



**US Army Corps
of Engineers®**
New York District



New York State
Department of
Environmental Conservation

FIMP Fire Island Inlet to Montauk Point Reformulation Study

FIMP FOCUS: Environmental Studies

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This issue of FIMP FOCUS discusses how the Fire Island Inlet to Montauk Point Study Team is studying existing environmental conditions and evaluating storm damage control measures for their potential impacts on the natural environment.

Next FIMP FOCUS: Non-structural measures.

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INTRODUCTION AND STUDY PURPOSE

The purpose of the on-going Fire Island Inlet to Montauk Point (FIMP) Reformulation Study is to identify, evaluate and recommend long-term solutions for storm damage reduction for homes and businesses within the floodplain extending along 83-miles of ocean and bay shorelines from Fire Island Inlet to Montauk Point. This area extends as far landward in some locations as Sunrise Highway and Montauk Highway. The study area also includes 26 miles of the Fire Island National Seashore, which is under the jurisdiction of the National Park Service.

The New York State Department of Environmental Conservation (NYSDEC) is the Corps' non-Federal partner in the Reformulation Study. Congress and New York State have asked the United States Army Corps of Engineers (Corps) and NYSDEC to develop a plan for this area. This plan would replace the numerous uncoordinated measures, which have been used to protect individual properties, with a comprehensive management approach that considers the entire coastal system. The objective of the study, therefore, is to evaluate and recommend a long-term, comprehensive plan for storm damage reduction, which maintains, preserves or enhances the natural resources.

The recommendations of the Reformulation Study will be documented in a Reformulation Report. As part of the National Environmental Policy Act (NEPA) process, the Reformulation Report, accompanied by an Environmental Impact Statement (EIS), will be submitted for review and comment to involved regulatory and oversight agencies as well as to the public. A supported plan would then be implemented in coordination and partnership with Federal, state and local governments.

HISTORY

Residential development began in earnest on the barrier island and in the shoreline communities around 1900. In the years following World War II, Long Island experienced a building boom that saw ever-increasing numbers of new residents, many settling in coastal areas. This boom took place before the enactment of any National Flood Insurance Program restrictions on floodplain development. Consequently, much of this

development occurred in areas that were later mapped as flood hazard areas. Suffolk County's estimated population now stands at nearly five times its 1950 level.

Over the past 100 years there has been a nine-inch rise in relative sea level. Human activities have also affected the existing barrier island and mainland conditions. These include: inlet stabilization, shore protection projects, development on the dune, bulkheading, dredging of bay channels, and mosquito ditching. This combination of events has contributed to repeated property damage from storms of both extra-tropical (northeasters) and tropical origin.

THE NEPA PROCESS

The National Environmental Policy Act provides government agencies with a strict set of guidelines to determine the possible environmental impacts of proposed projects and what measures can be taken to mitigate those impacts.

The NEPA process for this study began with public scoping meetings in November, 1996, and in July and August, 1997. The Corps is preparing a Draft Environmental Impact Statement (DEIS) on the FIMP project that will be available for public comment and review before a final EIS is issued.

Through an extensive mailing list and an active web site, the Corps keeps the public informed of the study's progress. Public meetings will present the results of the DEIS as part of the public review and comment period. All comments will be taken into account in preparing the FEIS and Record of Decision (ROD).

Under NEPA, the Corps must consider the potential impacts of the no-action alternative and the proposed alternatives on the natural, human, and cultural environments. To do this, the Corps must:

- Describe existing conditions.
- Describe what the conditions are likely to be in the future without the project.
- Evaluate each of the proposed alternative plans using the best available data.



Sampling for juvenile fin fish in Great South Bay using a seine net.

STUDY PARTICIPATION

Representatives of local municipalities, environmental organizations, and other Federal, state and local agencies are closely involved in this process. Many of the studies are being conducted with regional agencies, such as the NYSDEC, the United States Fish and Wildlife Service (USFWS), and the Cornell Cooperative Extension.

