

**EAST PASS INLET MANAGEMENT STUDY
IMPLEMENTATION PLAN
CERTIFICATE OF ADOPTION**

WHEREAS the Department of Environmental Protection, in partnership with Okaloosa County, Florida, sponsored a study of East Pass. The study, Inlet Management Plan for East Pass to Choctawhatchee Bay, June 1999, Taylor Engineering, Inc., was conducted under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, and to recommend corrective measures to mitigate identified impacts, and

WHEREAS the Department has developed an implementation plan which contains corrective measures to mitigate the identified impacts of the inlet, and

WHEREAS the implementation plan is consistent with the Department's program objectives under Chapter 161, Florida Statutes,

The Department does hereby adopt the following implementation actions:

1) Continue to bypass sediment to the downdrift beaches.

As a first priority, place sand on downdrift beaches, west of the inlet, in areas of greatest need as determined by the Department. As a minimum, bypassing of material shall meet the average annual placement objective of 82,000 cubic yards as determined by the sediment budget. The sediment budget contained in the study report is adopted as an interim measure and shall be formally validated or redefined in subsequent revisions of the plan based on a comprehensive monitoring plan by December 31, 2005.

2) Implement strategies for managing Norriego Point while meeting local government objectives for land use goals that enable more material to be available for bypassing to downdrift Gulf beaches.

Stabilization of Norriego Point will allow material dredged from the inlet, currently being placed on the point, to be placed on downdrift beaches.

3) Implement a comprehensive beach, inlet, and offshore monitoring program subject to the approval of the Department.

The program will be used to identify beach placement locations for future bypassing efforts and to revalidate the sediment budget.

This plan is based on the supporting data contained in the report cited above. Each implementation action contained in this plan is subject to further evaluation, and subsequent authorization or denial, as part of the Department's environmental permitting and authorization process.

The implementation activities identified above shall be eligible for state financial participation subject to Department approval and an appropriation from the Florida Legislature. The level of state funding shall be determined based upon the activity being conducted and Department policy. The Department may choose not to participate financially if the proposed method for implementation is not cost effective or fails to meet the intent of Section 161.142, Florida Statutes.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management of East Pass.

APPROVED FOR ADOPTION


Kirby B. Green, Deputy Secretary
Department of Environmental Protection

8 June 00
Date

**EAST PASS INLET MANAGEMENT STUDY
SUMMARY OF FINDINGS REPORT
and
RECOMMENDED IMPLEMENTATION PLAN**

Introduction

The Department of Environmental Protection, in partnership with Okaloosa County, Florida, sponsored a study of East Pass. The study, Inlet Management Plan for East Pass to Choctawhatchee Bay, June 1999, Taylor Engineering, Inc., was conducted under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, and to recommend corrective measures to mitigate identified impacts.

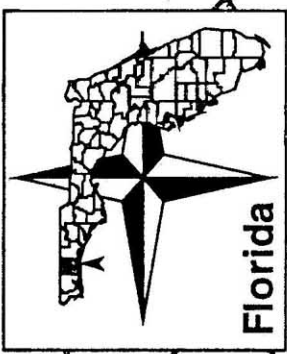
Staff of the Office of Beaches and Coastal Systems has evaluated the study as it relates to the Office's statutory responsibilities and program objectives. As a result of that evaluation, the Office has developed a recommended implementation plan to meet those responsibilities and objectives. Adoption of the plan will facilitate and streamline the coastal construction permitting implementation by providing a basis for consistency determination, and enable governmental process during its implementation by providing a basis for consistency to conduct management activities authorized in the plan.

This report contains a brief history of East Pass, a summary of the Inlet study findings relative to adjacent beaches, and a consistency determination. The report also contains the recommended implementation plan.

