

NEW YORK STATE



DEPARTMENT OF STATE

NATURAL RESOURCE PROGRAM

APRIL 2010

EXECUTIVE SUMMARY

New York, like many coastal states, is faced with habitat loss and degradation through actions such as dredging, filling, hardening of shorelines, development at the water's edge, and nonpoint source pollution. This has led to the loss of important ecosystem functions including flood and erosion control, water filtration, and forage and nursery areas for fish and wildlife. Because humans are part of the coastal ecosystem, this loss can also adversely impact human uses in the coastal area.

The Department's mission is to work with communities and partners to protect life and property and enhance coastal ecosystems. The Great Lakes, Atlantic Ocean, Hudson River, Long Island Sound, inland waterways, and their watersheds all contribute rich natural resources essential to maintaining sustainable economies, cultural and traditional human uses, and a vibrant quality of life in New York.

To improve the interaction between communities, local economies, human uses, and the natural resources they depend on, the **Department of State, together with its partners, have invested nearly \$42.5 million to protect and improve coastal resources and habitats.**

Department of State & Partner Resource Protection and Improvement Funding by Source					
	Clean Water/Clean Air Bond Act	Environmental Protection Fund	Great Lakes Coastal Restoration Program	Local Match	Total
Totals	\$12,668,010	\$6,171,082	\$2,399,522	\$21,236,814	\$42,475,428

Significant Coastal Fish and Wildlife Habitats (SCFWH)- Article 42 of Executive Law, declares it the policy of New York State "...to conserve and protect fish and wildlife habitats... critical to the maintenance or re-establishment of species of fish or wildlife... such protection shall include mitigation of the potential impact from adjacent land use or development." 19 NYCRR Part 602 directs: "... the Secretary shall identify and designate on the coastal area map those significant fish and wildlife habitat areas..." Such designation provides increased protection through federal, state, and local coastal consistency review and provides guidance information for restoration. To achieve the Department's mission, **over 250 Significant Coastal Fish and Wildlife Habitats have been designated, mapped, and described** throughout the Long Island, Hudson River, Great Lakes, and St. Lawrence River coastal areas. These SCFWHs are vital ecological resources and provide breeding, nursery, migratory, and /or overwintering areas for fish and wildlife.

South Shore Estuary Reserve- The South Shore Estuary Reserve (SSER), as designated in ECL Article 46, is home to a diversity of fish and wildlife that depend on its extensive bays, marshes, mud flats, and shallows. The SSER is also home to over 1.5 million people who rely on its natural resources to support the economy. The South Shore Estuary Reserve Council and the

Department continue to support projects to reduce pollution, increase shellfish harvesting, protect habitat, and promote sustainable economies. **Over \$18 million has been awarded through the Environmental Protection Fund, the Clean Air/Clean Water Bond Act, and municipal partners to improve and protect the South Shore Estuary Reserve.**

Ocean and Great Lakes Ecosystem Conservation Council- Nine State agencies and authorities form the Ocean and Great Lakes Ecosystem Conservation Council, which was established by the New York State Legislature through the Ocean and Great Lakes Ecosystem Conservation Act. The New York Ocean and Great Lakes Report outlines actions to address the threats that endanger New York's coastal resources. With leadership from the Department, Council agencies have collaborated on-the-ground projects to put ecosystem-based management (EBM) principles into practice. Projects, located in the Great South Bay of Long Island and the Sandy Creeks watershed at the eastern end of Lake Ontario, have included **invasive species control, seagrass monitoring programs, hard clam restoration, and efforts to improve and protect water quality.**

THE FUTURE OF NATURAL RESOURCE PROTECTION

Protecting Offshore Habitats- To sustainably manage current and potential offshore uses, the Department will amend the New York State Coastal Management Program to identify critical offshore habitats and the management measures needed for their protection.

Update of Habitat Policies- The Department will evaluate the Natural Resources policies to identify gaps in protection in order to improve and broaden protection of ocean habitats.

Community-based Restoration- Community-based restoration will continue to be a priority for the Department and its municipal partners. The Department will promote the development of habitat restoration plans and proactive protection strategies for all natural resources.

Climate Change Adaptation- The Department will work to identify coastal habitats and resources at risk and develop strategies for their protection in the face of climate change.

