

APPENDIX II

OFFICIAL CORRESPONDENCE



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
P. O. BOX 4970
JACKSONVILLE, FLORIDA 32232-0019

REPLY TO
ATTENTION OF

September 29, 1992

Planning Division
Environmental Branch

TO ADDRESSEES ON ATTACHED LIST:

The Jacksonville District, U.S. Army Corps of Engineers, is gathering information to define issues and concerns that will be addressed in a reconnaissance-level report on proposed inlet improvements at Ponce de Leon Inlet, Volusia County, Florida.

Alternatives under consideration include lengthening the south jetty approximately 1,000 feet, construction of a scour apron on the south side of the north jetty, rebuilding damaged areas of the north jetty, construction of a groin field along the sand spit inside the inlet adjacent to the north jetty and construction of a storm revetment to seal a potential breach along shoreline of the sand spit inside the inlet (enclosure 1).

The Corps welcomes your views, comments and information about resources, study objectives and important features within the described study area, as well as any suggested improvements. Letters of comment or inquiry should be addressed to the letterhead address to the attention of Planning Division, Environmental Studies Section and received by this office within thirty (30) days of the date of this letter.

Sincerely,

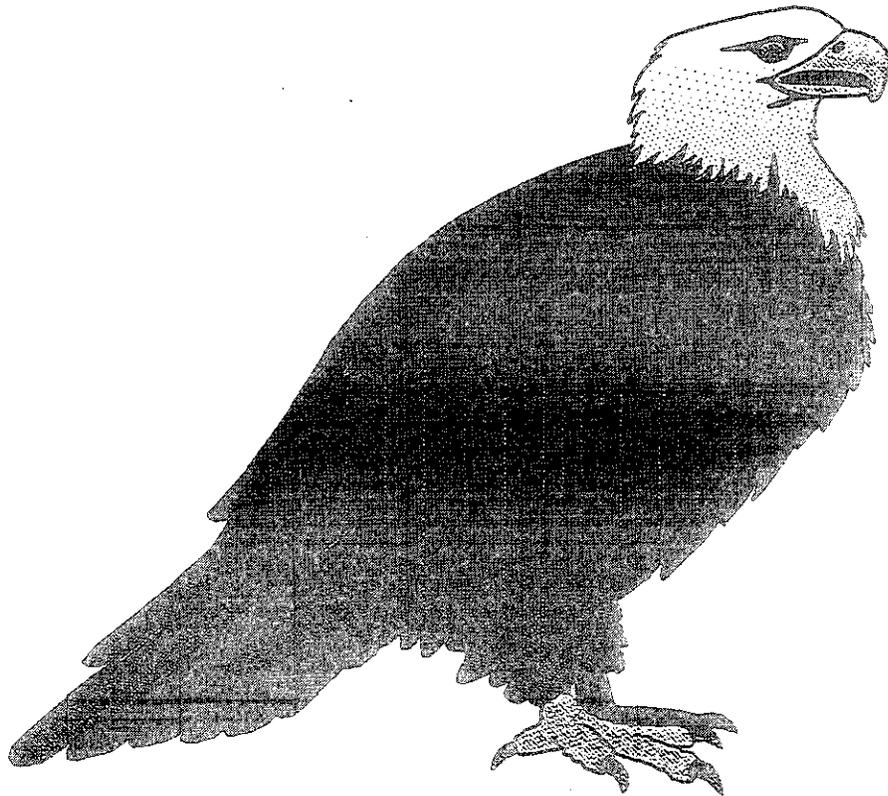
A. J. Salem
Chief, Planning Division

Enclosure

PROJECT MGR. - JACK POWELL (#1694)

(Also: RAY BOOTHBY 3453)

FISH & WILDLIFE COORDINATION ACT



PONCE-DE-LEON INLET PROJECT
(ADDENDUM)
JULY 23, 1997

**PONCE DE LEON INLET IMPROVEMENTS
(ADDENDUM)
VOLUSIA COUNTY, FLORIDA**

1.0 PURPOSE

On September 26, 1997, the Fish and Wildlife Service (Service) provided the Jacksonville District, Army Corps of Engineers (Corps) with the final Fish and Wildlife Coordination Act Report (CAR) for inclusion in the Feasibility Study of proposed navigation improvements to Ponce de Leon Inlet, Volusia County, Florida.

On May 5, 1997, the Jacksonville District requested the Service provide an addendum to the CAR as a result of a proposed modification to the originally described project. As a result of the modification, the Service has also modified the biological opinion, in accordance with section 7 of the Endangered Species Act of 1973, as amended and reaffirmed the Service's determination with reference to section 6 consultation, in accordance with the Coastal Barrier Resources Act of 1982, as amended.

2.0 MODIFIED PROJECT DESCRIPTION

In addition to the proposed action described in the September 26, 1997, CAR, the Jacksonville District proposes to realign the southern portion of the Ponce de Leon Inlet Federal channel in the Indian River to Cut-24 of the Intracoastal Waterway (IWW), and deepen the existing IWW channel from Cut-24 north to the site of the old Swoop Power Plant on the west side of the IWW north of Rockhouse Creek (16,000 linear feet) (figure 1). The channel would be deepened from the authorized depth of minus 12 feet to a depth of minus 16 feet; however, the bottom width of 125 feet will remain unchanged. The top width would increase from 200 feet to 225 feet. About 360,000 cubic yards of beach quality material will be removed from the channel and either placed on the beach south of Ponce de Leon Inlet, two upland disposal sites, or enlarge two shoaled areas just west of the inlet at the mouth of Rockhouse Creek.

Ancillary Development

The Corps has discussed with the local sponsor the feasibility of securing private funds to build a commercial marina and seafood processing facility at the Swoop Power Plant site. The proposed modification to the inlet project, the subject of this modified CAR, is to service the commercial facility.

The purpose of the commercial facility is to attract open-ocean commercial fishing vessels, ranging from 65-95 feet in length with a draft of 12-14 feet. The current depth of the IWW from Cut-24 to the power plant site is minus 12 feet, therefore, the IWW will not accommodate the larger vessels.

There is only one commercial marina in the New Smyrna Beach area, Fager's Marina, which is located several miles south of the inlet, across from Chicken Island. This marina is not able to accommodate the larger vessels. The purpose of this new marina will be to provide quicker access to the golden and red crab fisheries, and rock shrimp, which lie approximately 100 miles east of Ponce de Leon Inlet. Currently there are three commercial marinas suitable to accommodate these larger ocean going vessels: Fernandina, Cape Canaveral and Ft. Pierce. The facility at Cape Canaveral is closing because of competing interests from the cruise ship industry, leaving only two facilities, both located at significant distances away from the targeted commercial fisheries.

3.0 AFFECTED ENVIRONMENT

The proposed work will occur within the existing channel from Cut-24 to just north of the Swoop Power Plant. No dredging will be required from the inlet south where it intercepts with the IWW. The dredged material will either be deposited on the beach south of the inlet, two upland disposal sites between Rockhouse Creek or in shoaled areas between the inlet and Rockhouse Creek.

Much of the biological information with reference to the inlet and surrounding wetlands is presented in the CAR; therefore, will not be repeated in this addendum. For this addendum, the Service evaluated the new dredging and the new proposed disposal sites.

Natural Habitats

Intracoastal Waterway

The Federal navigation channel (IWW) currently has a bottom width of 125 feet and a depth of minus 12 deep at mean low water. The proposal is to deepen the channel to minus 16 feet; however, the bottom width of the channel will remain unchanged. The top width will increase from 200 feet to 225 feet.

All work will be conducted from the water using a cutter-head dredge. The material will be piped to the disposal site(s).

Core samples from the channel show a material that is suitable for beach disposal. Because of existing water depth and water clarity, there is no submerged aquatic vegetation in or adjacent to the channel that would be affected by the dredging. No blasting will be required to deepen the channel. For a detailed description of biotic resources that may be found within the water column, we refer the Corps to the CAR.