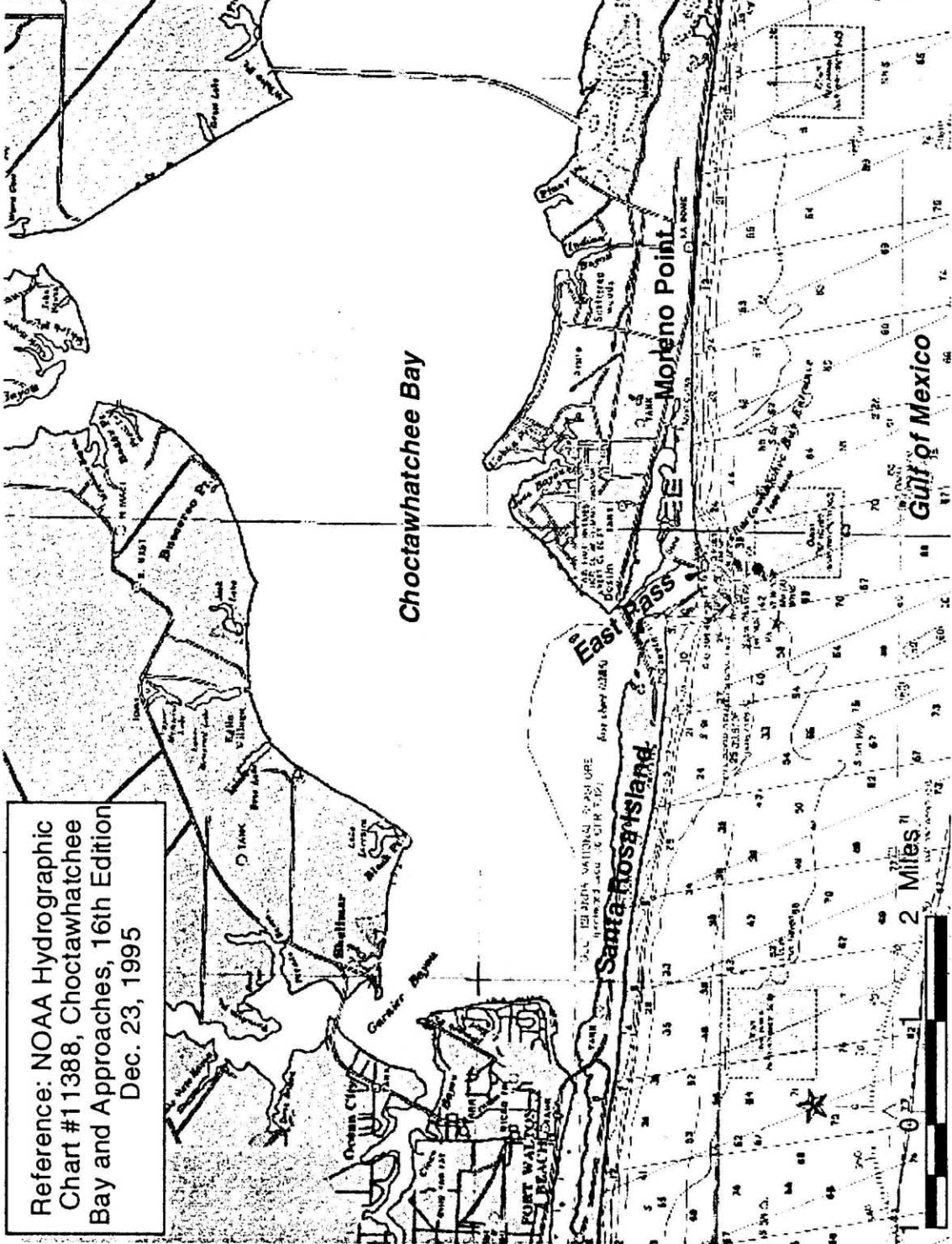
History of East Pass

East Pass provides the only direct tidal link between the Gulf of Mexico and Choctawhatchee Bay. Measuring approximately 4,000 ft long and 1,000 ft across between the tips of the jetties, East Pass is located about 45 miles east of Pensacola and 50 miles northwest of Panama City. Figure 1 shows the configuration of East Pass and adjacent areas, The easternmost four miles of Santa Rosa Island comprise Eglin Air Force Base and, for the most part, remain undeveloped. The City of Destin is located on Moreno Point north of the inlet. On the east side of the pass near the jetties is a sand spit, known as Norriego Point, that formed in 1935. This spit and the beach immediately to the east is known as Holiday Isle. The spit has been developed with roads, canals, and condominiums since the 1970s.

Before 1945, dredging occurred periodically to maintain a 6 x 100 - foot channel through East Pass, In June 1945, the Air Force paid the U.S. Army Corps of Engineers (USACE) to dredge a channel 12 feet deep and 180 feet wide through East Pass. In 1951, Congress authorized the dredging of a 6 x 100 - foot channel extending from the east end of the U.S. Highway 98 bridge through Old Pass into Old Pass Lagoon. These channel dimensions continue to present. The East Pass channel shoals rapidly, returning to about 7 or 8 ft deep at MLW. As a result, maintenance dredging must be continuously scheduled.