Update Data- Habitats are constantly changing, and as a result the Department will continue to collaborate with the Department of Environmental Conservation to assess current and available data to update and revise existing Significant Coastal Fish and Wildlife Habitats and identify new habitats that need enhanced protection.

Flood and Erosion Protection - The Department will continue to emphasize flooding and erosion protection that is compatible with ecosystem-based management principles and ensures protection of life and property without compromising natural resources.

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OVERVIEW

The Department of State's Natural Resources Program provides professional expertise and financial resources to coastal communities and the state to protect, restore and preserve New York's critical coastal resources and to enhance the coastal ecosystems that humans value. The Natural Resource Program is unique because it is centered on the protection of the ecological viability of critical habitats and resources so that they may continue to support human needs and uses. The focus is on diverse species, as opposed to approaches which focus on critical species and not on the habitats and resources upon which they rely. The Natural Resources Program enables New York State and communities to:

- **Identify priority habitats and resources** for protection;
- **Develop** habitat and resource restoration plans;
- **Create implementation strategies**, including marshaling key stakeholders and financial resources;
- **Develop methodologies and techniques** for habitat restoration and resource preservation and monitoring;
- **Design and construct** on-the-ground restoration projects.

New York's Natural Resources Provide Public Benefits ...

New York's natural resources and habitats sustain a great diversity of plants and wildlife. **New York is home to thousands of species that rely on healthy habitats for food, shelter, breeding, and other life cycle needs.** New Yorkers rely on habitats and their resident species for economic and recreational purposes. Shellfish beds and marine and freshwater fisheries are critical to New York's food industry, while trout streams, terrestrial habitats, and coastal beaches are major components of New York's tourism industry. **In the South Shore Estuary alone, over 3,000 water-dependent or water-enhanced businesses employ over 30,000 people.** A healthy ecosystem protects human infrastructure from flooding and erosion and contributes to our quality of life. It is, therefore, crucial to protect these resources and habitats for the future of New York.

... and Need Protection

New York, like many coastal States, is faced with habitat loss and degradation through actions like dredging, filling, hardening of shorelines, development at the water's edge, and nonpoint source pollution. This has led to the loss of living marine resources and wildlife; the diminution of open space; shoreline erosion and increased flood impacts; permanent adverse changes to ecological systems; and a loss of economic opportunities which adversely impacts human uses in the coastal area.

To maintain and improve the ecosystem values that all New Yorkers depend on, the Department of State, as New York's coastal management and community planning agency, brings its extensive expertise in creating practical responses to land and resource management challenges.

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS

One of the primary components of the Department's Natural Resource Program is the protection of Significant Coastal Fish and Wildlife Habitats(SCFWH). SCFWHs are areas where fish and wildlife must live, either seasonally or permanently, to meet their life requirements. Examples of these types of habitats include coastal wetlands, mud flats, beaches, dunes, breeding grounds, nursery areas, and migratory routes. Article 42 of Executive Law, declares it the policy of New York State "...to conserve and protect fish and wildlife habitats... critical to the maintenance or re-establishment of species of fish or wildlife... such protection shall include mitigation of the potential impact from adjacent land use or development." 19 NYCRR Part 602 directs: "... the Secretary shall identify and designate on the coastal area map those significant fish and wildlife habitat areas..."

Significant Coastal Fish and Wildlife Habitats are those habitats which exhibit one or more of the following characteristics:

- are **essential to the survival** of a large portion of a particular fish or wildlife population (e.g. feeding grounds, nursery areas);
- support populations of **rare and endangered species**;
- are found at **very low frequency** within a coastal region;
- support fish and wildlife populations **having significant commercial and/or recreational value**; and
- would be **difficult or impossible to replace**.

There are over 250 Significant Coastal Fish and Wildlife Habitats(SCFWH), along the State's coasts and waterways from Long Island to the Great Lakes.

Designation Procedure

While the Department recognizes that all habitat areas are important, from a practical standpoint, it would be impossible to designate all areas. Therefore, priorities were established for the conservation of the "most valuable" habitats. The Department of State, in partnership with the Department of Environmental Conservation, developed a procedure and rating system to identify and evaluate areas for designation as Significant Coastal Fish and Wildlife Habitats. The procedure is an intensive evaluation of physical, biological, and community components of habitat areas. The initial designation procedure included:

- **Identification-** Over 2,500 habitats statewide were initially identified, which was narrowed to approximately 250 habitats within the coastal area for more intensive evaluation.
- **Evaluation-** The Department of State, with the Department of Environmental Conservation, evaluated each habitat according to the criteria in the rating system.

