

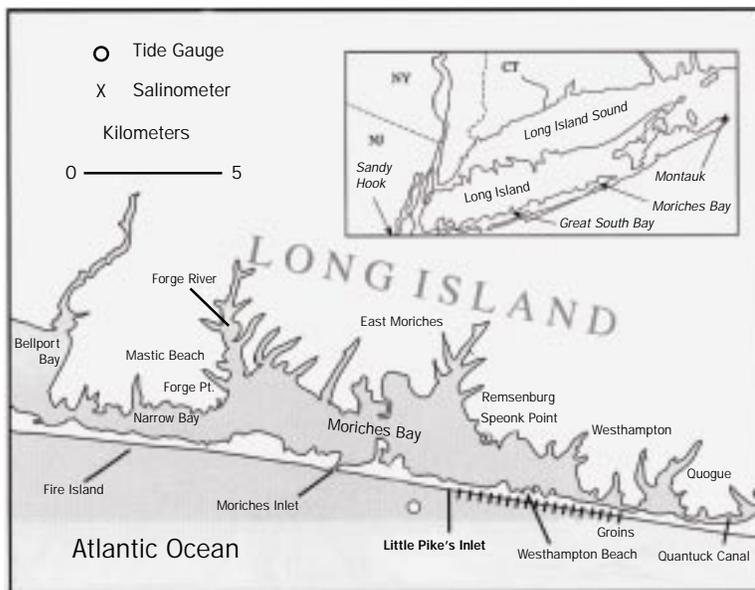
The Short Life of Little Pike's Inlet

For most of the time since 1931, Westhampton Beach and Fire Island have been bordered by a single shallow, narrow opening, Moriches Inlet. Created by storm breaching, this inlet has provided sole direct passage between the bay and the Atlantic Ocean. In 1992, a second tidal inlet developed between the bay and ocean known as Little Pike's Inlet. Prior to its artificial closure the following year, Little Pike's Inlet provided a unique opportunity for research by NYSG-funded principal investigator Daniel Conley of MSRC.

"The development of a new tidal inlet is a matter of considerable scientific and social interest," Conley says. "Such an event may lead to increased tides

and coastal flooding, shoaling and closure of older inlets and changes in the biological makeup of estuarine community structure." According to Conley's findings, the presence of this additional inlet in Moriches Bay resulted in a 30 percent increase in tidal transmission — hence, larger tides— than before. In addition, Little Pike's Inlet led to a local increase in bay salinity in the eastern half of Moriches Bay. However, no salinity change was detected in the western half of the bay, suggesting that, as Conley describes, "the additional mixing with ocean water and its consequential impacts on biological communities was confined to the eastern section of the bay."

Map courtesy of Daniel Conley



Lessons from Little Pike's Inlet

In his NYSG-funded report, researcher Daniel Conley explains how the development of a second tidal inlet in Long Island's Moriches Bay for a 10-month period in 1993-94 affected the tidal transmission between the bay and the Atlantic Ocean. His measurements also illustrate how this altered water flow in turn influenced the salinity in the estuary. (See page 15 for journal reprint information.)

Extending the Research

Great South Bay is also the focus of a NYSG Extension project. Sea Grant has received funding from the National Park Service (NPS) to identify and assess the potential impacts of breaches and new inlets on estuarine resources in the vicinity of Fire Island National Seashore (FINS). Tanski says this effort works in concert with the NPS's research program designed to identify the probable locations and quantify the potential physical changes caused by future breaches along Fire Island. Conley's modeling study, which received additional monies from the NPS following the completion of NYSG funded research, will be used as a basis for a series of workshops Tanski has planned as part of his proposal to the NPS. Also partaking in Tanski's extension

effort are co-principal investigators Cornelia Schlenk, New York Sea Grant's Assistant Director, and MSRC's Henry Bokuniewicz.

Says Tanski, "Of particular concern to managers and planners is how these physical changes may in turn impact the biological resources and ecological characteristics of the bay. In order for these decision makers to develop effective, technically-sound management policies, they will require quantitative information on how new inlets might affect finfish, shellfish, submerged and intertidal aquatic vegetation and other living resources in Great South Bay. Therefore, this effort was undertaken to evaluate the ecological impacts of new inlets on this estuarine system."