretta caretta | N27.12855 W80.13141 | 60 | Inshore | At |
| 8/17/2004 | Chelonia mydas | N27.12975 W80.13184 | 300 | Inshore | At |
| 8/17/2004 | Chelonia mydas | N27.14803 W80.13993 | 150 | Offshore | At |
| 8/20/2004 | Caretta caretta | N27.14470 W80.13878 | 900 | Offshore | At |
| 8/20/2004 | Chelonia mydas | N27.13297 W80.13370 | 0 | On | Below |
| 8/20/2004 | Caretta caretta | N27.12949 W80.13251 | 20 | Inshore | At |
| 3/13/2005 | Chelonia mydas | N27.13693 W80.13516 | 50 | Offshore | At |
| 4/9/2005 | Chelonia mydas | N27.13522 W80.13426 | 100 | Offshore | At |
| 4/14/2005 | Chelonia mydas | N27.13536 W80.13316 | 5 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.15002 W80.14077 | 75 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.12795 W80.13147 | 15 | Inshore | At |
| 4/23/2005 | Chelonia mydas | N27.12635 W80.13073 | 25 | Inshore | At |

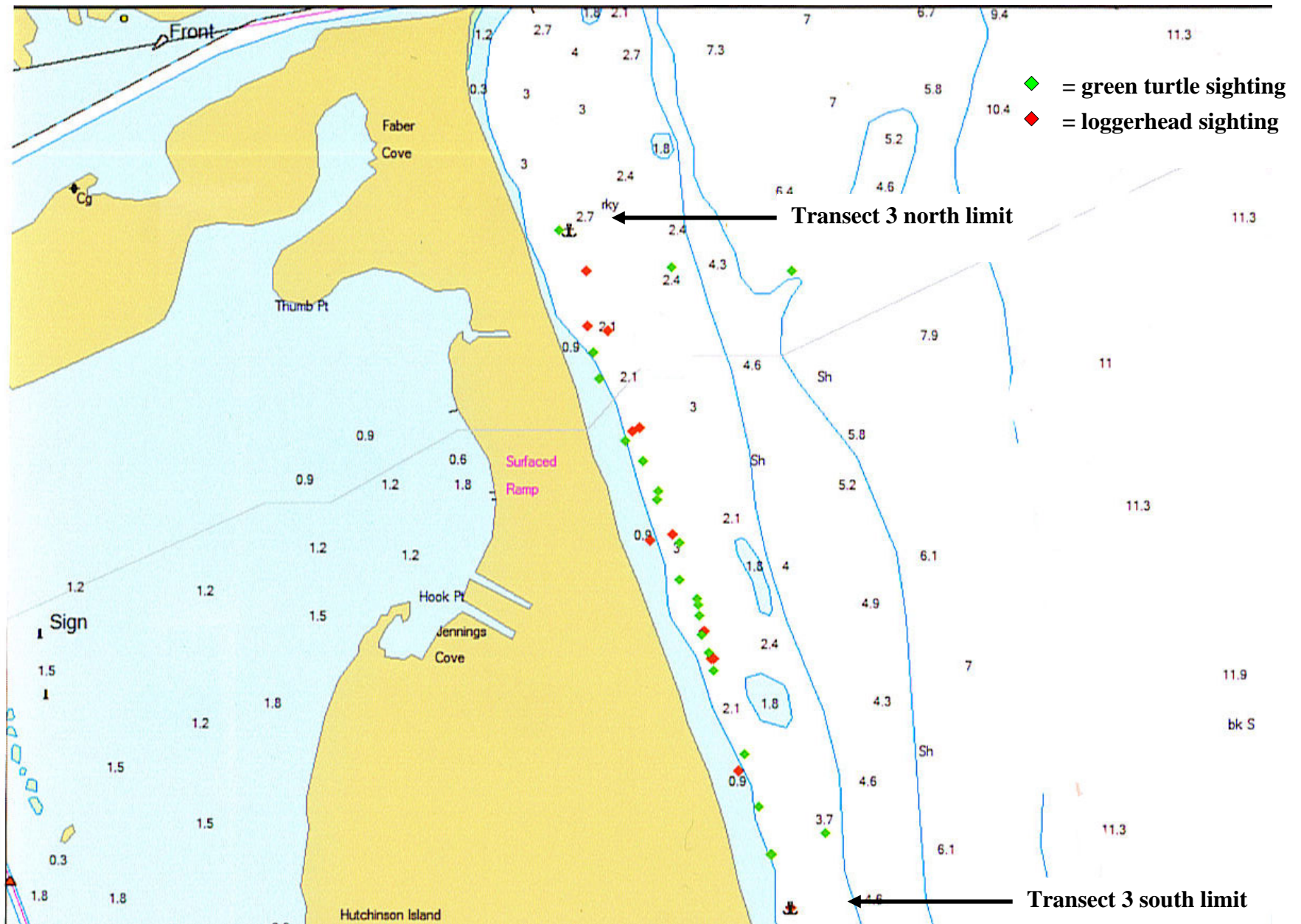
APPENDIX 2.