Criteria included: ecosystem rarity, species vulnerability, population level, and replaceability.

- **Habitat Documentation-** For each habitat area meeting the minimum requirements for designation, habitat narratives were developed describing the location of the habitat, community of organisms using the habitat, biological, physical, and chemical parameters, and the types of human activities likely to affect the habitat. In addition, a map delineating the boundary of each area was prepared.
- **Public Hearings and Agency Reviews -** Before final designation, public hearings were held by the Department of State and the Department of Environmental Conservation. These hearings were held to provide background information to the public and solicit feedback on the habitat narratives. Habitat documentation was also sent to various state and federal agencies for review and comment.
- **Designation of Areas-** After the hearings, the Secretary of State reviewed the public record and agency comments, and in consultation with the Department of Environmental Conservation, designated the recommended habitat areas as Significant Coastal Fish and Wildlife Habitats.

Keeping SCFWH Documentation Relevant

The natural world, whether through human or natural means, changes. Because the SCFWH narratives and maps play an important role in federal, state and local decision making, the Department initiated a systematic and in-depth review of the designated habitats in 2002. The reviews assess new information and data which is used to refine boundaries, resource inventories, protection guidance, and to nominate new SCFWHs for designation and enhanced protection. The update procedures are the same as described above.

Since 2002, the Department has reviewed over 100 designated habitats on Long Island. As a result of intensive investigation and analysis, field work, and community outreach, an additional five critical habitats were designated in the Peconics region and an additional six were designated on the north shore of Long Island. Analysis of habitats on the south shore resulted in three habitats losing their designation due to impaired water quality resulting from development outside of the coastal area.

The Department is currently assessing and updating 37 SCFWHs along the Hudson River and an additional 4 on Long Island Sound in Westchester.. Over the next several years, the Department will update more than 100 SCFWHs in New York City, and along the Great Lakes and St. Lawrence River.

Using the State Coastal Policies to Protect Habitats

To promote appropriate commercial and recreational use of fish and wildlife resources and to conserve habitats, Policy 7 of the New York State Coastal Management Program states:

SIGNIFICANT COASTAL FISH AND WILDLIFE HABITATS WILL BE PROTECTED, PRESERVED, AND WHERE PRACTICAL, RESTORED SO AS TO MAINTAIN THEIR VIABILITY AS HABITATS.

The Department's Millennium pipeline decision is a notable example of how the Department implements Policy 7 of the CMP to protect a designated Significant Coastal Fish and Wildlife Habitat through the consistency review process.

Background- The Millennium Pipeline Project involved a **proposal for the construction of a 442-mile long natural gas pipeline from a connection in Lake Erie through the Town of Haverstraw in Rockland County** on the west side of the Hudson River. The proposed pipeline would have crossed the Hudson River through the State-designated Haverstraw Bay Significant Coastal Fish and Wildlife Habitat.

Haverstraw Bay- The Haverstraw Bay is one of the most extensive areas of shallow estuarine habitat in the lower Hudson River (and in New York State). Totalling 8,700 acres, the Bay is a major spawning, nursery, and wintering area for various estuarine fish species including striped bass, American shad, white perch, tomcod, and Atlantic sturgeon. Because Haverstraw Bay possesses a combination of physical and biological characteristics that make it one of the most important fish and wildlife habitats in the Hudson River estuary, any physical modification of the Bay or its adjacent wetlands, through, for example, dredging, filling or bulkheading, would result in a direct loss of valuable habitat area.

Project Review- Because Federal permits were needed for the pipeline, the Department had the authority to review the project. Federal laws pre-empted State and local authorities from reviewing the project meaning that the **Department's federally delegated consistency review and decision-making authority was the only means through which New York State had authority to review the pipeline.**

After reviewing all the necessary information and data, the Department objected to the project based on the pipeline's likely environmental impact and its conflicts with coastal policies, including the protection and preservation of the State-designated Haverstraw Bay Significant Coastal Fish and Wildlife Habitat. With this decision, federal agencies could not authorize the construction of the pipeline through Haverstraw Bay. As part of the decision the Department also provided alternative routes to avoid crossing Haverstraw Bay and thereby protecting the habitat from impacts.