Florida



Reference: NOAA Hydrographic Chart #11388, Choctawhatchee Bay and Approaches, 16th Edition Dec. 23, 1995

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Figure 1
 Location of Study Area
 East Pass
 Okaloosa County, Florida

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To improve the inlet's navigational safety and to reduce annual maintenance dredging costs, the 1963 USACE survey report recommended constructing jetties to protect the entrance channel. The report also recommended a substantial amount of dredging to coincide with jetty construction. Jetty construction and dredging began in December 1967 and ended in January 1969. The jetties featured a converging design constructed to the -6 ft MLW contour. A 1,000 foot weir was placed in the west jetty near the landward end to allow littoral drift to enter a deposition basin on the opposite (east) side of the weir. A deposition basin was dredged to provide a two-year supply of sediment, an estimated volume of 300,000 cubic yards.

Modifications since the completion of the original project have included filling in the weir in the west jetty and construction of a spur jetty on the east jetty. Both actions were a response to the severe erosion experienced on the east side of the inlet, specifically to Norriego Point. In addition to these structural modifications, channel maintenance dredging regularly occurs at the inlet.

The direction of net littoral transport is from east to west. Based on an evaluation of the physical processes affecting the inlet and adjacent shorelines, the inlet's effects on the Gulf beaches extend approximately 1.9 miles east of the inlet and 3.3 miles west of the inlet. A sediment budget (see Figure 2) developed as part of the study estimates the need to bypass approximately 82,000 cubic yards of material annually to offset the impacts of the inlet.

Study Summary

To accomplish the plan objectives, the study evaluated numerous potential activities in terms of effectiveness, technical feasibility, environmental impacts, and costs. The study recommends a combination of alternatives involving enhancement of sediment bypassing, erosion control activities to mitigate the impacts to Norriego Point thus reducing maintenance activities at the point, and the establishment of a monitoring program. The primary recommendations consist of the following:

- 1) Bypass an average of 164,000 cubic yards of material, every two years, to the downdrift beaches west of the inlet. Material for bypassing shall be obtained from the inlet's channel maintenance operations.
- 2) An appropriate erosion protection structure for Norriego Point should be selected. Several public policy questions beyond the scope of this study should be addressed before selection can occur.
- 3) Establish a synoptic inlet monitoring program to validate or redefine the sediment budget developed in the inlet management study.

Consistency Determination and Comments

Each of the three primary recommendations has been evaluated for consistency with program objectives under Chapter 161, Florida Statutes. The consistency determination is based solely upon the recommendations as presented in the study report. A determination does not preclude further

All Values are cy/yr

- (+) Denotes Accretion
- (-) Denotes Erosion
- Artificial Transport
- Net Natural Transport
- 7,600 Net Volumetric Change in Cell
- 56,595 Sediment Flux Magnitude

