

BISCAYNE BAY, FLORIDA

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The history of Miami and Biscayne Bay are intimately related. In addition to food, industry, transportation and recreation, the Bay provides a constant source of aesthetic satisfaction for those who live and work along its shores.

Biscayne Bay is a tropical lagoon, approximately 35 miles long and a maximum of 8 miles wide (Fig. 1). Webster's dictionary defines "lagoon" as a "shallow sound, channel, pond or lake, especially one near, or communicating with, the sea." Its water surface area is 269 square miles, and the population along its shores is more than 2 million. It is geographically divided into three parts: North, Central and South Bay. The North Bay is the most urbanized, bordered on the east by barrier islands, including Miami Beach, and including the Miami business district. Central Bay, extending from Government Cut to the southern limits of Coral Gables, has been affected by bulkheading and canal discharges. South Bay, aside from the Cutler and Turkey Point power plants, has been less affected by human activity and includes the northwestern portion of the Biscayne National Park.

Almost 100 years ago, in 1895, Hugh M. Smith of the U.S. Commission of Fish and Fisheries was dispatched to Biscayne Bay to determine whether the region was suitable for a marine hatchery and experiment station. He found that the "water of Biscayne Bay is exceedingly clear. In no part can one fail to clearly distinguish objects on the bottom when the surface is not especially rough." Since that time, however, a century of natural phenomena, development and urbanization have profoundly affected the health and character of the Bay. Dredging and filling, sewage disposal, channel and canal building, agriculture, flood control practices, hurricanes, and intense development of the shoreline have profoundly altered the waters.

Early management efforts were instigated by private citizens and the county in response to sewage pollution and turbidity associated with dredging and compounded by the shipping installations that developed into the Port of Miami. In 1968, Biscayne National Monument was designated by the federal government after development threatened South Bay. The Monument became Biscayne National Park in 1980 and one of its first tasks was to develop a management plan to protect the region's natural and historical resources. The Biscayne Bay Aquatic Preserve, created by the state in 1974, tried to manage the waters north of the Biscayne National Monument. However, in spite of these efforts, management problems persisted and the development of the Biscayne Bay

Management Committee was created by the county in 1981 as an over-all, Bay-wide administrative system. Since then, a number of federal, state and county management plans have been compiled which place emphasis on restoration and preservation of water quality and natural habitats. One of the most current is the SWIM (Surface Water Improvement and Management) Plan compiled by the South Florida Water Management District in 1989.

In spite of --or perhaps, because of-- these various jurisdictions, serious problems continued to arise, some causing banner headlines in the local news media. Others appear regularly, and with less sensation, in the more academic publications. For example, a 1992 NOAA report on "Agricultural pesticide use in coastal areas: a national summary" awarded Biscayne Bay the dubious distinction of the second most "at risk" estuary in the U.S. for intensity of per-unit hazardous pesticide application. It was also in the "top ten" for other reported pesticide threats.

A survey of information about the Bay indicates a wide range of investigations, primarily by researchers from the Rosenstiel School of Marine and Atmospheric Science. Many baseline studies were conducted in the early 1970's in conjunction with the construction of the Turkey Point nuclear power plant. In 1976, a Biscayne Bay Symposium was held at the University of Miami. It synthesized the various research activities concerned with the Bay and also raised questions about future research. In recent years, Dade County, mainly through the Department of Environmental Resource Management, has commissioned a number of studies on management issues and problems. Research has also been carried out by the staff of the Biscayne National Park. However, there is no centralized body or institution which collects all the data on the Bay and makes it available for researchers or the general public.

Information on the marine environment of Biscayne Bay is frequently requested from the Library of the Rosenstiel School of Marine and Atmospheric Science (RSMAS). Students, researchers, engineers, planners and the public regularly need publications on such subjects as pollution, monitoring, conservation, estuarine dynamics, and sampling.

Three major bibliographies on the marine environment of Biscayne Bay had been compiled: by Morrill and Olson in 1955, Rosendahl in 1975, and an unpublished manuscript by de Sylva in 1984. A current, updated and expanded list, incorporating those publications as well as previously unidentified citations and later studies and documents issues was needed. A proposal was made to Florida Sea Grant and it was approved in August 1990 as a one-year, \$2,000 award. It was extended another six months and finally published in April 1993 as Florida Sea Grant College technical report no. 67. The bibliography has 1,718 entries and covers literature from 1775 to June 1992. Included are books, scientific articles, theses and dissertations, book chapters, conference proceedings, reports and government publications. The bibliography does not include newspaper articles, accounts of public hearings, personal correspondence or articles from popular boating and sports magazines. Besides nautical charts issued by the U.S. Defense Mapping Agency, only a few maps are cited.

The bibliographic database was compiled using PROCITE* software, produced by Personal Bibliographic Software, Inc. PROCITE is a very powerful and flexible system which allows for almost unlimited record size. Index terms are based on the *Aquatic Sciences and Fisheries Thesaurus*, published in 1986 by Cambridge Scientific Abstracts for the Food and Agriculture Organization of the United Nations. The database is mounted on an IBM compatible computer in the RSMAS Library where it is searchable on any field. It is also available on disk from Florida Sea Grant or as a read-only disk from PROCITE.

Copies of all the documents cited are available either at the RSMAS Library, where they are shelved as a non-circulating special collection, or at the Richter Library at the University of Miami main campus.

The bibliography is far from complete. Items are added as they become available. However, at least it is a serious attempt to centralize as much information as possible in one place where it is accessible to anyone who needs it.

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