The Appeal- The Department's decision was appealed to the U.S. Secretary of Commerce and U.S. District Court in Washington, D.C. The decision, however, was upheld and the pipeline did not cross one of the most important habitats in New York State. Instead, the **pipeline was routed using the alternative route provided by the Department.**

To learn more about the Federal consistency review process visit:
http://www.nyswaterfronts.com/consistency_federal.asp

This is one example of how the Department of State used the strength of the Coastal Zone Management Act authority delegated to New York, and the New York State Coastal Policies to protect critical natural resources and the State's Significant Coastal Fish and Wildlife Habitats. As a result of the Department of State's decision, this area will continue to contribute directly to the production of in-river and ocean populations of food, game, and forage fish species. Consequently, commercial and recreational fisheries throughout the North Atlantic which depend on, or benefit from, these biological inputs from the Hudson River estuary will continue to prosper.

Preparation of Local Waterfront Revitalization Programs (LWRPs) by coastal communities gives them opportunity to identify locally important natural resources worthy of protection. While these areas are already protected through the Coastal Zone Management Act authority delegated to New York, an LWRP is a geographically specific refinement of the State Coastal Management Program, and policies included in an LWRP substitute in that community for the State coastal policies. Hence, federal and state actions in the community must be consistent with the locally developed policies. Where local policies address important natural resources in the community, those resources are provided an extra level of protection through LWRP development and accompanying new local laws.

SOUTH SHORE ESTUARY RESERVE

The South Shore Estuary Reserve (SSER) is home to about 1.5 million people who rely on its natural resources to support much of the local economy and quality of life. The barrier islands of the South Shore of Long Island enclose 173 square miles of bays characterized by tidal marshes, mud and sand flats, beds of underwater vegetation and extensive shallows.



The Reserve extends from the Nassau County/New York City line eastward about 75 miles, to the Village of Southampton in Suffolk County. From south to north, the Reserve extends from the barrier islands to the inland limits of the drainage areas.

South Shore Estuary Reserve Act

The natural resources of the South Shore Estuary Reserve are critical to commercial and recreational fisheries, the tourism industry, and the history and culture of Long Island. To protect

this unique area, the New York State Legislature passed the Long Island South Shore Estuary Reserve Act which established a Council chaired by the Secretary of State, and called for the Reserve's protection and management. In 2001, the Department together with local governments, business leaders, academics, and other partners completed the South Shore Estuary Reserve Comprehensive Management Plan (CMP). This document is a blueprint for protecting and restoring the health of the Reserve bays and tributaries.

SSER Comprehensive Management Plan

Eleven proposed outcomes are identified in the CMP, which focus on reducing point and nonpoint source pollution, increasing harvest levels of shellfish, protecting habitat, preserving open space, improving knowledge for ecosystem management, and promoting economic stability, among others. The South Shore Estuary Reserve Council and the Department have been instrumental in promoting projects to implement the CMP with a focus on habitat restoration and water quality improvement for the benefit of fish, wildlife, and humans.

The Department's actions have been instrumental in improving water quality; restoring habitat; revitalizing coastal communities and economies; protecting beaches, dunes and other coastal habitats; and much more. The Department's South Shore Estuary Reserve Program staff, along with local governments, and federal agencies:

- **Gathers and analyzes information** on land and embayment uses to guide decision making and future actions;
- **Monitors and assesses** water quality and living resources;
- **Investigates, assesses, and promotes** water dependent commercial and recreational uses;
- **Develops geographic information** and analyses to help implement the Comprehensive Management Plan;
- **Assesses** nonpoint source management practices to guide future improvements;
- **Provides expert technical assistance** to state, regional, and local groups concerned with resource protection and improvement;
- **Develops watershed management plans** for critical watersheds. Plans include Massapequa Creek, Browns River, Green's Creek, Swan River, and Quantuck Creek. The plans guide implementation actions and regulatory decisions.
- **Develops and implements** wetland and seagrass restoration plans;
- **Organizes community participation** events to improve stewardship of the SSER, and **recognizes and promotes** contributions of citizen stewards;
- **Informs and educates** students and residents to better care for the precious natural resources that are the SSER
- **Works with municipal governments and stakeholders** to promote the natural, cultural and social resources of the area for the economic benefit of the region.

