PONCE DE LEON INLET MANAGEMENT STUDY
IMPLEMENTATION PLAN

CERTIFICATE OF ADOPTION

WHEREAS the Department of Environmental Protection, in partnership with the Ponce DeLeon Port Authority, has conducted a study of Ponce DeLeon inlet, under the provisions of Section 161.161, Florida Statutes, for the purposes of evaluating the erosive impact of the inlet on adjacent beaches, 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) Bypass all beach compatible dredged material including channel maintenance material to downdrift beaches in eroded areas as identified in the inlet, beach, and offshore monitoring plan. Material shall be placed on beaches located downdrift of the inlet in areas of greatest need, within the area of influence, based on a plan approved by the Department. A minimum of 43,000 cubic yards of material shall be bypassed on an average annual basis. 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, 2001.

2) Extend the south jetty and stabilize the shoreline of the northern spit based on the final results of the U.S. Army COE feasibility study.

3) Conduct additional sediment analysis of the interior shoals to determine the suitability for beach disposal.

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

5) Conduct a feasibility study of restoration of the downdrift beaches as mitigation for the effects of the inlet.

This plan is based on the supporting data contained in the study report, Ponce DeLeon Inlet Management Plan , Taylor Engineering, Inc., March 1994, studies conducted by the U.S. Army Corps of Engineers, the University of Florida, and comments provided by public agencies and the citizenry of Volusia County. Each implementation action contained in this plan is subject to further evaluation, and subsequent authorization Any action that may affect navigation associated with the inlet shall be consistent with all applicable federal requirements and subject to authorization from the U.S. Army Corps of Engineers.

It is the intent of the Department to assist in the implementation of the plan through the provision of funds granted under the Florida Beach Erosion Control Program. The Department's financial obligations shall be contingent upon sufficient legislative appropriations.

Nothing in this plan precludes the evaluation and potential adoption of other alternatives or strategies for management at Ponce DeLeon Inlet.

APPROVED FOR ADOPTION

[signature] For

Virginia B. Wetherell, Secretary
Department of Environmental Protection

3/10/97
Date

PONCE DE LEON INLET MANAGEMENT STUDY
SUMMARY OF FINDINGS REPORT
and
RECOMMENDED IMPLEMENTATION PLAN

Introduction

The Department of Environmental Protection, in partnership with the Ponce DeLeon Port Authority, completed an inlet management study of Ponce DeLeon Inlet. The study, Ponce DeLeon Inlet Management Plan, Taylor Engineering, Inc., March 1994, was conducted under the provisions of Section 161.161, Florida Statutes: for the purposes of evaluating the erosion impact of the inlet on adjacent beaches, and to recommend corrective measures to mitigate identified impacts.

The study has been evaluated by the staff of the Bureau of Beaches and Coastal Systems as it relates to the Bureau's statutory responsibilities and program objectives. As a result of that evaluation, the Bureau has developed a recommended implementation plan. Adoption of the plan will facilitate and streamline the joint coastal permit process during its implementation by providing a basis for consistency determination, and enable governmental entities to seek financial assistance from the Department to conduct inlet management activities authorized in the plan.

This report contains a brief history of Ponce DeLeon Inlet, a summary of the inlet study findings, and a consistency determination. The report also contains the recommended implementation plan.

History of Ponce DeLeon Inlet

Ponce DeLeon Inlet is historically a natural passage from the Halifax River and Mosquito Lagoon to the Atlantic Ocean in Volusia County and was known as Mosquito Inlet before 1926 (Figure 1). In 1943 the U.S. Army Corps of Engineers dredged the inlet and adjacent waters to permit navigation from the U.S. Coast Guard station on the interior south channel.

Between 1968 and 1972, the Corps of Engineers implemented a federal navigation and inlet stabilization project to include the construction of a 4,018 foot south jetty, a 4,050 foot north jetty with weir section, a dredged impoundment basin, and a 14 foot deep navigation channel. In 1985 the weir section of the north jetty was closed in order to stabilize the severely eroding shoreline to the north of the inlet.

