



Introduction

Chapter 1

Condado Lagoon.

CHAPTER ONE: INTRODUCTION



"El Morro" Fortress, San Juan Bay.

FOR MANY CENTURIES, THE SAN Juan Bay Estuary (SJBE) system has provided valuable resources to the residents of the region. People are attracted to the port, beaches, beautiful parks, and historical and natural areas, and these resources are vital to the regional economy. However, the needs of a growing population have resulted in exploitation of the system's natural resources and degradation and destruction of many of the components of the estuarine system.

The main impacts to the SJBE system – development of the land, illegal sewage discharges, and aquatic debris – are all a result of human settlement and human uses. The intrinsic values of the estuary are being destroyed by uncontrolled urban expansion and contamination.

In recognition of the continued threats facing the estuary system, the Governor of Puerto Rico nominated the SJBE system for the U.S. Environmental Protection Agency's (USEPA) National Estuary Program (NEP) on April 16, 1992. The mission of the NEP is to protect and restore the health of estuaries while supporting economic and recreational activities. With inclusion in the NEP, the SJBE system was designated as "an estuary of national significance."

SJBE Program Milestones

October 1992: SJBE Accepted into the NEP

April 1993: Management Conference Convened

February 1994: Management Conference Agreement Signed

June 1995: SJBE Program Office Inauguration

The SJBE Program Management Conference was convened in 1993 as a federal, state, and local partnership. This Conference consists of a Policy Committee (PC), a Management Committee (MC), a Scientific and Technical Advisory Committee (STAC), a Citizens Advisory Committee (CAC), and a Local Government Committee (LGC). A Model Evaluation Group (MEG) provides technical advice to the Management Committee with respect to the hydrodynamic and water quality model developed for the estuary. (See Figure 1; a list of Management Conference members is included in Appendix E.)



Sandwich Tern (Sterna sandvicensis) at San Juan Bay. Courtesy of José Colón.

Since 1993, the Management Conference has been working to accomplish the following tasks:

- Identify the causes of environmental problems in the estuary.
- Relate hydrodynamic modifications and pollutant loads to observed impacts on the uses, water quality, and natural resources of the estuary.
- Develop a Comprehensive Conservation and Management Plan (CCMP) that recommends priority corrective actions and implementation schedules to address impacts observed in the estuary.
- Develop a plan for coordinating the implementation of the CCMP among federal, state, and local agencies.
- Monitor the effectiveness of actions that are implemented under the CCMP.
- Ensure the consistency of federal assistance and development programs with the CCMP.

The Management Conference has been supported in its efforts by the SJBE Program Office. This office consists of a technical director, an environmental scientist, a marine biologist, a public outreach coordinator, a natural resources specialist, and a secretary/administrative assistant. The program office is located at the U.S. Army Corps of Engineers Building, 400 Fernández Juncos Avenue, Second Floor, in Puerta de Tierra, San Juan, Puerto Rico.

In creating this Management Plan, the SJBE Program focused on technical tasks, administrative/regulatory tasks, and public involvement. The technical element, which is

The SJBE system is unique when compared with other National Estuary Programs. It is the only program located in a tropical geographic region and outside the mainland United States. Its tropical nature is evidenced by the diversity of habitats and species within the estuary. Its multiple openings increase the influences on and from nearby coastal zones.

One of the first tasks faced by the SJBE Management Conference was to identify issues of concern or priority problems for the estuary system. Criteria for selecting the priority issues included information from existing studies combined with best professional judgment from experts in the field and a public opinion poll. At various meetings and workshops, the available technical information was discussed and participants proposed priority issues for the SJBE Program to focus on. These issues have served as the focus for research to better understand the problems and the development of proposed actions to address the identified problems. Through consensus, the SJBE Program identified the following priority problems, listed below in order of their priority:

- Flushing Capacity,
- Illegal Sewage Discharges,
- Nutrient and Toxic Contamination,
- Aquatic Debris,
- Ecosystem Management, and
- Public Awareness and Participation.

Actions to address these priority issues have been included in this CCMP. These actions have been grouped into the following four categories which represent the CCMP Action Plan chapters: Water and Sediment Quality; Habitat, Fish, and Wildlife; Aquatic Debris; and Public Education and Involvement.

ongoing, includes research and monitoring activities designed to synthesize understanding and further knowledge of the SJBE system. It includes conducting water quality, sediment, and living resources assessments and coordinating management efforts. The administrative/regulatory element included an inventory of applicable federal programs for purposes of consistency review; development of procedures for ensuring that programs are consistent with recommendations of the SJBE Program; a program analysis with respect to federal, state, and local water quality and natural resources management; and a detailed set of recommendations regarding implementation, including a financial component. Public involvement is a key element in developing a successful Management Plan. The CAC and other members of the Management Conference continue to actively seek the involvement and input of those affected by the estuary's present and future quality and uses. These combined efforts have resulted in a Management Plan which is the first and only comprehensive conservation and management plan for the San Juan Bay Estuary. Thousands of hours of volunteer effort have gone into the creation of this Management Plan, representing the tremendous interest and commitment that exists among SJBE stakeholders to improve the quality of the estuary's resources now and into the future.

The SJBE Management Conference developed goals and objectives to guide the program and the development of the Management Plan. These goals and objectives seek to balance the protection and improvement of the estuary's living resources with the many functions it performs.

GOALS OF THE SJBE PROGRAM

- Establish a comprehensive water quality policy. This policy will ensure the integrity of marine resources and terrestrial ecosystems while supporting human activities in the SJBE system.
- Develop an effective administrative and regulatory framework for the SJBE system that will serve as a model for other estuary systems, especially for tropical systems.

- Optimize the social, economic, and recreational benefits which have been associated with the SJBE system.
- Prevent further degradation and improve the system's water quality to help ensure healthy terrestrial and aquatic communities and social well-being.
- Minimize the health risks associated with direct human contact with the surface waters and the consumption of fish and shellfish.

OBJECTIVES OF THE SJBE PROGRAM

- Identify the major stressors impacting the system and establish their relative importance.
- Develop action plans to remediate the problems identified in the system.
- Conserve and enhance the integrity of the known, highly valuable natural resources in the SJBE system, and restore, to the extent possible, those areas which have been adversely impacted.
- Address the major concerns that citizens and user groups have regarding the quality of the system.
- Promote the public's awareness regarding estuarine resources and involvement in the development of an effective management plan for the system.
- Develop a hydrological model of the system to determine effective alternatives to improve circulation and predict hydrological impacts of future development.

Figure 1. SJBE Program Management Conference structure.