SSER CMP Habitat Improvement Implementation

To date, over \$18 million from the Environmental Protection Fund, the Clean Air/Clean Water Bond Act, and municipal contributions have been used to develop habitat restoration and watershed management plans that are guiding implementation actions, restore saltmarsh habitat, increase hard clam production, and improve water quality.

Examples of projects undertaken by the Department and SSER partners include: Middle Bay Oyster Seeding and Reef Development Program, Hard Clam Stock Quality Assessment, Inventory and Analysis of Barriers to Fish Passage for six tributaries, Installation of Nesting Structures for Wildlife Habitat, Great South Bay Fishery Survey, Monitoring of Coastal Processes, Beaver Dam Creek Watershed Management Plan, and initiation of research necessary to identify total maximum daily loads of nitrogen acceptable in the western bays.

Over \$6.4 million of total project costs have been focused on restoring critical habitat in the South Shore Estuary. Projects have included the development of hard clam spawner sanctuaries, construction of fish ladder/passages, salt marsh restoration, eelgrass restoration, and wetland modeling projects to identify possible trends for wetland loss or gain.

SSER CMP Water Quality Improvement Implementation

The quality of habitat and natural resources in the South Shore Estuary Reserve and the quality of life for Long Islanders can be linked to the quality of water in its wetlands, rivers, and bays. High water quality is crucial to the survival of fish and shellfish, macroinvertebrates, birds, and other wildlife. The Reserve Council and the Department are equally concerned with the quality of water on Long Island and focus efforts to reduce nonpoint source pollution, reduce impervious cover, and improve stormwater treatment. Water quality improvement projects in the SSER have included stormwater abatement, storm drain mapping, development of Total Maximum Daily Loads, and historic data analysis. To date **over \$12.6 million of State and local funds** have been allocated to improving water quality in the SSER.

With these projects and more, the South Shore Estuary is seeing a resurgence of shellfish beds, improved water quality, stronger land use and nonpoint source management practices, and improved local economies. In short, there is a resurgence of the benefits New York receives from the estuary.

This resurgence will continue as new projects provide benefits. For more than 7 years residents of the westernmost bays in the SSER have tried to address excessive growth of the algae *Ulva*. *Ulva* has been accumulating on shorelines fouling the beaches, affecting habitat, and producing an offensive odor as it decays. The SSER developed a working group of experts and interested citizens to investigate, and the working group recommended development of a Total Maximum Daily Load (TMDL) to limit the amount of nitrogen that could enter the bays. The primary source of nitrogen is the sewage treatment plants located on creeks entering the bay, and excess

nitrogen spurs *Ulva* growth. The first step in TMDL designation by DEC and EPA is scientific investigation that documents the existing nitrogen (and other contaminants) entering the bay waters and its impacts. The Department and the SSER Council have funded (\$820,000 total) SUNY and the US Geological Survey to gather the necessary data for TMDL designation.

OCEAN AND GREAT LAKES PROGRAM

New York grew up on the waterfront. Our success as a state is heavily dependent on waterfronts from New York City to Buffalo. Food sources, industry and commerce, recreation, and many other aspects of New Yorkers' lives are intimately linked to the ocean and waterbodies at our doorstep. To address the many threats that jeopardize New York's unique coastal and Great Lakes natural resources, the State Legislature enacted the *Ocean and Great Lakes Ecosystem Conservation Act* (Act) in 2006. The Act states that Council activities will be guided by a set of ecosystem-based management principles:

- **activities in and uses of the coastal ecosystem are sustainable;**
- **ecological health and integrity is maintained;**
- **ecosystems' interconnections among land, air and water are recognized;**
- **understanding of coastal ecosystems is enhanced;**
- **decisions are informed by good science;**
- **when risks are uncertain, caution is applied to protect the resource; and**
- **broad public participation occurs in planning and decision making.**

The Act created the New York Ocean and Great Lakes Ecosystem Conservation Council which consists of nine state agencies and authorities with responsibility for managing acts that affect coastal ecosystem health. The Council serves as a coordination body to implement an ecosystem-based management (EBM) approach for the long-term sustainability of New York's coastal ecosystems. Through the Ocean and Great Lakes Program, the Department of State provides staff to support Council and Department initiatives related to the ocean and Great Lakes. The Deputy Secretary of State is the Executive Director.