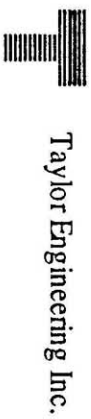
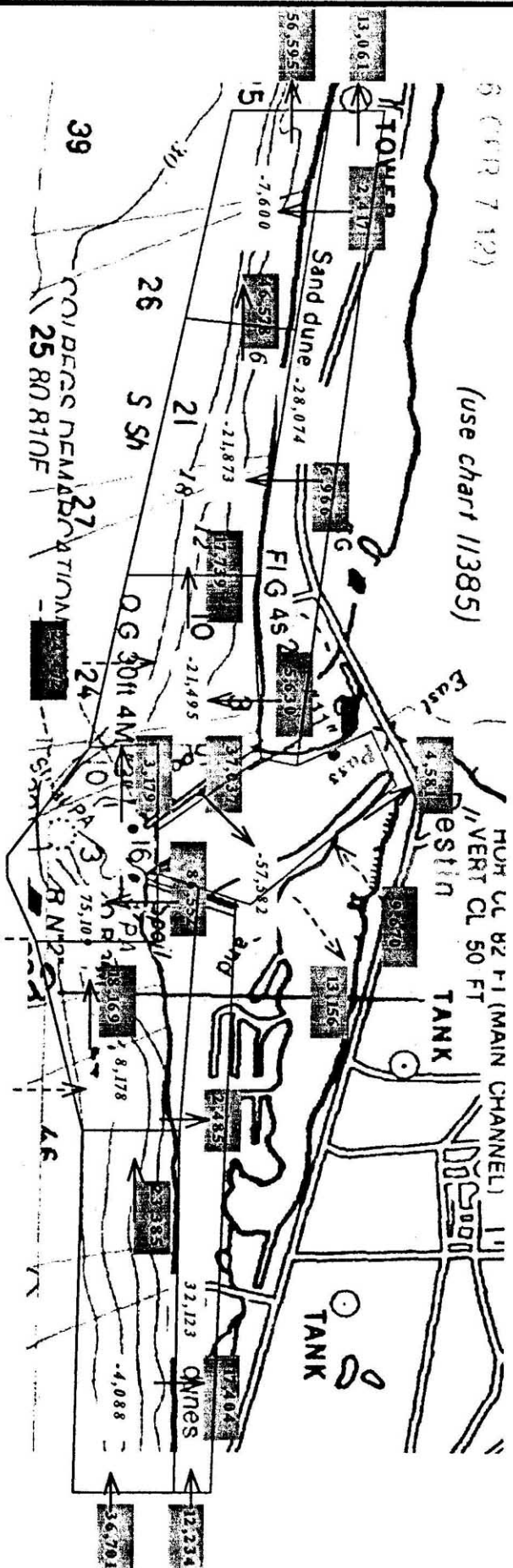


Figure 2 East Pass Sediment Budget

study of other potential management alternatives. Comments regarding each recommendation are as follows:

1) *Mechanical Bypassing via Contract Dredging*

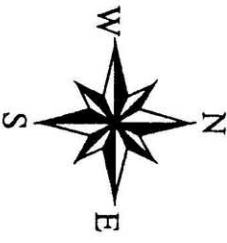
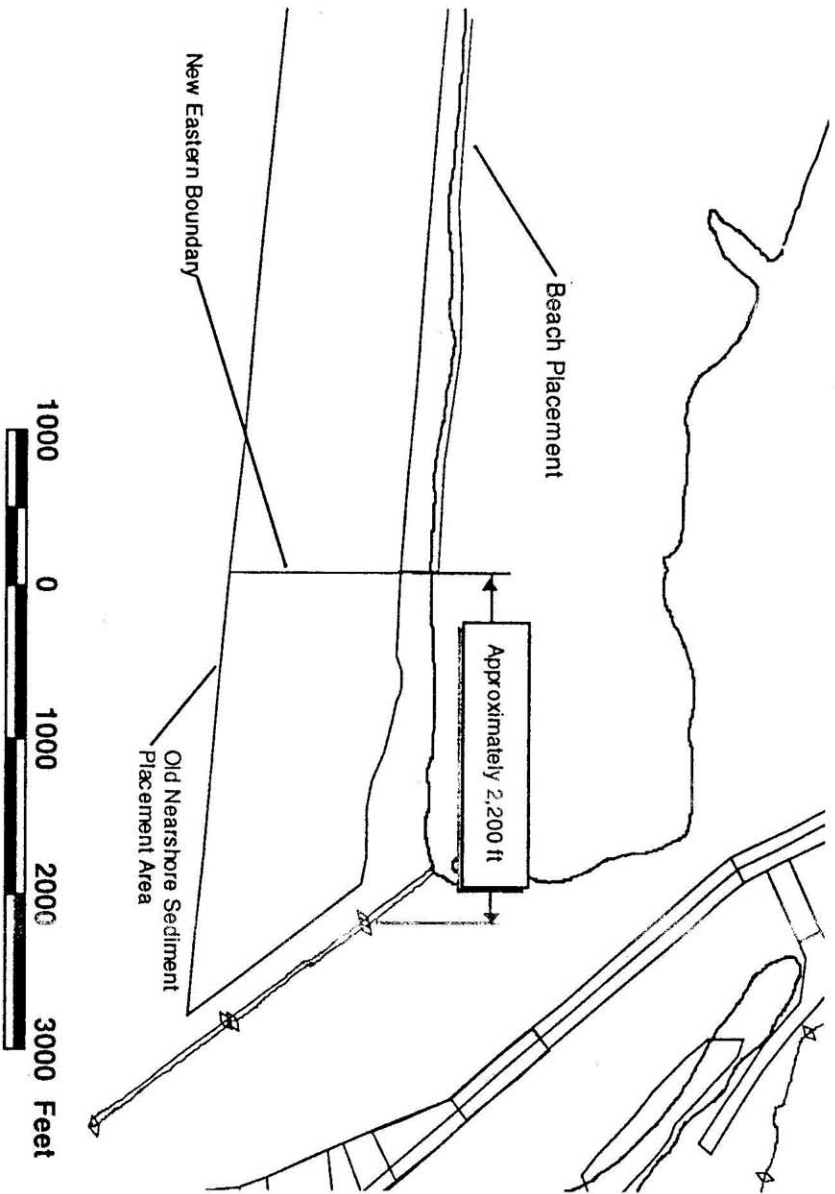
This plan element calls for the biennial (every two years) contract dredging and placement of 164,000 cubic yards downdrift of the inlet in a reconfigured placement area. Biennial dredging is recommended based on the rate of dredging events over the past 20 years. The reconfigured placement area is similar in location to the existing nearshore placement area with the following differences. The eastern boundary of the reconfigured placement area lies approximately 2,200 feet (shoreline distance) west of the landward terminus of the west jetty, as shown in Figure 3. The reconfigured placement area also extends from the surf zone (about - 10 ft - MLW) landward to the upperbeach berm contours (about + 6 ft MLW) to enable beach placement of the material. The sediment dredged from the maintained channels through the inlet and over the ebb shoal should be more than ample to fulfill the bypassing requirement.

