

THE NATIONAL ESTUARINE SANCTUARY PROGRAM
AND RESEARCH OPPORTUNITIES AT ELKHORN SLOUGH ^{1/}

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INTRODUCTION

In sheltered areas where rivers, streams, or other bodies of fresh water meet the open seas, living creatures flourish. The diluted salt water they thrive in is constantly stirred by the tides, causing the land's waterborne humus, topsoil, and other necessities for life to mix with the ocean's minerals and organic products of underwater decay. The resulting broth is perfect for protozoa, which are eaten by plankton, which, in turn, are eaten by very young and/or small fish, and so on up the scale to shrimp, oysters, flounder, lobsters, and, of course, man.

Ecologists have found that many of these natural areas provide man with more food per acre than the best Midwestern farmland (in addition to providing, at no expense to the taxpayer, such services as wastewater treatment and flood protection). Also, it has been estimated that more than two-thirds of the commercial and recreational fish caught and eaten by Americans today directly depend on these areas, which are known as estuaries.

But there is a problem with this lifegiving process: nearly all of our estuaries are being destroyed, damaged, or reduced in size through development and pollution. These prime food sources and beautiful natural areas are in danger.

In the late 1960s, two Federal studies depicting this unfortunate situation convinced Congress that something must be done for our estuaries. The result is the National Estuarine Sanctuary Program, established through the Coastal Zone Management Act of 1972 (amended in 1976). This program was designed to make 50 percent matching grants to coastal States for the purposes of acquiring, developing, or operating estuarine areas to be set aside "to serve as natural field laboratories in which to study and gather data on the natural and human processes occurring within the estuaries of the coastal zone." The data gathered at these sanctuaries will be useful in management decisions concerning the coasts.

At least 20 estuaries are planned to be preserved in perpetuity for education and research, and they will be chosen in such a manner that they represent all of the nation's biological and geographic regions, including the Great Lakes. (For the purposes of the Estuarine Sanctuary Program, the term estuaries is defined to include "estuary-type" areas of the Great Lakes.) In this way, the information obtained within these sanctuaries should be useful in making decisions concerning the welfare not only of all the nation's estuaries, but of the entire coastal zone as well.

The national program is administered by the Estuarine Sanctuary Program Office in the Office of Coastal Zone Management, a component of the National Oceanic and Atmospheric Administration of the Department of Commerce.

SANCTUARY UTILIZATION

The estuaries will be kept as undisturbed as possible so that scientists will be able to study the naturally functioning system and also will be able to use the areas as controls

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against which to measure ecological changes in other estuaries. In addition, the sanctuaries will provide students and the general public with places where they can learn about ecology and the environment in a natural setting. A further benefit of these sanctuaries is the protection of vital habitats for estuarine-dependent plant and animal life, including endangered species. Multiple uses can take place in the sanctuaries as long as the activities do not detract from their research and educational uses.

ESTUARINE SANCTUARIES GRANTS

The sanctuaries are owned and managed by the individual States, but the States are financially assisted (through 50 percent matching funds) by the federal government in three ways: preacquisition, acquisition, and operations grants. The preacquisition grant may be used for real estate appraisals, refinement of boundaries, and for the development of management plans or programs for research and education. The acquisition grant is to cover the actual and related costs of land acquisition. Finally, operations grants are for those costs necessary for monitoring the sanctuary and protecting the health of its ecosystem, and for the establishment and maintenance of an educational and scientific program.

THE INDIVIDUAL SANCTUARIES

At present, there are ten sanctuaries in operation (South Slough, Oregon - Padilla Bay, Washington - Elkhorn Slough, California - Tijuana River, California - Waimanu, Hawaii - Apalachicola Bay, Florida - Rookery Bay, Florida - Sapelo Island, Georgia - Narragansett Bay, Rhode Island - Old Woman Creek, Ohio) and several in the planning stages for funding in the not-too-distant future. Each of the sanctuaries is biologically and geographically unique, so that the benefits to each will accrue both to the region in which it is located and to the nation as a whole.