The Environmental Technical Management Group provides oversight and direction to the data collection and analysis. Its members include the Corps, the USEPA, USFWS, US Geological Survey, the Federal Emergency Management Agency, National Park Service, Fire Island National Seashore, the National Atmospheric and Oceanic Administration, NYSDEC, New York Department of State, New York State Emergency Management Office, Suffolk County Planning Department, the Towns of Babylon, Islip, Brookhaven, Southampton and East Hampton, State University at Stony Brook, Cornell Cooperative Extension, Brookhaven National Laboratory, the University of Rhode Island, the Nature Conservancy, Fire Island Association and the Environmental Defense Fund.

STUDIES

The extensive studies being done of Long Island's South Shore for the Reformulation Study have far-reaching local and regional importance.

These studies will provide the tools for determining the impacts of many other projects, including local development; plans to enhance habitats for threatened and endangered species; responses to sea level rise; and measures to enhance both shellfish and fin-fisheries.

The Corps is using state-of-the-art technology in carrying out its studies. For example, color infrared aerial photographs were obtained to perform Geographic Information Systems (GIS) vegetative mapping along the Atlantic coast from Fire Island Inlet to Montauk Point. Specialized computer programs were used to digitize the species vegetative stand lines and match the boundary edges of wetland and upland transitional areas. For greater accuracy, the Corps verified the information with field studies.

In addition, studies are being independently reviewed to ensure objectivity. The studies will define existing conditions; see how those conditions may change in the future; and evaluate what the potential impacts may be of the proposed alternatives.

Here is how the study team is undertaking the environmental study process:

1. Determine what information is necessary to characterize the existing environment and analyze potential impacts from alternative plans.
2. Identify gaps in existing data.
The Corps has reviewed the current scientific literature about the south shore's natural environment and made a data gap assessment to determine what additional studies need to be done to characterize the environment and to determine the potential impacts of the proposed alternatives.
3. Establish a context for studying potential impacts on the environment.
A risk-based conceptual model will describe relationships among both natural and man-made aspects of the South Shore ecosystem. The conceptual model is a tool to guide the analyses of proposed storm damage control measures and their ecological implications.
4. Identify stresses on ecosystems.
Using the model, the Corps will identify both natural and man-made stresses on ecosystems to predict how those stresses will impact significant species, ecological communities, and ecosystems. The model gives the Corps a framework for interpreting data and the potential impacts on the significant habitats and ecosystems of the study area.
5. Undertake comprehensive physical and natural resource studies to fill in the data gaps.
These studies will provide a more complete understand of existing environmental conditions. This program of comprehensive regional studies will define the ecosystems of the FIMP area. Within each of these ecosystems, significant habitats will be identified.

Typical studies in the FIMP area include:

Coastal-marine, ranging from the shoreline to the offshore sand borrow areas.

- Study of surf clams in the borrow areas.
- Study of the fin-fisheries.
- Study of benthic (bottom dwelling) organisms.

Barrier island and marshes.

- Mapping of wildlife habitats
- Study of the piping plovers
- Study of existing and historic vegetation patterns, and changes over time
- Study of benthic organisms.
- Inventory of terrestrial species, including mammals, reptiles, and birds.

Bay.

- Hard clam study.
- Study of marsh productivity for juvenile finfish and invertebrates.
- Mapping of aquatic vegetation.
- Survey of backbay benthic habitats, and sediment types.

6. Evaluate the impacts of the alternatives.
The corps will evaluate the impacts of the specific project alternatives on the existing environmental, cultural, and social conditions. This analysis will include systemic consideration of the direct, indirect and cumulative impacts.
7. Develop environmental measures.
The study team will develop environmental measures that can be incorporated into the plan alternatives. A primary component of this effort is the development of a long-term regional comprehensive management plan for threatened and endangered species. This plan will determine what measures could be undertaken to enhance and improve habitat.

PUBLIC PARTICIPATION

The Corps of Engineers welcomes comments from the public. Documents concerning the Reformulation Study are on-line at the USACE New York District Web Site:

<http://www.nan.usace.army.mil/business/prjlinks/coastal/fi2mntk/index.htm>.

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