Figures 2-5 show typical sites along the IWW, including a photograph of the Swoop Power Plant site where the commercial marina is proposed to be constructed. The eastern shoreline is vegetated in a mixture of black mangrove (*Avicennia germinans*) and smooth cordgrass

Spartina alterniflora). Landward of this vegetation is Brazilian pepper (*Shinus terebinthifolius*) and wax myrtle (*Myrica cerifera*), intermixed with cabbage palm (*Sabal palmetto*), and red cedar (*Juniperus virginiana*). Within the project area, most of the western shoreline is developed with single-family residences and the shoreline is bulkheaded.

The following Federally listed threatened and endangered species may be found in the IWW: manatee (*Trichechus manatus latirostris*) and loggerhead (*Caretta caretta*), green (*Chelonia mydas*), and leatherback (*Dermodochelys coriacea*) sea turtles. With reference to marine turtles, we recommend that the Corps coordinate with the National Marine Fisheries Service regarding potential impacts of this project on these species.

Upland Disposal Sites

The upland disposal sites are located on the north and south sides of Rockhouse Creek (figures 6 and 7). Both sites historically were used as disposal sites for the IWW.

The north site (MSA 434) is approximately 378 acres, and appears not to have been used as a disposal site for many years based on the growth of the vegetation throughout the area (figures 8-10). The predominant vegetation is wax myrtle, cabbage palm, red cedar, lantana (*Lantana* spp.), smilax (*Smilax* spp.), and sea oats (*Uniola paniculata*). During the cursory survey, four active gopher tortoise (*Gopherus polyphemus*) burrows were found, and one gopher tortoise was observed in a burrow (figure 11).

The south site (MSA 434C) is approximately 47 acres, and appears to have been used more recently than the north site (figures 12-14). There has been little recruitment of vegetation on the disposal site. The predominant vegetation is sea oats.

The Service believes the use of the south site would have less environmental impact than the north site because it lacks the plant or animal diversity observed on the north site.

Shoal Sites

The shoaled areas are located between the inlet and the mouth of Rockhouse Creek. As shown in figures 15-19, the shoals are unvegetated, except one small patch of smooth cordgrass found on the extreme south end of the south shoal. Between the shoals and the islands, there were exposed tidal flats. Several unidentified shore birds were feeding on invertebrates found on these flats.

Of the three proposed methods of disposal available to the Corps for this project, the Service ranks the shoaled sites as the least favorable. The shoaled areas do provide feeding sites for shore and wading birds.

Beach Disposal Site

The proposed beach disposal site begins south of the south jetty and will continue south along the beach until 360,000 cubic yards of sand is disposed of. The Corps did not identify a termination point.

Sandy beaches are populated by small, short-lived infauna with high species density and substantial reproductive potential and recruitment, for example decapods crustaceans, bivalves, spionid worms, and burrowing haustoriid amphipods. These communities occur in relatively well-defined zones and depend to some extent on the nature of the substrate.

The southeastern beach mouse (*Peromyscus polionotus niveiventris*), a Federally listed threatened species, may be found in the dune system. The marine turtles identified above may nest on the intertidal beach and supralittoral zones.

The dredged material will be piped from the project site to the beach to be dispersed. Work will be confined to the intertidal beach and supralittoral beach zones; no work will be conducted in the dunes.

Other than the impacts and conditions discussed in the enclosed biological opinion, the Service believes the impacts of beach disposal will be temporary. The invertebrates will recolonize the intertidal and supralittoral beach zones shortly after disposal.

4.0 ENDANGERED SPECIES ACT

SECTION 7 CONSULTATION

Manatee

The Service has evaluated the proposed dredging of the IWW on the manatee, in accordance with section 7 of the Act, and have determined that this action is not likely to adversely affect this species. The Corps has stated that the standard manatee construction precautions will be included in the dredging contract. In the event blasting is required, the Corps should reinitiate section 7 consultation with the Jacksonville Field Office.

The Service has encouraged marina construction close to inlets in order to decrease vessel travel time in the IWW, thereby reducing the probability of a manatee-boat collision. At the present time, Fager's Marina, located several miles south of the inlet, is the only marina available for commercial fishing vessels in the area.

The proposed marina at the power plant will shorten travel time in the IWW by several thousand feet, providing some additional protection for manatees.

Southeastern Beach Mouse

The historic distribution of this species included the southeastern Florida coast from Hollywood Beach in Broward County north to Ponce de Leon Inlet in Volusia County. Local populations currently are distributed from Ft. Pierce Inlet Recreation Area in St. Lucie County to Canaveral National Seashore in Brevard County.

Principal habitat includes vegetated coastal foredunes; however, mice are also found within the grassy/shrub area of backdunes and the woody scrub area associated with stable dunes

The Service has evaluated the proposed beach disposal operation on the southeastern beach mouse and determined that this action is not likely to adversely affect this subspecies. The Corps has stated that no work will be conducted in the dune system, the habitat for this species. All work will be confined to the intertidal beach and supralittoral beach zones. We recommend that all equipment be restricted, including staging, from the dunes.

BIOLOGICAL OPINION

Loggerhead, Green and Leatherback Sea Turtles

Description of the proposed action

Refer to Section 1.0 of this report.

Status of the species

Please refer to the biological opinion prepared for the CAR.

Environmental baseline

Action Area

The action area, as defined for this opinion, is a two-mile reach of shoreline proposed for beach nourishment.

Status of the Species Within the Action Area

Along a two-mile reach of beach beginning from the south jetty, an average of 23 loggerhead sea turtles nests were recorded from 1992 through 1996. For the current nesting season (June 1997), 21 loggerhead turtle nests have been documented. No green or leatherback sea turtle nests have been observed within this two-mile segment.

Effect of the Action on the Listed Species

Please refer to the biological opinion prepared for the CAR.

Cumulative Effects

Cumulative effects include the effects of future State, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The Service has considered cumulative effects and determined they do not apply to this project.

Conclusion

After reviewing the current status of the green, loggerhead and leatherback turtles, the environmental baseline for the action area, the effects of the proposed beach nourishment, and the cumulative effects, it is the Service's biological opinion that beach nourishment, as proposed, is not likely to jeopardize the continued existence of the loggerhead, leatherback, and green sea turtles and southeastern beach mouse. No critical habitat has been designated for these species; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or the applicant. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be implemented by the agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement

through enforceable terms that are added to the permit or grant document, and/or (2) fails to obtain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or extent of incidental take

The Service has reviewed the biological information and other information relevant to this action. Based on our review, incidental take is anticipated for all sea turtle nests that may be constructed and eggs that may be deposited and missed by a nest survey and egg relocation program within the boundaries of the proposed project.

Effect of the take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and prudent measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the loggerhead, green, and leatherback sea turtles.

1. Only beach quality sand suitable for sea turtle nesting, successful incubation, and hatchling emergence shall be used on the project site.
2. If the beach nourishment project will be conducted during the sea turtle nesting season, surveys for nesting sea turtles shall be conducted within the project area, and eggs from all nests laid within the project area shall be relocated.
3. Immediately after completion of the beach nourishment project and prior to the onset of the nesting season for three subsequent years, beach compaction shall be monitored, and tilling conducted as required to reduce the likelihood of impacting sea turtle nesting and hatching activities.
4. Immediately after completion of the beach nourishment project and prior to the onset of the nesting season for three subsequent years, monitoring shall be conducted to determine if escarpments are present, and escarpments shall be leveled as required to reduce the likelihood of impacting sea turtle nesting and hatching activities.
5. The applicant shall ensure that contractors doing the beach nourishment work fully understand the sea turtle protection measures detailed in this biological opinion.

6. During the sea turtle nesting season, no construction equipment shall be parked on the beach where it could hinder sea turtle nesting activities or hatching activities of relocated nests, and all construction pipes shall be located to minimize impacts to nesting sea turtles.

7. During the sea turtle nesting season, lighting associated with the project shall be minimized to reduce the possibility of disrupting and disorienting nesting and/or hatching sea turtles.