The inlet stabilization works have interrupted the net southern longshore transport of sand along the Atlantic shoreline south of the inlet to the extent that beach erosion conditions now prevail along

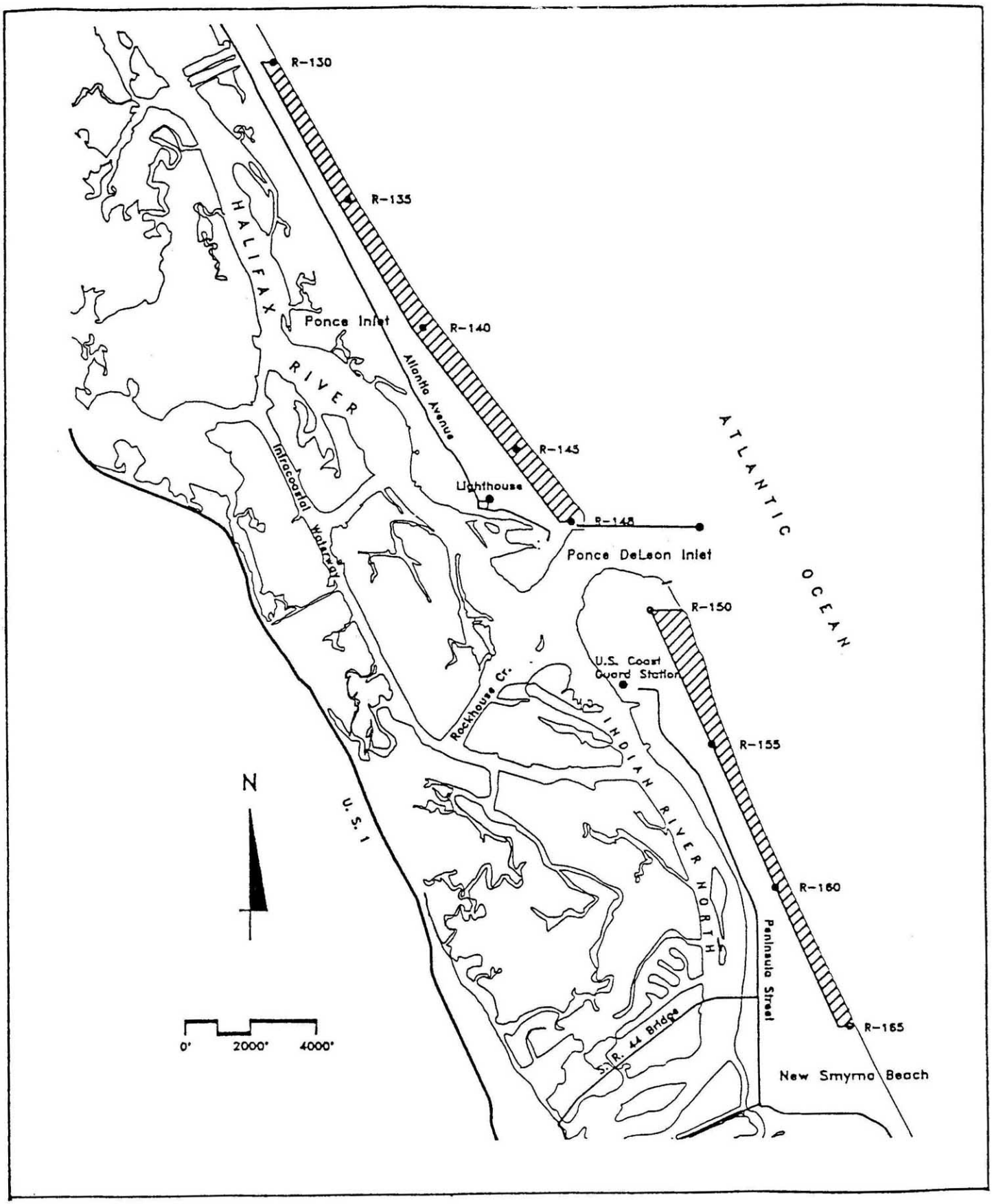


Figure 1 Taylor Engineering, Inc. (1994)

portions of New Smyrna Beach. The area of influence of the inlet in its current configuration is approximately 17,000 feet to the north and approximately 14,500 feet to the south.