SIGHTING LOCATION MAPS



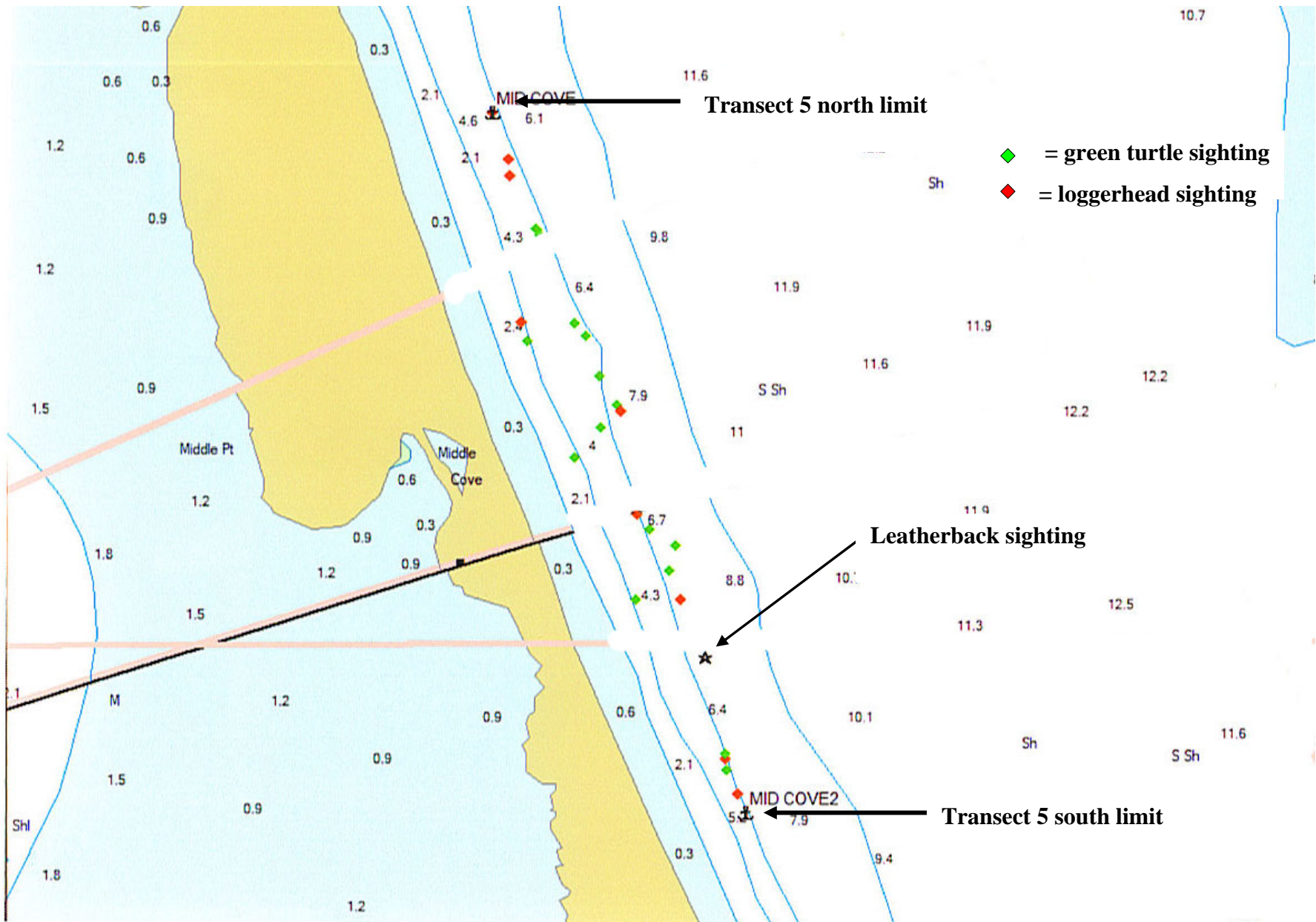
Transect 1. Inshore transect north of Ft. Pierce Inlet, North Hutchinson Island, Florida.