Terms and conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. All fill material placed shall be sand that is similar to that already existing on the site in both coloration and grain size. All such fill material shall be free of construction debris, rocks, clay, or other foreign matter and shall, in general, not contain greater than 5 percent fines (passing the #200 sieve) and be free of coarse gravel or cobbles.

2. A sea turtle nesting survey and conservation program is required if any portion of the beach nourishment activities occurs between April 15 through September 30. Nesting surveys shall begin 65 days prior to nourishment activities or by April 15, whichever is later. Nesting surveys shall continue through the end of the project or through September 30, whichever is earlier. Nests that may be affected by construction activities shall be relocated per the following requirements.

2a. Nest surveys and egg relocations shall only be conducted by personnel with prior experience and training in nest survey and egg relocation procedures. Surveyors shall have a valid Florida Department of Environmental Protection permit. Nest surveys shall be conducted daily between sunrise and 9 a.m. These surveys shall be performed in such a manner so as to ensure that daily movement of the construction activity does not extend into any unsurveyed area.

2b. Only those nests that may be affected by construction activities are required to be relocated. Any nests requiring relocation shall be moved between sunrise and 10 a.m. each day to a nearby self-release beach site in a secure setting where artificial lighting will not interfere with hatchling orientation. Nest relocations in association with construction activities shall not be performed if construction activities are not anticipated to be initiated within 65 days of the date of a nesting event. Nest relocations in association with construction activities shall cease when construction activities no longer threaten nests.

3. Immediately after completion of the beach nourishment project and prior to April 15 of the next three nesting seasons, beach compaction shall be monitored in the area of restoration in accordance with a protocol agreed to by the Service, the State regulatory agency, and the applicant. At a minimum, the protocol provided under 3a and 3b below shall be followed. If required, the area shall be tilled to a depth of 36 inches. All tilling activity must be completed prior to April 15. If the project is completed during the nesting season, tilling shall not be performed in areas where nests have been left in place or relocated. A report on the results of compaction monitoring shall be submitted to the Service prior to any tilling actions being taken. An annual summary of compaction and the actions taken shall be submitted to the Service.

This condition shall be evaluated annually and may be modified if necessary to address sand compaction problems identified during the previous year.

3a. Compaction sampling stations shall be located at 500-foot intervals along the project area. One station shall be at the seaward edge of the dune/bulkhead line (when material is placed in this area); one station shall be midway between the dune line and the high water line (normal wrack line); and one station shall be located just landward of the high water line.

At each station, the cone penetrometer shall be pushed to a depth of 6, 12, and 18 inches three times (three replicates). Material may be removed from the hole if necessary to ensure accurate readings of successive levels of sediment. The penetrometer may need to be reset between pushes, especially if sediment layering exists. Layers of highly compact material may lay over less compact layers. Replicates shall be located as close to each other as possible, without interacting with the previous hole and/or disturbed sediments. The three replicate compaction values for each depth are then averaged to produce final values for each depth at each station. Reports shall include all 27 values for each transect line, and the final 9 averaged compaction values.

3b. If the average value for any depth exceeds 500 psi for any two or more adjacent stations, then that area shall be tilled immediately prior to the sea turtle nesting season. If values exceeding 500 psi are distributed throughout the project area but in no case do those values exist at two adjacent stations at the same depth, then consultation with the Fish and Wildlife Service shall be required to determine if tilling is required. If a few values exceeding 500 psi are present randomly within the project area, tilling shall not be required.

4. Visual surveys for escarpments along the project area shall be made immediately after completion of the beach nourishment project and prior to April 15 of the 3 years following completion of the project. Results of the surveys shall be submitted to the Service prior to any action being taken. Escarpments that interfere with sea turtle nesting or that exceed 18 inches in height for a distance of 100 feet shall be mechanically leveled to the natural beach

contour by April 15. If the project is completed during the main part of the nesting season (May 1 through October 31), escarpments may be required to be leveled immediately, while protecting nests that have been relocated or left in place. An annual summary of escarpment surveys and actions taken shall be submitted to the Service.

5. The applicant shall arrange a meeting between representatives of the contractor, the Service, the Florida Department of Environmental Protection and the permitted person responsible for egg relocation at least 30 days prior to the commencement of work on this project. At least 10 days advance notice shall be provided prior to conducting this meeting. This will provide an opportunity for explanation and/or clarification of the sea turtle protection measures.

6. From April 15 through November 30, no construction equipment shall be parked on the beach where it could hinder sea turtle nesting and hatching activities. In addition, all construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system. Temporary storage of pipes shall be off of the beach to the maximum extent possible. Temporary storage of pipes on the beach shall be in such a manner so as to impact the least amount of nesting habitat and shall likewise not compromise the integrity of the dune systems (placement of pipes perpendicular to the shoreline is recommended as the method of storage).

7. From April 15 through November 30, all lighting associated with the project shall be limited to the immediate area of active construction only. Such lighting shall be the minimal lighting necessary to comply with U.S. Coast Guard and OSHA requirements and shall incorporate reduced wattage, downlights, special fixtures, and/or screens to minimize illumination of the nesting beach and nearshore waters. Lighting on offshore equipment shall be similarly minimized. Shielded low pressure sodium vapor lights are required for on-beach construction site illumination and recommended for all other lighting applications that cannot be eliminated.

8. A report describing the actions taken to implement the terms and conditions of this biological opinion shall be submitted to the Jacksonville Field Office within 60 days of completion of the proposed work for each year when the activity has occurred. This report will include the dates of actual construction activities, names and qualifications of personnel involved in nest surveys and relocation activities, descriptions and locations of hatcheries, nest survey and relocation results, and hatching success of nests.

9. In the event a sea turtle nest is excavated during construction activities, the permitted person responsible for egg relocation for the project should be notified so the eggs can be moved to a suitable relocation site.

10. Upon locating a dead, injured, or sick endangered or threatened sea turtle specimen, initial notification must be made to the nearest Fish and Wildlife Service Law Enforcement Office, 904-232-2580. Care should be taken in handling sick or injured specimens to ensure effective treatment and care and in handling dead specimens to preserve biological materials in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

11. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. With implementation of these measures, the Service believes that no more than those sea turtle nests and eggs that may be missed by a nest survey and egg relocation program will be incidentally taken. If, during the course of the action, this minimized level of incidental take is exceeded, such incidental take represents new information requiring review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Construction activities for this project and similar future projects should be planned to take place outside the main part of the sea turtle nesting and hatching season.
2. Appropriate native salt-resistant dune vegetation should be established on the restored dunes. The Florida Department of Environmental Protection, Division of Beaches and Shores, can provide technical assistance on the specifications for design and implementation.
3. Surveys for nesting success of sea turtles should be continued for a minimum of 3 years following beach nourishment to determine whether sea turtle nesting success has been adversely impacted.
4. Educational signs should be placed where appropriate at beach access points explaining the importance of the area to sea turtles and/or the life history of sea turtle species that nest in the area.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

This concludes formal consultation. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

5.0 COASTAL BARRIER RESOURCES ACT

SECTION 6 CONSULTATION

The Coastal Barrier Resources Act (CBRA), first enacted in 1982 (16 U.S.C. 3502 *et seq.*), was reauthorized and amended by the Coastal Barrier Improvement Act (CIBA) of 1990 (16 U.S.C. 3501). Its purpose, as stated in section 2(b), is ".....to minimize the loss of human life, wasteful expenditure of Federal revenues, and the damage to fish, wildlife, and other natural resources associated with the coastal barriers....." CBRA established the Coastal Barrier Resources System, a mapped series of undeveloped coastal barriers on the Atlantic and Gulf coasts, including the Great Lakes Region, Virgin Islands, and Puerto Rico. Areas within the system are designated as either "units" or "otherwise protected areas" (OPA's). Section 5(a) prohibits all new Federal expenditures and financial assistance within unit boundaries, with some exceptions as determined through a process of consultation.