A sediment budget developed as part of the study estimates the need to bypass 43,000 cubic yards annually from the inlet interior to offset the impacts of the inlet. The sediment budget is based primarily on the evaluation of data from the period of 1985 to 1992, which reflects the most recent modifications to the inlet (Figure 2).

Study Summary

To accomplish the plan objectives, the study evaluated numerous potential management activities in terms of environmental impacts, permitting constraints, fiscal concerns, and potential achievability. The study recommends five principle elements involving sand bypassing and inlet improvements (Figure 3).

1) Dredging inlet interior shoals with south beach disposal.

2) Extending the south jetty l,OOO-feet seaward.

3) Stabilizing the north spit's shoreline with a four-groin system.

4) Implementing a dune enhancement program within the limits of the inlet's area of influence.

5) Implementing a consistent and comprehensive monitoring program that documents the behavior of the inlet and the north and south beaches within the inlet's area of influence.

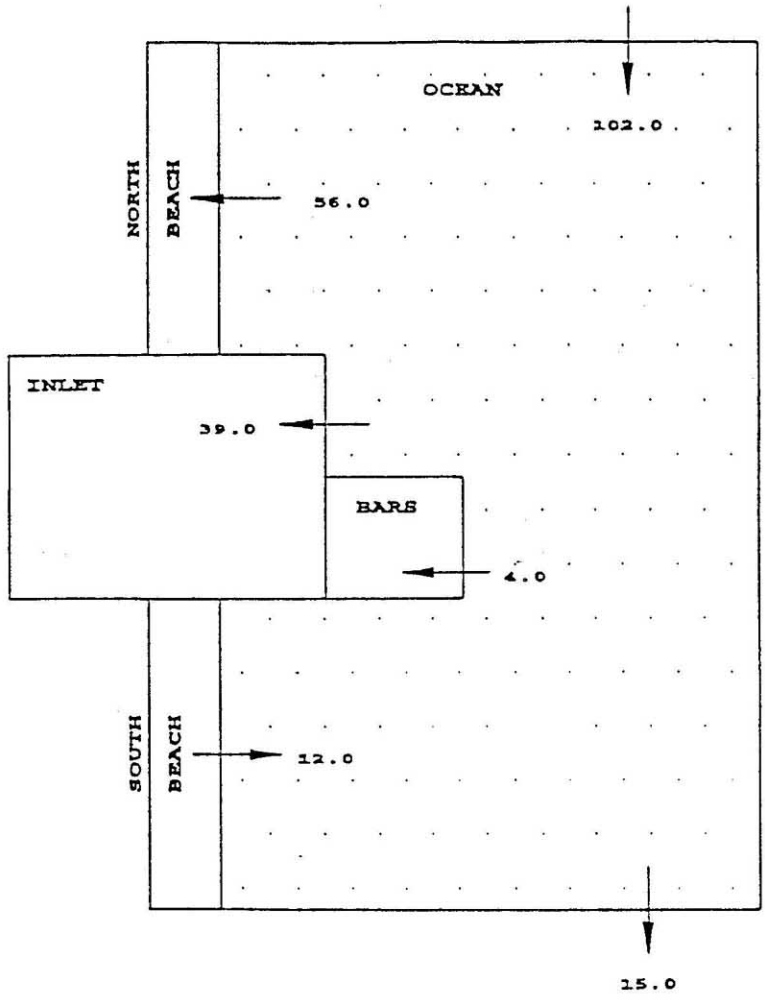
Consistency Determination and Comments

Each of the five primary recommendations have been evaluated for consistency with program objectives under Chapter 161, Florida Statutes. The consistency determination is based solely upon the recommendation as presented in the study report, A determination does not preclude further study of other potential management alternatives. Comments regarding each recommendation are as follows.