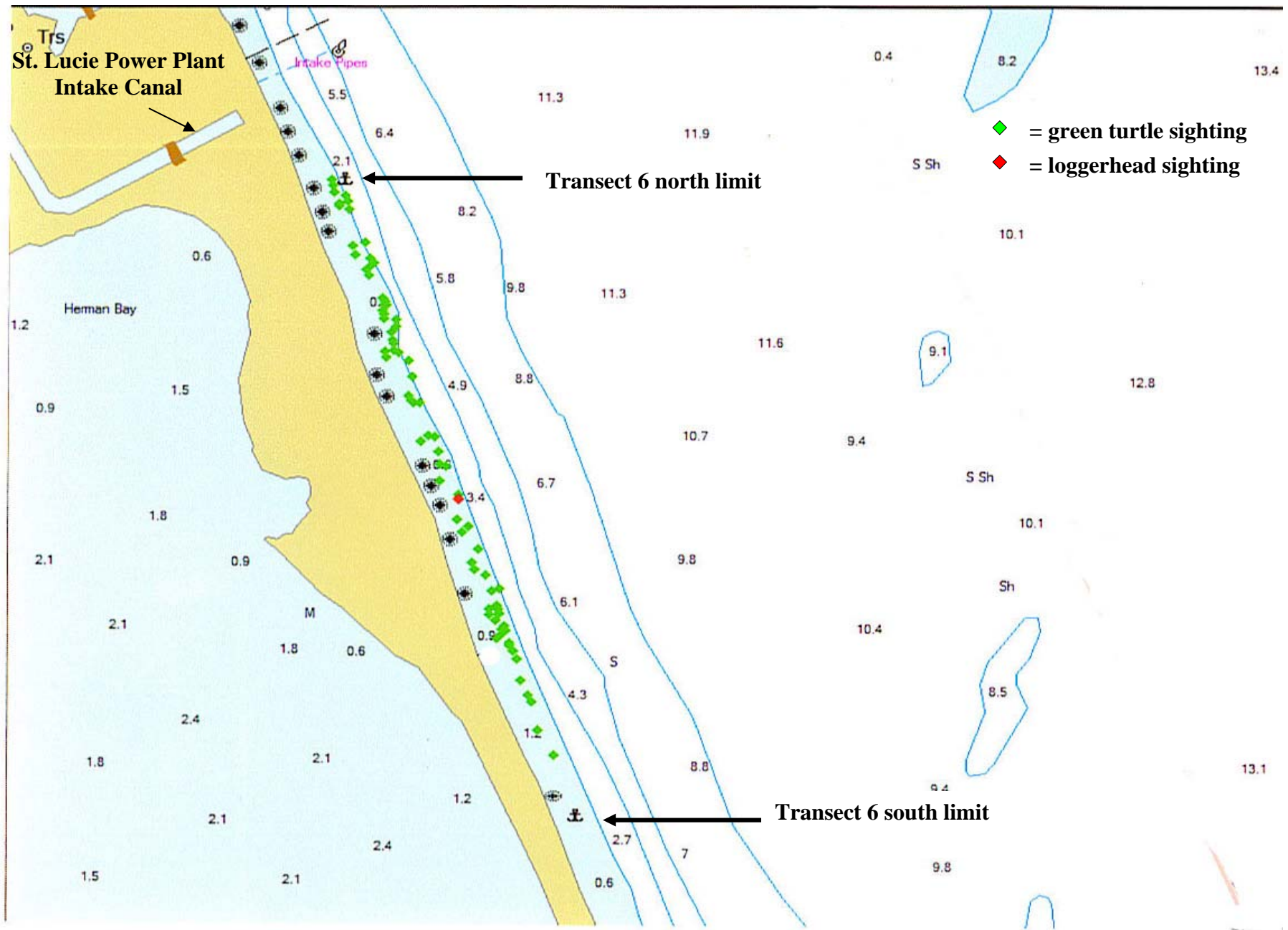
Transect 2. Offshore transect north of Ft. Pierce Inlet, North Hutchinson Island, Florida.