Consultation

Section 6(a) of CBRA requires that the appropriate federal officer consult with the Secretary of the Interior (Secretary) prior to making commitments on Federal expenditures or financial assistance within CBRA units. The Secretary has delegated his consultation responsibility to the U.S. Fish and Wildlife Service. The Service, therefore, offers the following comments on proposed improvements to navigation on the IWW, which is within a designated CBRA unit, pursuant to Section 6.

The project site is located adjacent to Ponce de Leon Inlet. The project site is found within CBRA unit P08 (figure).

Section 6(a)(2) of CBRA provides an exception to Section 5, Limitations on Federal Expenditures Affecting the System, if the expenditure is for "the maintenance or construction of improvements of existing Federal navigation channels (including the Intracoastal Waterway) and related structures (such as jetties), including the disposal of dredge materials related to such maintenance or construction."

Based on the preceding review, the Service concludes that the proposed deepening of the IWW and disposal of the material either on the beach, existing spoil islands or shoaled areas are exempted under Section 6(a)(2).

LITERATURE CITED

- Bowen, B., J.C. Avise, J.I. Richardson, A.B. Meylan, D. Margaritoulis, and S.R. Hopkins-Murphy. 1993. Population structure of loggerhead turtles (*Caretta caretta*) in the northwestern Atlantic Ocean and Mediterranean Sea. *Conservation Biology* 7(4):834-844.
- Carr, A.F. and L.H. Ogren. 1960. The ecology and migrations of sea turtles. The green turtle in the Caribbean Sea. *Bulletin of the American Museum of Natural History* 121:1-48.
- Coastal Engineering Research Center. 1984. Shore Protection Manual, Volumes I and II. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.
- Dickerson, D.D. and D.A. Nelson. 1989. Recent results on hatchling orientation responses to light wavelengths and intensities. Pages 41-43 in Eckert, S.A., K.L. Eckert, and T.H. Richardson (compilers). Proceedings of the 9th Annual Workshop on Sea Turtle Conservation and Biology. NOAA Technical Memorandum NMFS-SEFC-232.
- Dickerson, D.D. and D.A. Nelson. 1989. Effects of beach nourishment on sea turtles. Pages 125-127 in Eckert, S.A., K.L. Eckert, and T.H. Richardson (compilers). Proceedings of the 9th Annual Workshop on Sea Turtle Conservation and Biology. NOAA Technical Memorandum NMFS-SEFC-232.
- Dodd, C.K., Jr. and R. Byles. 1991. The status of the loggerhead, *Caretta caretta*; Kemp's ridley, *Lepidochelys kempii*; and green, *Chelonia mydas*, sea turtles in U.S. waters: a reconsideration. *Marine Fisheries Review* 53(3):30-31.
- Ehrenfeld, D.W. and A. Carr. 1967. The role of vision in the sea-finding orientation of the green turtle (*Chelonia mydas*). *Animal Behavior* 15:25-36.
- Ehrhart, L.M. 1989. A status review of the loggerhead turtle, *Caretta caretta*, in the western Atlantic. Pages 122-139 in Ogren, L., F. Berry, K. Bjorndal, H. Kumpf, R. Mast, G. Medina, H. Reichart, and R. Witham (eds.). Proceedings of the 2nd Western Atlantic Turtle Symposium. NOAA Technical Memorandum NMFS-SEFC-226.
- Fletemeyer, J. 1980. Sea turtle monitoring project. Report to Broward County Environmental Quality Control Board, FL. 88pp.
- Frazer, N.B. 1983. Survivorship of adult female loggerhead sea turtles, *Caretta caretta*, nesting on Little Cumberland Island, Georgia, USA. *Herpetologica* 39:436-447.

- Trazer, N.B. 1986. Survival from egg to adulthood in a declining population of loggerhead turtles *Caretta caretta*. *Herpetologica* 42(1):47-55.
- Hopkins, S.R. and J.I. Richardson, eds. 1984. Recovery plan for marine turtles. National Marine Fisheries Service, St. Petersburg, FL. 355pp.
- Limpus, C.J., V. Baker, and J.D. Miller. 1979. Movement induced mortality of loggerhead eggs. *Herpetologica* 35(4):335-338.
- Mann, T.M. 1977. Impact of developed coastline on nesting and hatchling sea turtles in southeastern Florida. M.S. thesis. Florida Atlantic University, Boca Raton. 100pp.
- Meylan, A., B. Schroeder, and A. Mosier. 1995. Sea turtle nesting activity in the State of Florida 1979-1992. Florida Marine Research Publications. Number 52. 51pp.
- Mortimer, J.A. 1982. Factors influencing beach selection by nesting sea turtles. Pages 45-51 in Bjorndal, K.A. (ed.). *Biology and Conservation of Sea Turtles*. Smithsonian Institution Press, Washington, D.C.
- Mrosovsky, N. and A. Carr. 1967. Preference for light of short wavelengths in hatchling green sea turtles (*Chelonia mydas*), tested on their natural nesting beaches. *Behavior* 28:217-231.
- Mrosovsky, N. and S.J. Shettleworth. 1968. Wavelength preferences and brightness cues in water finding behavior of sea turtles. *Behavior* 32:211-257.
- National Research Council. 1990. *Decline of the sea turtles: causes and prevention*. National Academy Press, Washington, D.C. 259pp.
- National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1991. Recovery plan for U.S. population of loggerhead turtle (*Caretta caretta*). National Marine Fisheries Service, Washington, D.C. 64pp.
- National Marine Fisheries Service and U.S. Fish and Wildlife Service. 1992. Recovery plan for leatherback turtles (*Dermochelys coriacea*) in the U.S. Caribbean, Atlantic, and Gulf of Mexico. National Marine Fisheries Service, Washington, D.C. 65pp.
- Nelson, D.A. 1988. Life history and environmental requirements of loggerhead turtles. U.S. Fish and Wildlife Service Biological Report 88(23). U.S. Army Corps of Engineers TR EL-86-2 (Rev.). 34pp.
- Nelson, D.A. and D.D. Dickerson. 1987 (abstract). Correlation of loggerhead turtle nest digging times with beach sand consistency. Seventh Annual Workshop on Sea Turtle Conservation and Biology, Orlando, FL.

- Nelson, D.A. and D.D. Dickerson. 1988a. Effects of beach nourishment on sea turtles. Proceedings of the Beach Preservation Technology Conference '88. Florida Shore & Beach Preservation Association, Inc., Tallahassee, FL.
- Nelson, D.A. and D.D. Dickerson. 1988b. Hardness of nourished and natural sea turtle nesting beaches on the east coast of Florida. Unpubl. report. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.
- Nelson, D.A., K. Mauck, and J. Fletemeyer. 1987. Physical effects of beach nourishment on sea turtle nesting, Delray Beach, Florida. Technical Report EL-87-15. U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi. 56pp.
- Parmenter, C.J. 1980. Incubation of the eggs of the green sea turtle, *Chelonia mydas*, in Torres Strait, Australia: The effect of movement on hatchability. Aust. Wildl. Res. 7:487-491.
- Philbosian, R. 1976. Disorientation of hawksbill turtle hatchlings (*Eretmochelys imbricata*) by stadium lights. Copeia 1976:824.
- Raymond, P.W. 1984. The effects of beach restoration on marine turtles nesting in south Brevard County, Florida. M.S. thesis. University of Central Florida, Orlando. 121pp.
- Ross, J.P. 1982. Historical decline of loggerhead, ridley, and leatherback sea turtles. Pages 189-195 in Bjorndal, K.A. (ed.). Biology and Conservation of Sea Turtles. Smithsonian Institution Press, Washington, D.C.
- Schroeder, B.A. 1994. Florida index nesting beach surveys: Are we on the right track? Pages 132-133 in Bjorndal, K.A., A.B. Bolten, D.A. Johnson, and P.J. Eliazar (compilers). Proceedings of the 14th Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-351.
- Witherington, B.E. 1992. Behavioral responses of nesting sea turtles to artificial lighting. Herpetologica 48:31-39.
- Witherington, B.E. and K.A. Bjorndal. 1991. Influences of artificial lighting on the seaward orientation of hatchling loggerhead turtles (*Caretta caretta*). Biological Conservation 55:139-149.