The Elkhorn Slough National Estuarine Sanctuary was the seventh area to be established within this program. Elkhorn Slough is located along the central coast of California in northern Monterey County approximately mid-point within Monterey Bay. The slough extends seven miles inland in a general northeast direction from Moss Landing Harbor. Within the proposed boundaries of this sanctuary there are 1,510 acres of upland and wetland habitats, this does not include the slough proper. To date, 1,000 acres have been acquired and are equally divided between upland and wetland areas. The remaining 500+ acres yet to be acquired consists almost exclusively of wetlands. All lands within the sanctuary have been acquired by the Wildlife Conservation Board and are managed by the California Department of Fish and Game.

The sanctuary will be used primarily for research and education, which dictates a multidisciplinary approach to management. Therefore, an Elkhorn Slough Estuarine Sanctuary Advisory Committee was established. It consists of the following individuals, or their representatives: The Chairman of the Monterey County Board of Supervisors; the Director of the California Fish and Game Department; the Executive Director of the California Coastal Commission; the Director of the Moss Landing Marine Laboratories; the Director of the University of California Sea Grant Program; the United States Fish and Wildlife Service Western Regional Director; the Chairman of the Moss Landing Harbor District Commission; the Vice President of the Nature Conservancy, Western Regional Office; the Moss Landing Commercial Fisherman's Association; and the Property Owner's Subcommittee. The National Oceanic and Atmospheric Administration will participate actively with the Advisory Committee and help to coordinate State and Federal Agencies, in its role as ex officio member.

The duties of the Advisory Committee include:

- To review and advise on the management plans for the estuarine sanctuary developed by California Department of Fish and Game;

- To review and approve proposals for educational or research use and activities in sanctuary lands and waters;
- To advise the appropriate Federal, State, or local government(s) on proposed actions, plans, and projects, including A-95 projects, dredge and fill requests, waste discharge permits, lease and sale of State-owned lands, local government zoning plans and zoning ordinances, and proposed changes to those land use plans and zoning ordinances, in particular coordinating the development of the Local Coastal Plan (LCP), since the estuarine sanctuary must be consistent with the final plan, and;
- To enhance communication and cooperation among all interests involved in the sanctuary;
- To further assist in management of the area the committee established research, education, recreation and planning and facilities sub-committee.

At present, there are no educational programs on the area but guidelines have been established to process proposals when the sanctuary progresses to this point. Likewise, recreation opportunities do not exist but will be permitted if they do not conflict with research and education programs. The majority of the activity on the sanctuary presently involves around planning and basic "housekeeping" duties. This includes the completion of a management and master plan while attempting to open the Sanctuary to some of the more basic (simple access) activities. The area is now closed to general public access due to a lack of staff, visitor facilities and the existence of potentially hazardous conditions. Because the sanctuary staff consists of one person, the manager, progress along any of these avenues is frustratingly slow.

By far, the best opportunity for involvement in Elkhorn Slough Sanctuary at this time is research. Since research involves access of an individual or small group under a precise or controlled set of circumstances this activity appears acceptable and even desirable for the area at this time. Very little is actually known about the specific sanctuary lands and their associated flora and fauna. Some areas, such as collection of base line biological and physical information, are actually essential for the mandatory planning process.

Research needs and opportunities revolve around what the area inherently is or the conditions now surrounding it.

These include:

- a) erosion impacts on the wetlands and slough;
- b) water quality (surface, below surface);
- c) marsh restoration;
- d) flora and fauna inventories;
- e) native flora enhancement;
- f) wetlands-uplands relationships;
- g) reintroduction of species;
- h) Elkhorn Slough proper;
- i) natural, agricultural, industrial conflicts;
- j) livestock grazing;

- k) air quality;
- l) aquaculture;
- m) rare and endangered species;
- n) public access impacts on natural values;
- o) any project which will provide a vehicle for increasing public knowledge of the complex nature of the estuarine system, their values and benefits to man and nature, and the problems that confront them.

Research guidelines and procedures have been established for the sanctuary by its Advisory Committee and the California Department of Fish and Game. Information for or inquiries concerning a proposed project can be sent to Elkhorn Slough Estuarine Sanctuary, 1454 Elkhorn Road, Watsonville, California 95076.