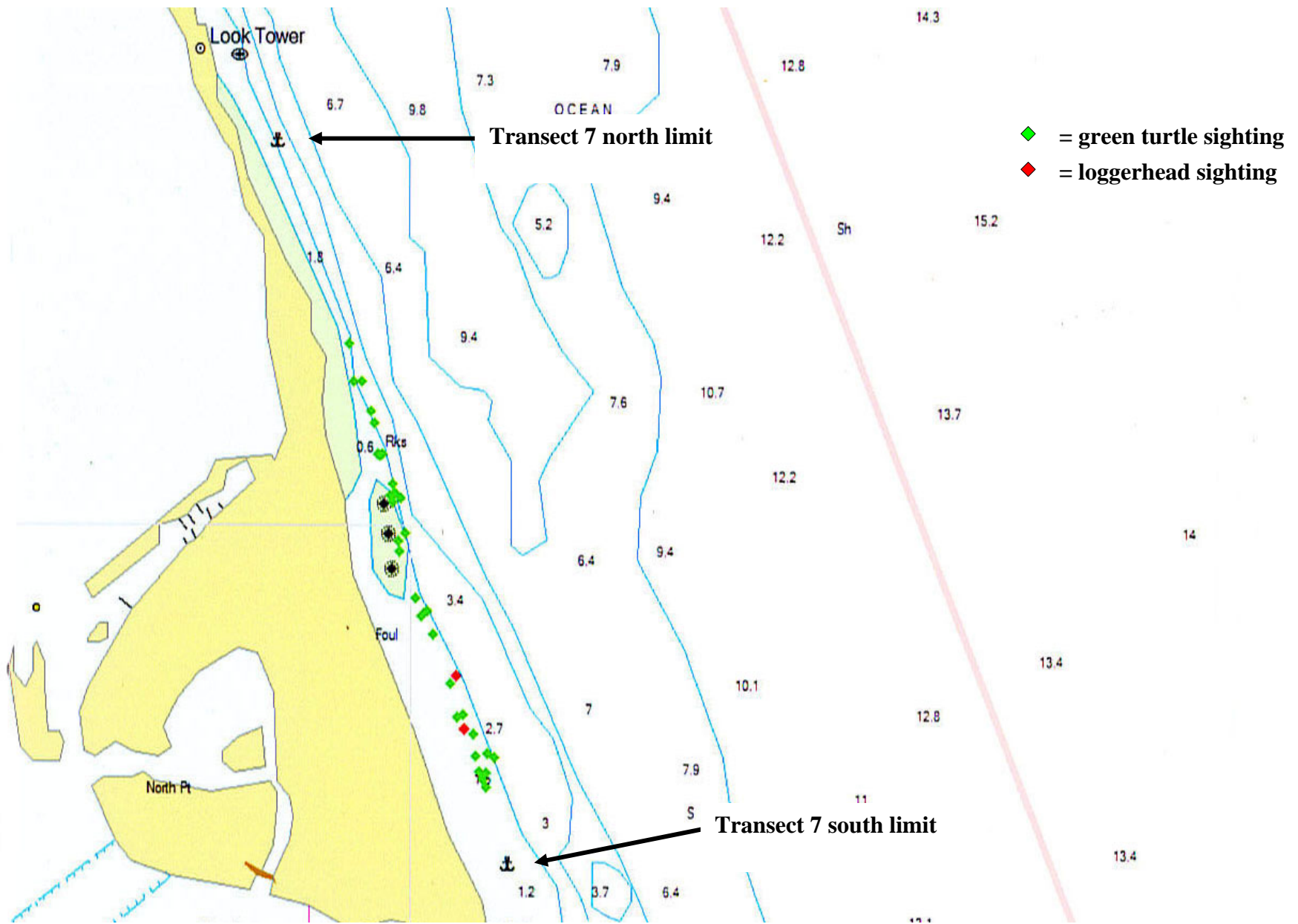
Transect 3. Inshore transect south of the Ft. Pierce Inlet, Hutchinson Island, Florida.