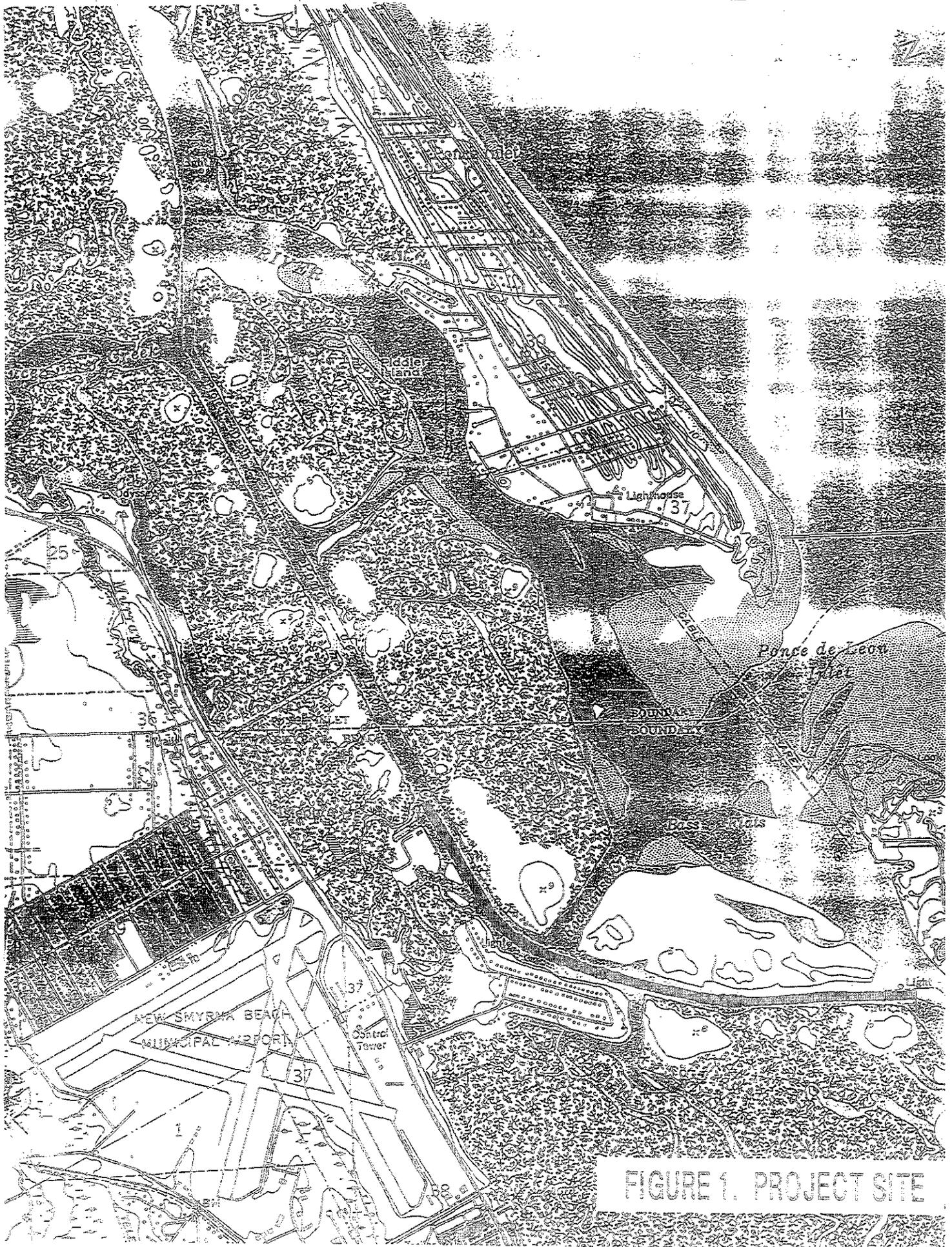


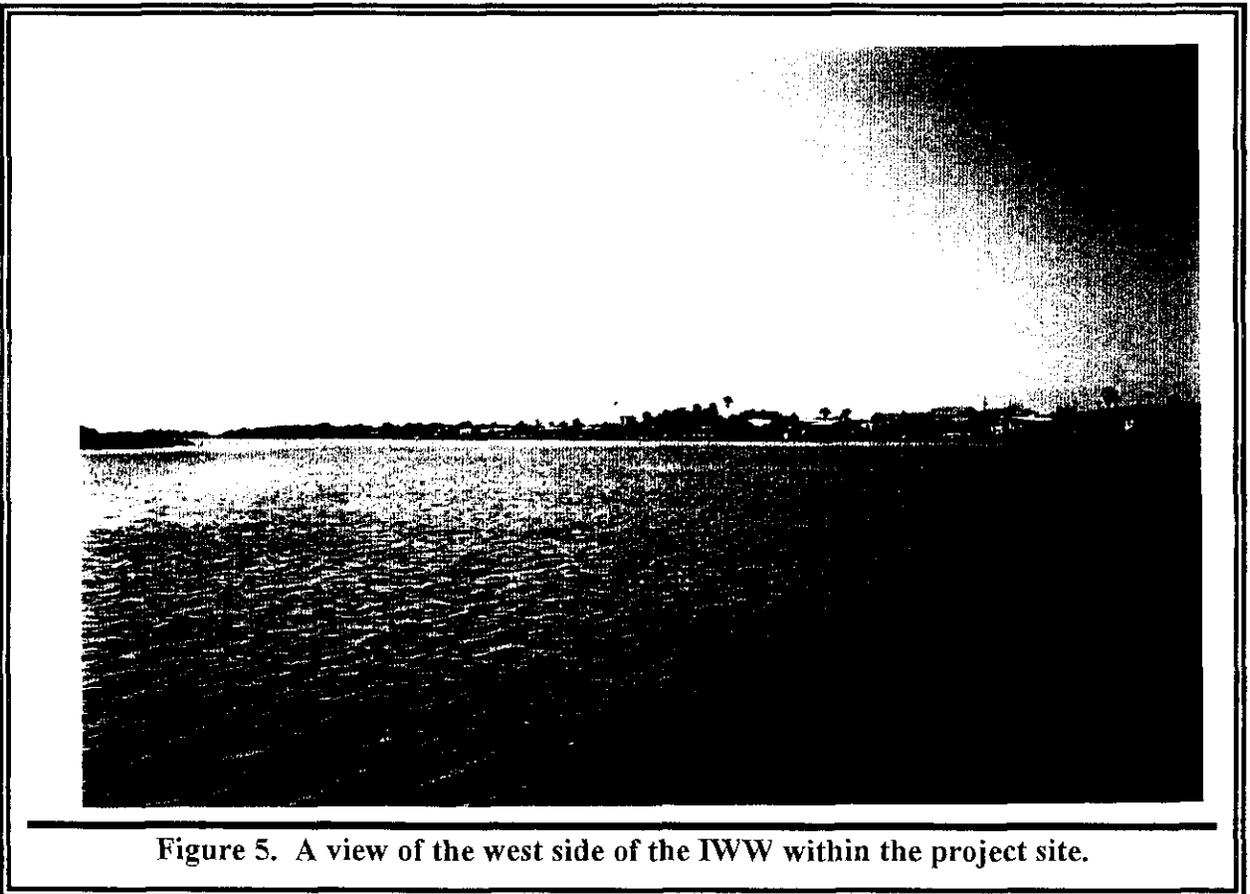
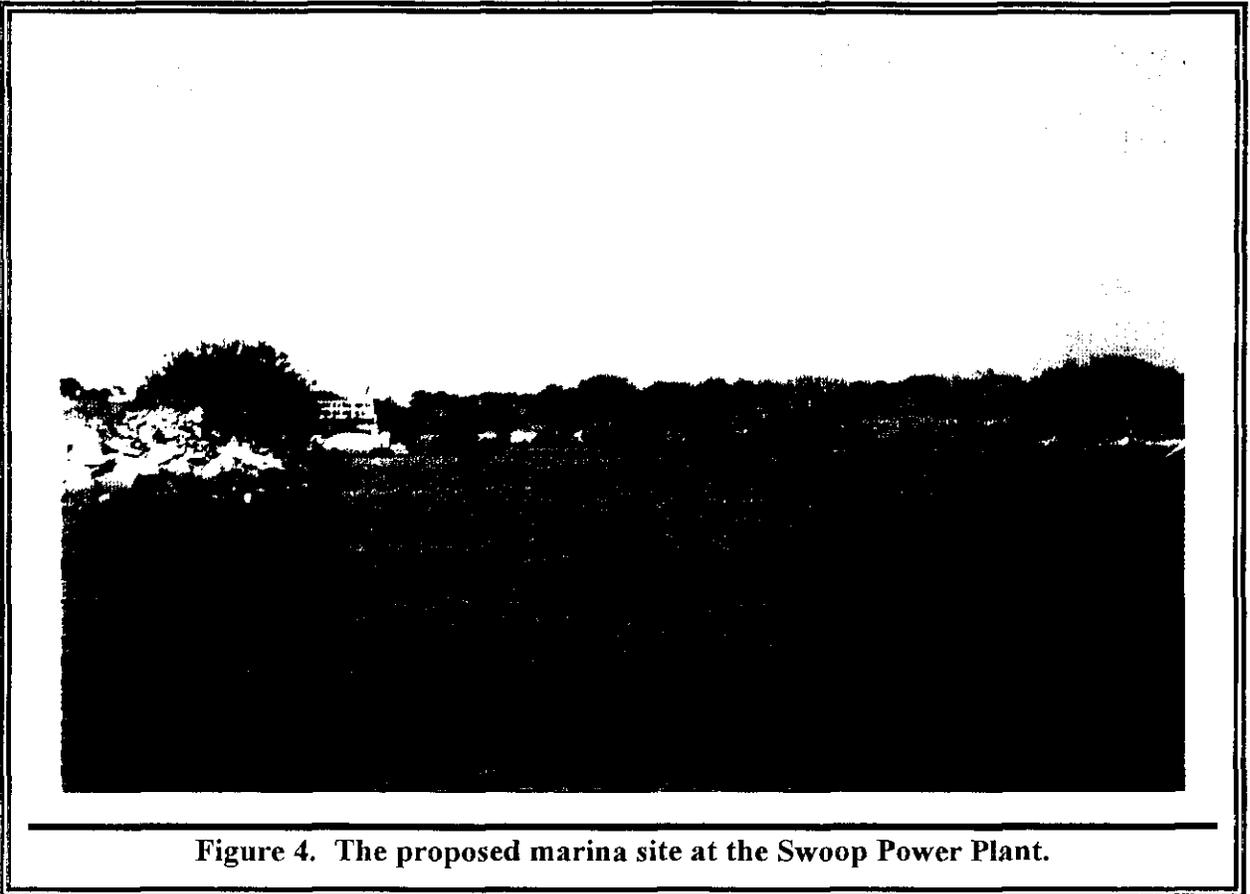
FIGURE 1. PROJECT SITE



