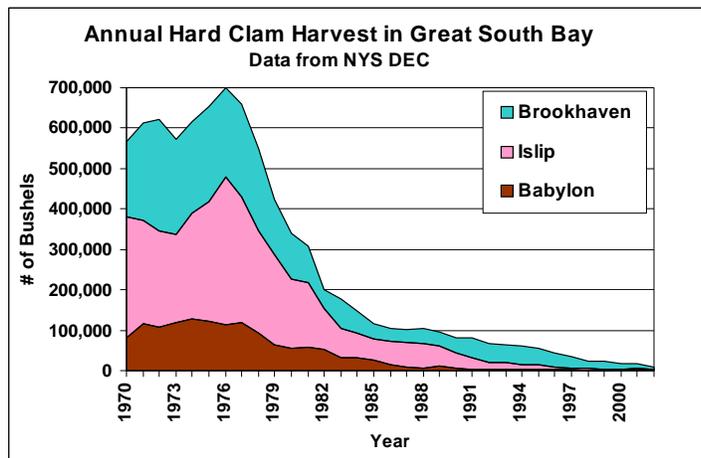


## **Bringing our Successful Conservation Strategies Underwater**

The Nature Conservancy is expanding upon its tradition of ambitious and creative initiatives with its most recent endeavor to acquire or lease sensitive underwater lands for conservation and restoration. On Long Island, with the help of generous donors, enthusiastic partners, energetic volunteers, and a dedicated staff, The Nature Conservancy is forging ahead with this initiative and entering into a new era of marine conservation.

### **Background**

Long Island's south shore is a dynamic system of barrier islands, salt marshes, tidal creeks, open water, bluffs, dunes and beaches. The Great South Bay is the largest of several south shore bays. The resources and activities associated with the Great South Bay shaped the rich maritime heritage of many south shore communities. Historically the bay's oyster population once supported a thriving industry. Today oyster sets are rare. As recently as 1976, Long Island's baymen harvested over 700,000 bushels of hard clams from the Great South Bay, comprising over 50% of the national harvest. Yet in 2003, less than 10,000 bushels of hard clams were harvested from its waters. Many scientists believe that the low abundance of filter feeding shellfish such as hard clams, oysters, and bay scallops has disrupted the complex food web, causing harmful algae blooms like brown tide that shade out seagrass meadows and interfere with the survival and growth of already depleted shellfish populations. In some areas shellfish populations are so depleted that they are not likely to recover on their own.



Although traditional fisheries' management strategies have been successful at restoring some migratory fish stocks, many of our coastal marine habitats continue to be threatened or degraded. The Nature Conservancy believes that to protect and restore these habitats alternative management strategies need to complement existing fishery management programs. For example, in partnership with local towns, The Nature Conservancy has established several areas in Peconic Bay where adult clams and scallops are concentrated and protected. These protected areas, called spawner sanctuaries, represent an alternative

management strategy designed to improve the success of natural shellfish reproduction. Spawner sanctuaries are just one type of restoration strategy that is possible on submerged lands.

### **Bluepoints Underwater Lands**

In October 2004, The Nature Conservancy completed its acquisition of approximately 13,000 acres of underwater land in Great South Bay. This underwater land holding, which covers about 20% of the underwater lands in Great South Bay, provides an unprecedented opportunity to explore the effectiveness of a variety of alternative strategies for restoring key ecological targets such as shellfish populations and seagrass communities.