1) Continued maintenance dredging with beach disposal is consistent, but should include optimization of dredging cycles. The report identifies disposal sites downdrift of the inlet, but should allow for disposal sites to be located in areas of greatest need within the area of influence based on results from long term monitoring and be subject to Department approval.

2&3) Extending the south jetty and stabilization of the north spit's shoreline with a four-groin system is consistent and would Limit the amount of material transported into the inlet. However, final design and construction should be

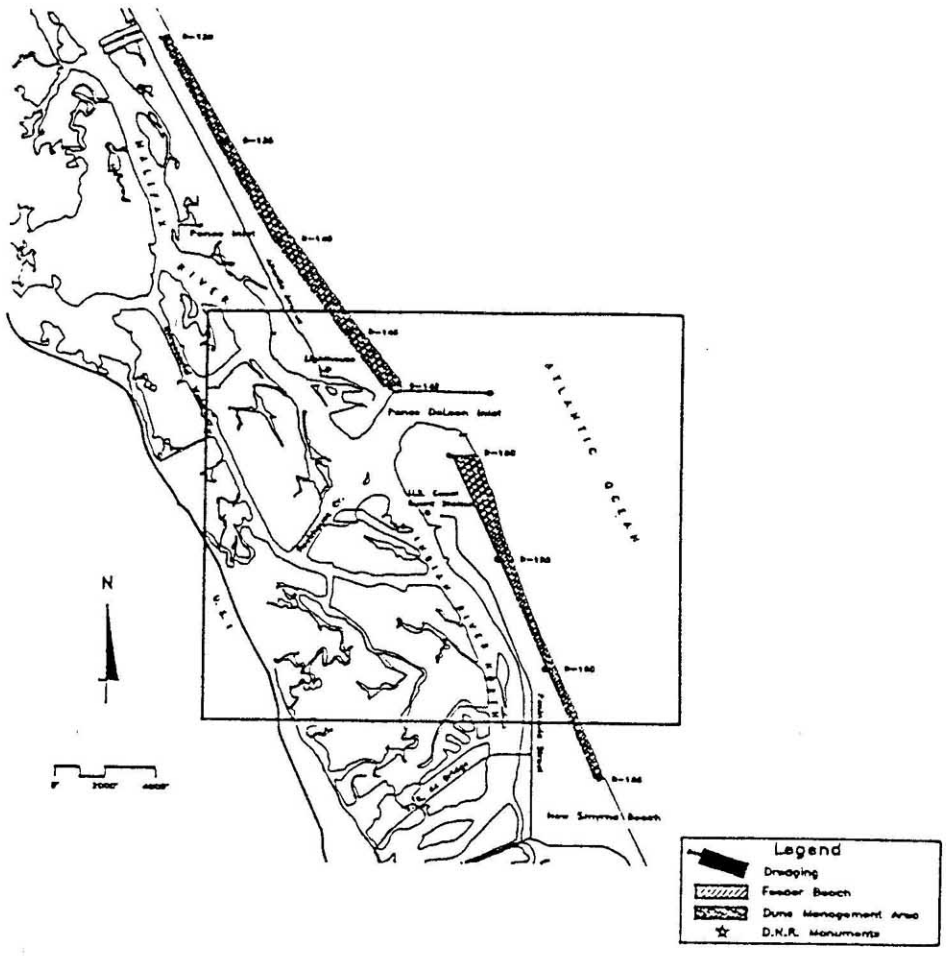
Predicted Sediment Budget
Without Dredging