Figure 2. The IWW, in the project site, looking north.



Figure 3. The vegetated shoreline on the east side of the IWW within the project site.



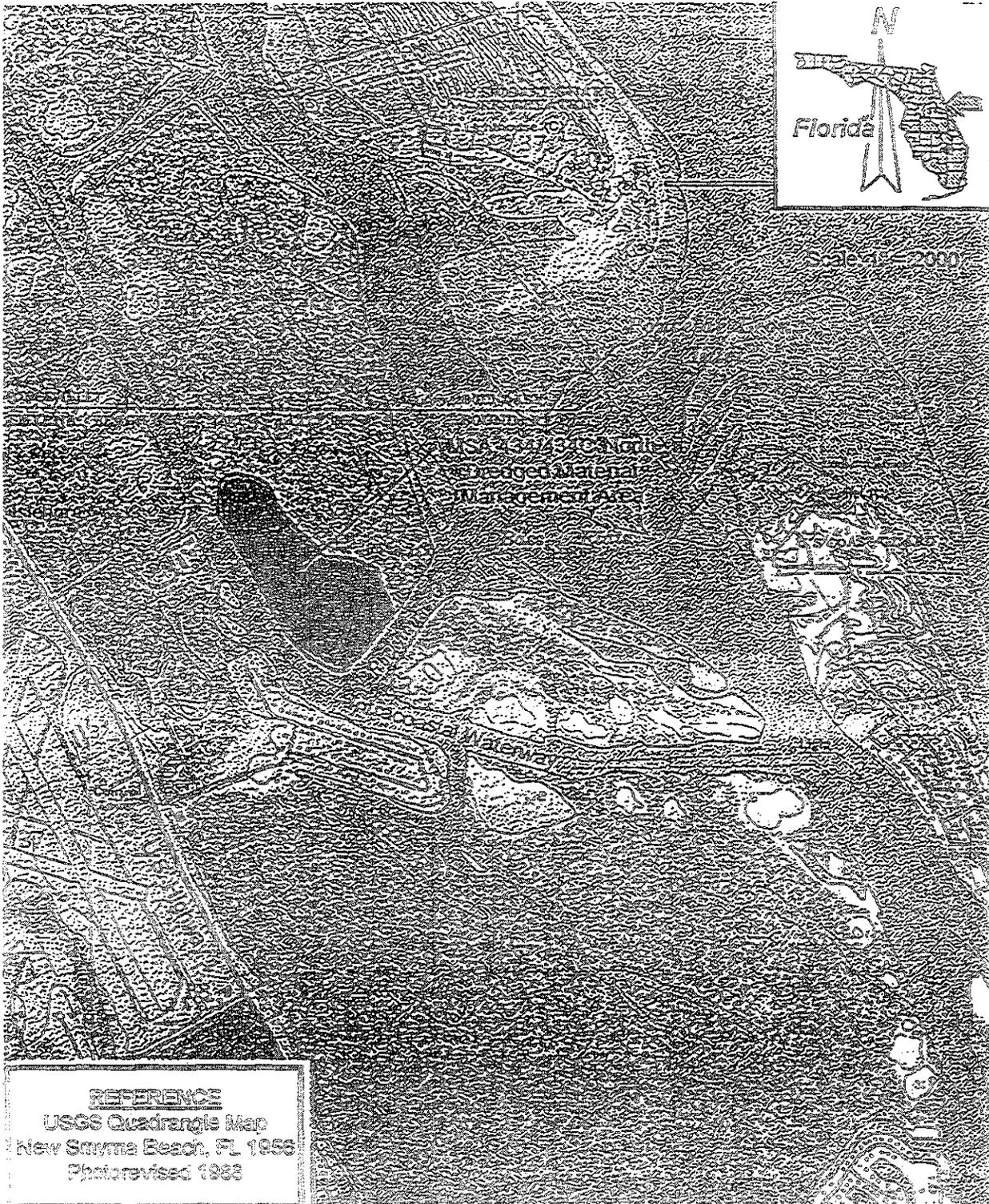


FIGURE 6. THE NORTH DISPOSAL SITE

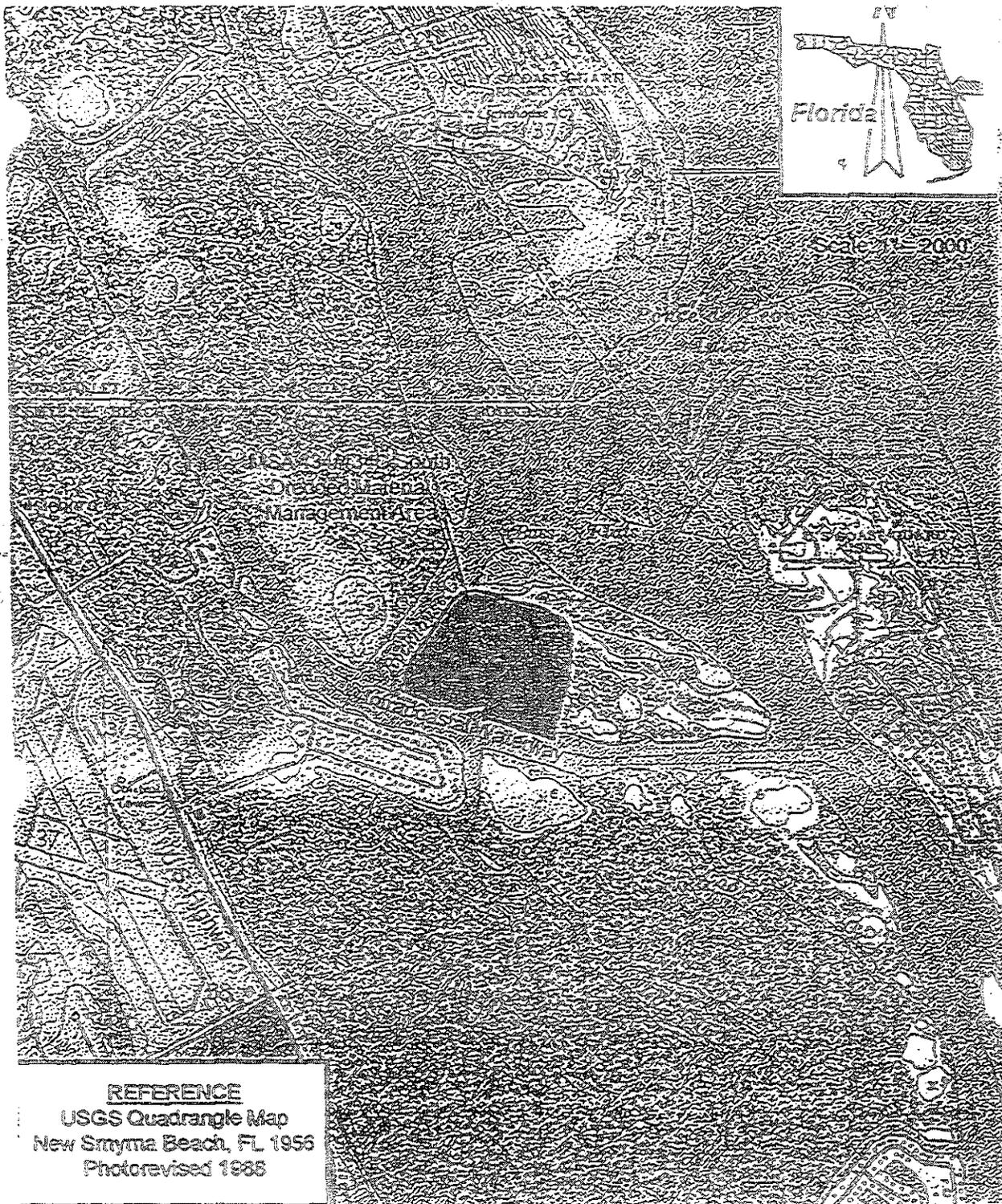


FIGURE 7. THE SOUTH DISPOSAL SITE