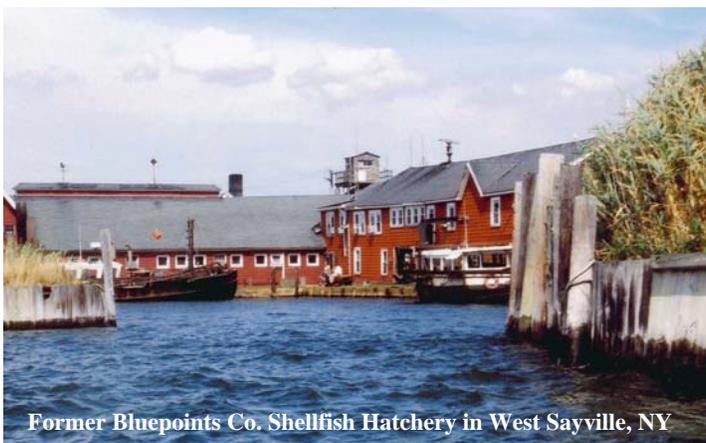


### **History of the Bluepoints Underwater Lands**

In 1694 William Smith, First Lord of the Manor of St. George bought the Great South Bay underwater lands between the Carmens River and the Connetquot River from Chief Tobaccus for 10 pounds. In 1900, after a long history of dispute with the Town of Brookhaven, which also claimed ownership of some of these lands, a court appointed commissioner divided the property. The Smith family received the western portion (13,397 acres) and the Town of Brookhaven received 17,947 acres to the east. The property changed hands several times and in 1968 the First Republic Corporation of America acquired the underwater lands as well as the Bluepoints Oyster Company. In 2002 the majority of the Smith family's underwater land holdings from 1900 were donated to The Nature Conservancy. One large piece (1,500 acres) was retained by First Republic until October 2004 when The Nature Conservancy purchased it.

### **Bluepoints Bottomlands Council**

The Bluepoints Bottomlands Council – a committee of representatives from government, academia, non-profits, and baymen –was formed to assist The Conservancy with developing a long-term management and restoration plan for its underwater lands in Great South Bay, as well as to assist with the co-management of the property. In early meetings the Council committed to investigate, in an objective and scientific way, all of the threats that face certain key ecological targets and then develop strategies to help to restore and protect those targets. The group selected hard clams and seagrass meadows as initial targets. Upon reviewing the current status of hard clams and the sources of the stresses that they face, it became apparent to the Council that the only true way to restore the health of The Conservancy's underwater lands was to work diligently to restore the entire bay by working cooperatively together in an unprecedented way.



Former Bluepoints Co. Shellfish Hatchery in West Sayville, NY

In September 2004 the Council met again to discuss its objectives for the future and revised its mission and vision statements to better reflect this ambitious approach. The Council's recognition of this unique opportunity and commitment to rejuvenate the ecosystem health of all Great South Bay is a tremendous step towards securing a healthy bay for future generations on Long Island.

## **Goals**

Restoration of the Great South Bay ecosystem is a lofty goal. To concentrate our efforts we are focusing on two ecological targets: seagrass meadows and hard clams. We are utilizing the best scientific knowledge of these targets and are supporting new research to guide us towards the most appropriate restoration methods. All of our projects will be monitored to assure progress and make adjustments as needed. Although we believe that some restoration of hard clams and seagrass meadows can be accomplished through proper management of the bottomlands, there are several major system-wide stresses that are beyond the Conservancy's direct control. The most prominent of these are shoreline armoring, watershed development, and barrier island stabilization, which have altered the quality and quantity of water and sediment input to the bays. These factors constitute very serious, long-term threats to the continuing viability of the entire south shore estuary.

At no other point in history has there been another opportunity of this magnitude to restore the ecology of underwater lands. The Conservancy intends to make the most of this opportunity and will make all efforts to enlist our partners to address the threats to Great South Bay that cannot be mitigated through management of the bay bottom alone.