Volume Rates in (cy/yr x 1000)

Figure 2

Taylor Engineering, Inc.
(1994)



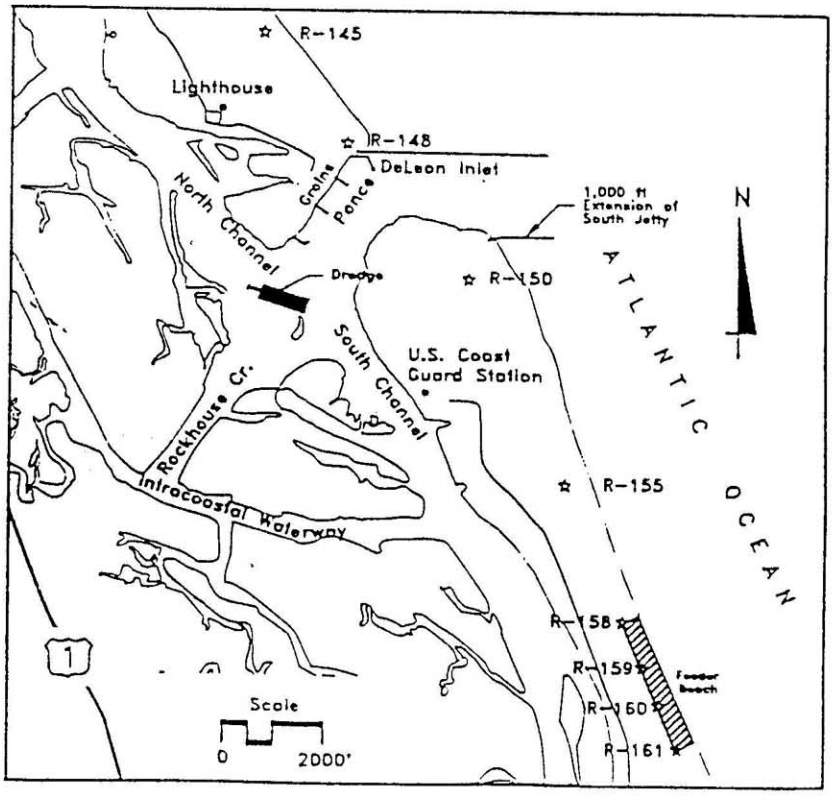


Figure 3

Taylor Engineering, Inc

based upon the results of the U.S. Corps of Engineers' feasibility study before construction of any structural alterations of the inlet.

4&5) Implementation of a comprehensive beach/offshore monitoring program and dune enhancement is consistent, provided that the beaches are located within the influence of the inlet and sufficient control areas are established outside of the influence of the inlet.

Recommended Implementation Plan

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

1) Bypass all beach compatible dredged material including activities channel maintenance material to downdrift beaches in eroded areas as identified in the inlet, beach, and offshore monitoring plan. Material shall be placed on beaches located downdrift of the inlet in areas of greatest need, within the area of influence, based on a plan approved by the Department. A minimum of 43,000 cubic yards of material shall be bypassed on an average annual basis. 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, 2001.

2) Extend the south jetty and stabilize the shoreline of the northern spit based on the final results of the U.S. Army COE feasibility study.

3) Conduct additional sediment analysis of the interior shoals to determine the suitability for beach disposal.

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

5) Conduct a feasibility study of restoration of the downdrift beaches as mitigation for the effects of the inlet.

This plan is based on the supporting data contained in the study report, Ponce DeLeon Inlet Management Plan , Taylor Engineering, Inc., March 1994, studies conducted by the U.S. Army Corps of Engineers, the University of Florida, and comments provided by public agencies and the citizenry of Volusia County. 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. Any action that may affect navigation associated

with the inlet shall be consistent with all applicable federal requirements and subject to authorization from the U. S. Army Corps of Engineers.

The implementation activities by the local sponsor 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 at Ponce DeLeon Inlet.