Figure 8. North disposal site.



Figure 9. North disposal site.



Figure 10. North disposal site.

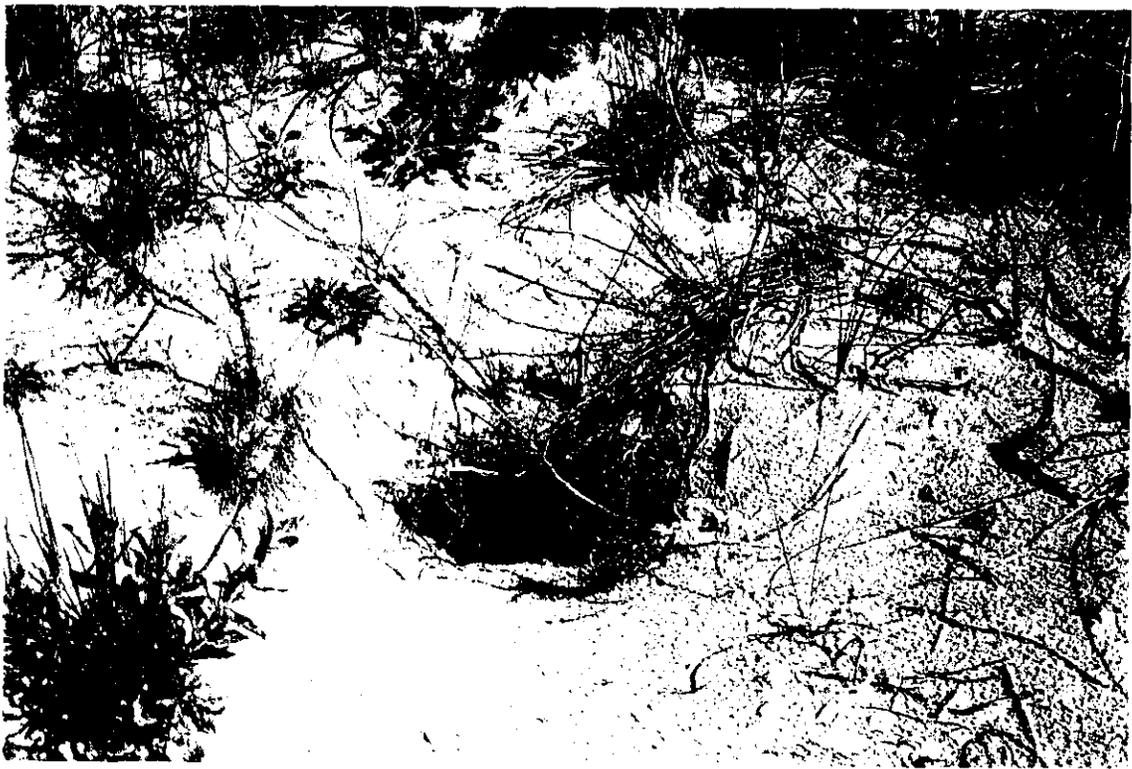


Figure 11. An active gopher tortoise burrow at the north disposal site.



Figure 12. South disposal site.

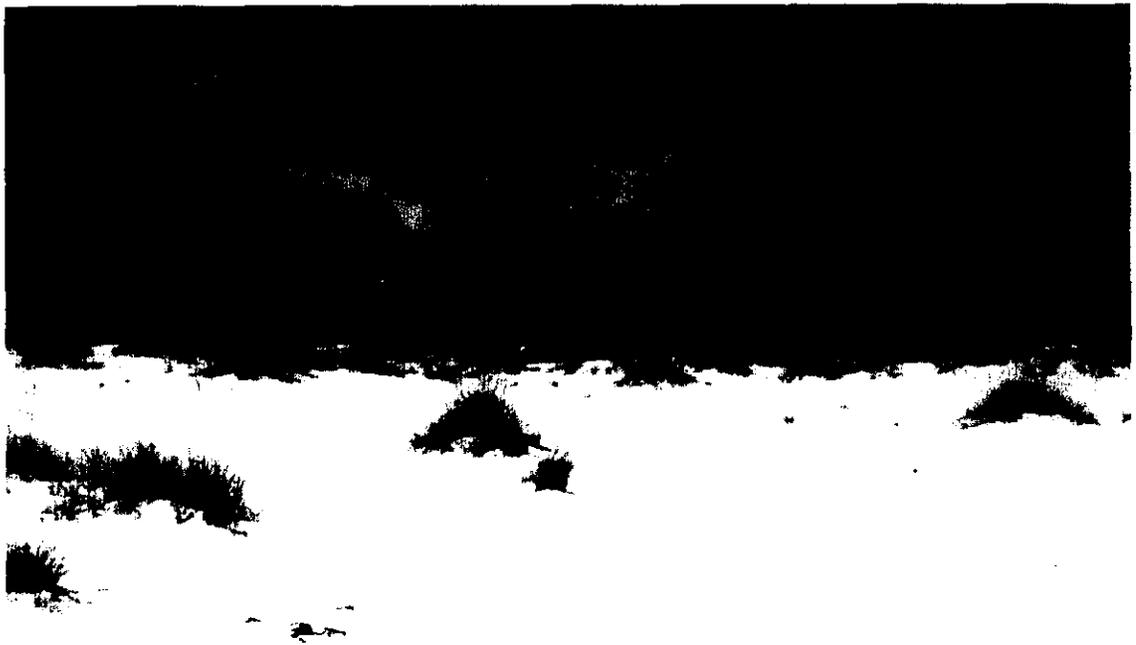


Figure 13. South disposal site.