Currently, the U.S. Army Corps of Engineers (USACE) is responsible for the implementation and operation of all dredging activities in the maintained channels of East Pass. Notably, reconfiguration of the placement area should lower the probability that dredged sediment returns to the inlet. This should reduce USACE channel maintenance efforts. Also, the central purpose of the State of Florida's Strategic Beach Management Plan is to ensure proper bypassing volumes and proper placement of bypassed material. Therefore, based on historical precedent as well as existing authorities and responsibilities, the USACE will most likely be responsible for the implementation of this plan element with the State of Florida and local government sponsor sharing in any added costs incurred from the reconfiguration of the nearshore placement area. These costs may include both permitting costs and costs incurred from productivity loss due to increased pumping distances as well as costs associated with shaping of any beach placement (not included in the cost analysis).

2) *Norriego Point Erosion Projection*

Based on dredging records since the construction of the jetties, the chronic erosion of Norriego Point has required an average annual placement of over 48,000 cubic yards of sediment. As such, addressing the erosion of the point is germane to the inlet management plan because correction of the problem would free more dredged material for placement on the downdrift beach. This plan component calls for structural protection of the point with critical intermediate steps outlined below.

The East Pass Inlet Management Plan (Taylor Engineering, 1999) examines the technical and cost feasibility of various structural measures (including groins, breakwaters, bulkheads and revetments) designed to stabilize Norriego Point. Results of their analyses demonstrate the feasibility of at least three structural alternatives. However, the final selection of one of these first requires the resolution of several public policy issues. These include:




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Figure 3
 Modified Nearshore Dredged
 Material Placement Area

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- What level of protection (storm frequency) does the City desire for Destin Harbor?
- What are the anticipated public uses for the undeveloped portion of the point?
- What is the required level/importance of public access and use?
- Should the tip of the point be maintained/protected as a shorebird nesting area?

the entire point is not a desired option. If permanent retention of sand on the point is a low priority, then perhaps a bulkhead buried along the point spine or a bulkhead on the harbor side would provide harbor protection that the spit currently affords. Also, the State's ownership of the northern tip of the point must be accounted for in any policy or design decision.

Thus, this plan component should begin with at least one public workshop or meeting to present the protection alternatives proposed in this study and to clearly identify and discuss the city's plans for the point and the level of protection desired for Destin Harbor. The most feasible alternatives (proposed in this study) include both shore parallel (breakwaters) and shore normal (bulkheads, revetments) structures. Consideration of each structure's costs, drawbacks, and ability to satisfy prescribed land use and harbor protection criteria should help identify a preferred protection alternative and provide design criteria for the next steps - final design, permitting, and construction.