## **Research, Monitoring and Restoration**

One of the first steps in this process has been to increase our baseline understanding of The Nature Conservancy's underwater lands and the Great South Bay system. This was done by reviewing historic and scientific literature, examining charts of the underwater lands created with sophisticated SONAR and other remote sensing techniques coupled with underwater observations of the bay bottom to more accurately distinguish the different habitat types. In 2003 and 2004 The Conservancy partnered with NOAA CRP, Brookhaven Township, and NYS DOS to conduct shellfish surveys throughout their entire 13,000 acres in central Great South Bay. The surveys showed that of the 309 stations sampled, 230 of them (over 74%) had no clams at all and that on average there was only 1 spawner sized clam (cherrystones plus chowder clams) for every 288 square feet of bay bottom. Hard clam densities of this magnitude are well below what scientists believe is needed to sustain the population. Although the sampling revealed several historic oyster beds, no live oysters were observed. This information was important in showing the need for system-wide shellfish restoration and getting support for initial restoration projects.

Together with the Conservancy, The Bluepoints Bottomlands Council just finalized a detailed list of strategies to restore self-sustaining populations of hard clams to Great South Bay. The plan includes multiple tactics to be implemented simultaneously by all the partners on the Bluepoints Bottomlands Council. These include:

- Establishing a network of spawner sanctuaries and improving the post-release survival of hatchery-reared clams.
- Maintaining the current shellfish harvest restrictions on TNC underwater land until the population rebounds.
- Restoring a more natural balance of shellfish predators in the bay.
- Increasing our understanding of temporal changes in the composition and concentration of nutrients in the Great South Bay and addressing them as necessary.

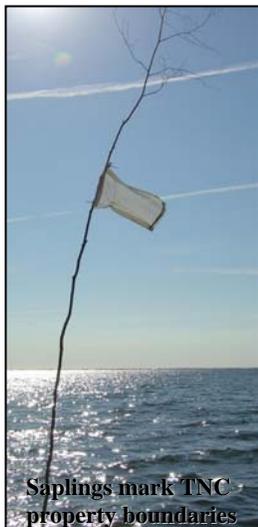
- Assuring that harvest management and enforcement efforts are consistent with short-term rebuilding and long-term sustainability of a functioning clam population.
- Fostering better community stewardship of the estuary and its resources.

To date the Conservancy has already spearheaded the establishment of 10 spawner sanctuaries in central Great South Bay stocked with over 700,000 adult clams. The Conservancy is also partnering with the towns of Brookhaven and Islip and NYS DOS on stocking statuaries on town managed properties in the eastern and western parts of the bay. In addition, this year the Conservancy sponsored a group of high school students to grow 100,000 seed clams to supplement sanctuaries, and we have plans to expand these programs in the coming years.

All life stages of hard clams need to be monitored to assess survival, spawning, larval development, and settlement. Large-scale shellfish surveys will be needed periodically to maintain a time series of our progress and to modify strategies if they fail to meet expectations. In the long term the Conservancy hopes to foster system-wide shellfish management strategies that will promote sustainable harvest rates and support adequate shellfish abundance to maintain a healthy ecosystem function. Research, monitoring, and restoration projects at this scale are a tremendous undertaking. We will work hard to enlist our public partners to contribute to this effort. However, as is always the case, we will also need to rely on the generosity of our donors, and the assistance of our dedicated volunteers to help contribute to these goals.

### **Stewardship, Communications, and Personnel**

Even the most basic stewardship services that we typically provide for our upland preserves present significant logistical and financial challenges on an underwater parcel of this size. Although the Conservancy has staff dedicated to this effort we rely heavily upon our partners and volunteers. In addition, we believe that it is very important to keep the local Long Island communities informed about what we hope to accomplish and the progress we are making. We recognize that every Long Islander is a stakeholder when it comes to restoring the health of the Great South Bay and that the economy of a healthy estuary is better than the economy of a troubled estuary. Increasing the public awareness of the ecological threats and solutions will assist our government partners in making more sustainable management decisions and assist them with enforcement of existing laws to protect our combined restoration efforts.



Saplings mark TNC property boundaries

The Nature Conservancy relies on partnerships of people committed to reclaiming the Great South Bay and restoring it to its former productivity, and invites individual and business investments in this effort. All contributions designated for the Nature Conservancy’s “Bluepoints Project” will be used exclusively for our work in the Great South Bay.

### **Contact Information**

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