Figure 14. South disposal site.



Figure 15. The shoaled area east of Rockhouse Creek.



Figure 16. The shoaled site.



Figure 17. The shoaled site.

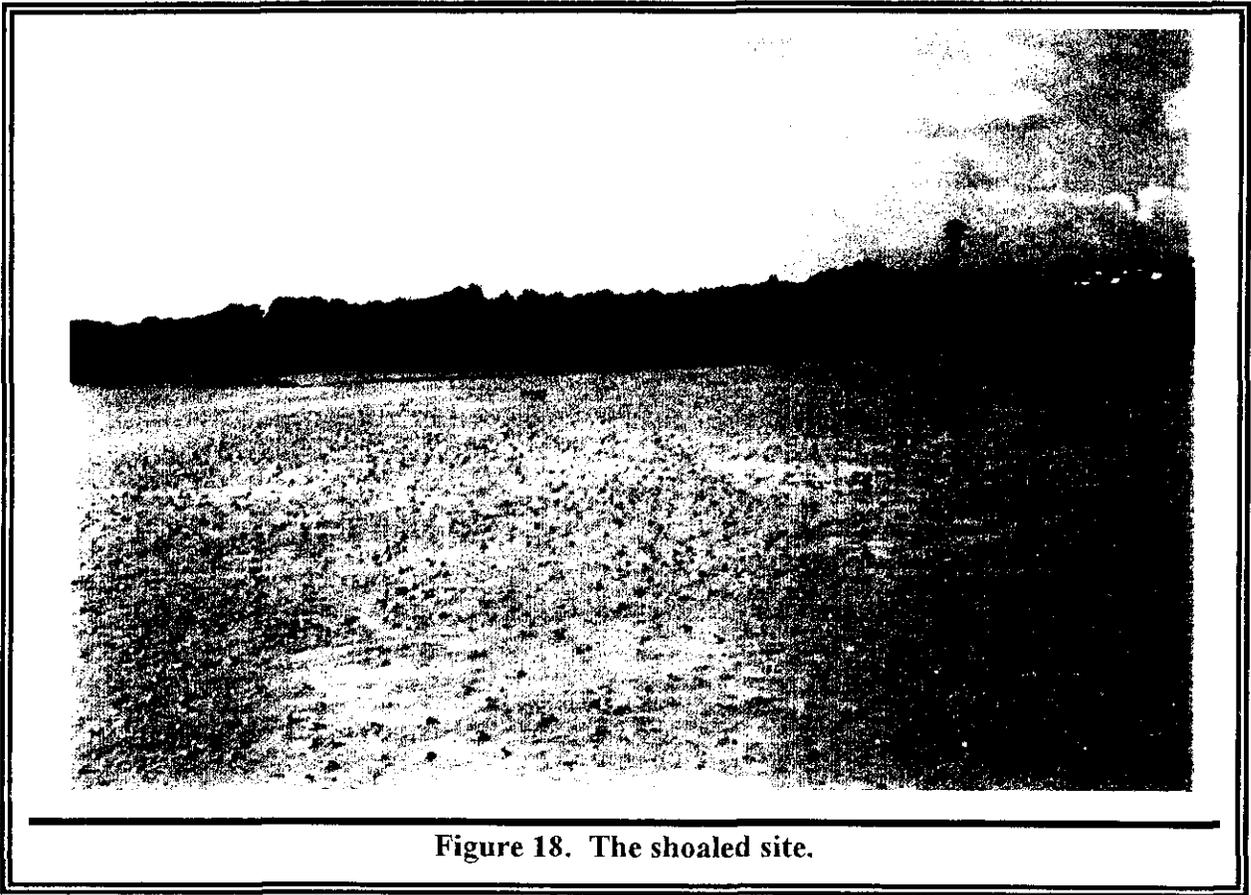


Figure 18. The shoaled site.

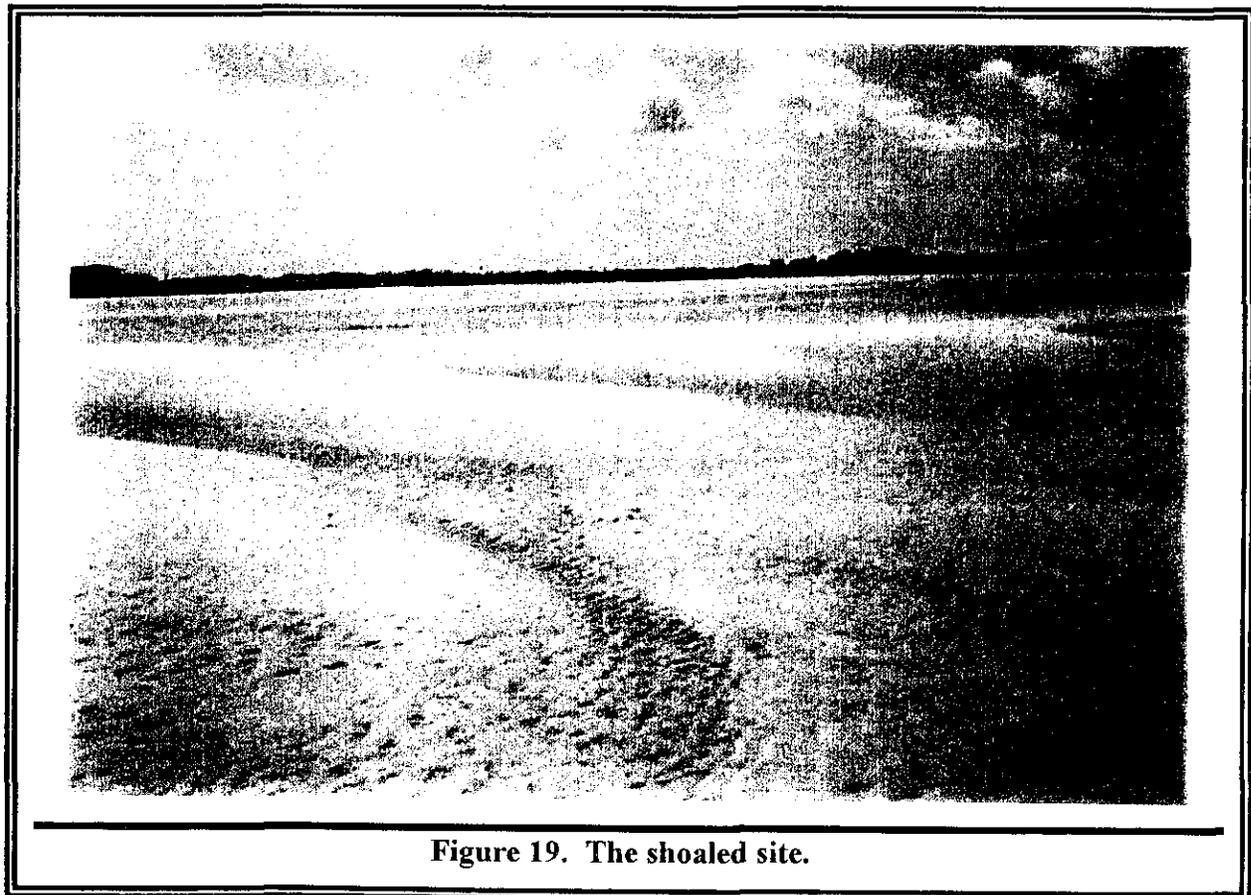


Figure 19. The shoaled site.