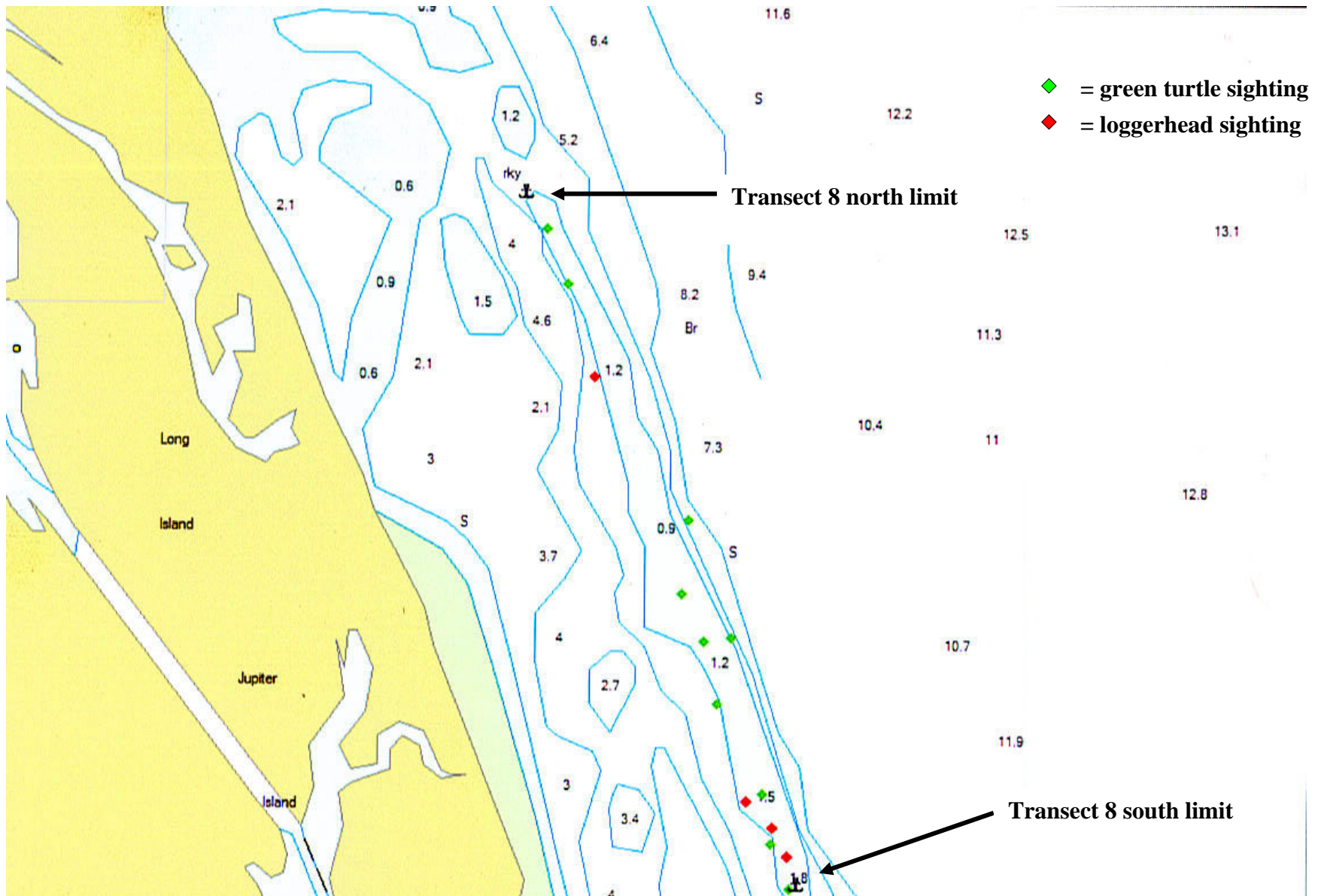
Transect 5. Offshore transect at Middle Cove, Hutchinson Island, Florida.



Transect 6. Inshore transect south of the St. Lucie Power Plant, Hutchinson Island, Florida.



Transect 7. Inshore transect, north of St. Lucie Inlet, Hutchinson Island, Florida.



Transect 8. Offshore transect, south of St. Lucie Inlet, Jupiter Island, Florida.