Protection of Norriego Point from erosion and breaching has a variety of potential benefits, First and foremost, Norriego Point protects Destin Harbor and provides economic benefits to tourism as well as a shorebird nesting area. Also, as stated earlier, correction of the erosion and breaching problem would free more dredged material for bypassing to the downdrift beach. Finally, stabilizing Norriego Point may reduce dredging operations since erosion of the spit contributes to the shoaling of the maintained channels through the pass. Given the numerous potential benefits to local, state, and federal levels as well as existing responsibilities and authorities, the local sponsors (City of Destin, and Okaloosa County) should lead the implementation of this plan element with the possibility of participation from the State of Florida and the USACE.

Any special steps required or obstacles encountered will depend on the selected protection method. These may include permit applications or authorizations from affected landowners or government agencies.

1) *Synoptic Monitoring Program*

This plan component calls for a comprehensive synoptic monitoring program performed at five-year intervals. The proposed monitoring plan element includes topographic / bathymetric data acquisition along the following transects: 71 shore perpendicular transects along previously established azimuths within the limits of inlet influence; four shore parallel transects along the - 5, -10, -15 and -20-ft NGVD contours, The shore perpendicular transects should be referenced to the FDEP monuments R -1 through R - 50. In addition, 21 permanent monuments or other fixed Coordinate locations should be established on the beach west of the inlet between the west jetty and FDEP monument R-16. This property is currently owned by Eglin AFB. Dialog with the US Air Force should resume on approval of this plan to inquire about establishing these monuments on Air Force property.

When possible the survey data should be supplemented with USACE channel surveys. The USACE performs extensive surveys of the ebb shoal; however, channel surveys, limited to the maintained channel, do not extend shoreline to shoreline. As anticipated, the State of Florida's Coastal Data Acquisition Program will incorporate this plan element with any appropriate cost-sharing from the local government (generally 50/50).

The Scanning Hydrographic Operational Airborne Laser System (SHOALS) surveying provides an alternative to the proposed (conventional survey techniques) monitoring program. Although the FDEP has not committed to the SHOALS approach, if enacted, SHOALS surveys should cover the same extent as the proposed conventional hydrographic surveys. Obviously, commitment to this type of monitoring would require a reevaluation of economic burdens.

This plan element includes the establishment of permanent monuments on the east section of Santa Rosa Island between permanent monument R-16 and the west jetty on property currently owned by Eglin AFB. Conversations with the Air Force concerning establishment of permanent monuments should resume to reach an equitable solution. If the Air Force maintains its current policy (disallowing establishment of permanent monuments), a set of fixed coordinates that correspond to temporary monuments along this section of shoreline should be established. The fixed coordinates would enable a meaningful comparison of survey profiles between survey dates.

Recommended Implementation Plan

The Office recommends the following implementation plan be adopted to meet the requirements of Chapter 161, Florida Statutes:

- 1) Continue to bypass sediment to the downdrift beaches. Place sand above mean high water into the reconfigured disposal area defined herein, As a minimum, bypassing of material shall meet the average annual placement objective of 82,000 cubic yards as determined by the sediment budget (see Figure 2). The sediment budget contained in the study report is adopted as an interim measure and shall be formally validated or redefined in subsequent revisions of the plan based on a comprehensive monitoring plan by December 31, 2005.
- 2) Implement select strategies for managing Norriego Point that will meet local government objectives for land use goals while enabling more material to be available for bypassing to downdrift beaches.
- 3) Implement a comprehensive beach, inlet, and offshore monitoring program subject to the approval of the Department.

This plan is based on the supporting data contained in the study reports: Inlet Management Plan for East Pass to Choctawhatchee Bay: Phase I - Literature Search, Phase II - Investigation of Physical Processes, and Phase III - Inlet Management Plan (Taylor Engineering, 1999). Each Implementation action contained in this plan is subject to further evaluation, and subsequent authorization or denial, as part of the Department's environmental permitting and authorization process.

The implementation activities identified above shall be eligible for state financial participation subject to Department approval and an appropriation from the Florida Legislature. The level of state funding shall be determined based upon the activity being conducted, Florida Statutes and Florida Administrative Code. The Department may choose not to participate financially if the proposed method for implementation is not cost effective or fails to meet the intent of Section 161.142, Florida Statutes.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management of East Pass.