New York Ocean and Great Lakes Report- In April 2009, the Council delivered a report to the Governor and State Legislature. The report (at www.nyoglecc.org) recommended **a number of actions to protect and restore New York's coastal ecosystems.** These actions will address the overarching priorities of:



New York Ocean and Great Lakes Ecosystem Conservation Council's Report to the Governor

- **Managing natural resources, human activities, and environmental quality**
- **Achieving economic vitality and community well-being within the context of healthy ecosystems**
- **Adapting to dynamic coastal ecosystems**
- **Developing ecosystem- based approaches to meet critical energy needs**



Invasive species, such as Purple loosestrife (*Lythrum salicaria*), are a big concern throughout NY and in the Sandy Creeks Region. Mapping and eradicating these species will help restore native wetland vegetation.

Demonstration Areas- The Act established two demonstration areas – the Great South Bay on Long Island and the Sandy Creeks Watershed on the eastern shore of Lake Ontario. These demonstration areas provide an opportunity for the Department to gain on-the-ground experience in applying EBM principles. The Department’s Ocean and Great Lakes Program staff:

- **Led the process of identifying priorities, goals, and desired outcomes;**
- **Assembled scientists and experts to identify data gaps and research and monitoring needs;**
- **Led stakeholder meetings to identify priorities, solicit feedback and address**

concerns;

- **Established and led Steering Committees** to manage specific projects and develop an adaptive approach to applying the EBM principles;
- **Developed an outreach process** to effectively educate local partners and stakeholders on the ecosystem-based management concept and to solicit specific input regarding what ecosystem “services” (functions and values) are most important;
- **Prepared newsletters and update reports** to keep local communities, stakeholders, and agencies informed and involved in the process;
- **Implemented on-the-ground projects to improve the ecosystem** including shellfish restoration, buffer establishment and restoration of riparian corridors along tributaries.

Sandy Creeks Watershed- In partnership with the Department, the Tug Hill Commission, The Nature Conservancy, local county soil and water conservation districts, and other partners have initiated a number of projects within the watershed. Projects included:

- **Buffering over 14,000 feet of stream on seven farms and restoring a section of Skinner Creek** with public fishing access rights that had been impacted by agricultural activities.
- **Mapping, eradicating and monitoring invasive species** for protection of the watershed's ecology and economy.

- **Conducting three forestry workshops** with local forest owners, loggers and foresters stressing the latest Best Management Practices (BMPs).
- **Installing comprehensive interpretive kiosks and interpretive panels** in and around the Eastern Lake Ontario Dune and Wetlands Area.
- **Developing a six year baseline aquifer study** to promote a better understanding and management of water resources on Tug Hill.
- **Partnering with ATV community** to keep off-road vehicles on designated, hardened trails and out of ecologically sensitive areas.

Great South Bay- The Department has worked in partnership with The Nature Conservancy and Suffolk County to continue efforts and build on hard clam and seagrass restoration activities. Projects have included:

- **Hard clam restoration on 13,400 acres** of Great South Bay.
- **Identification and monitoring of juvenile clams** within established spawner sanctuaries.
- **Seagrass restoration and monitoring** including 2,500 seed pouches and 35,000 seagrass seeds were established throughout Great South Bay to evaluate seed transplant methods.
- **Groundwater Nitrogen Study** to study the nutrients loads to the Bay and identify sources and concentrations.



Juvenile clams, used to restore shellfish beds are about the size of a fingernail.

For more detail on the Department's Ocean and Great Lakes Program, see the Department's report, *Addressing Ocean and Great Lakes Ecosystem Challenges in New York State*.

COASTAL AND ESTUARINE LAND CONSERVATION PROGRAM

The Coastal and Estuarine Land Conservation Program was established by the National Oceanic and Atmospheric Administration in 2002 to protect important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by development. The Department is the designated state agency for administration of New York's Coastal and Estuarine Land Conservation Program, with the Secretary of State responsible for nominating CELCP projects for federal funding. In 2007, New York State's CELCP Plan was approved by NOAA and a revised plan was approved in 2009.

Since 2002, New York has received over \$13 million in CELCP funds towards the acquisition of over 500 acres of land encompassing sensitive coastal habitats throughout the State.

CELCP Priorities- The CELCP Plan was designed to support the resource management priorities in New York’s Coastal Zone Management Program. In particular, New York’s CELCP priorities are the protection of:

- tidal and freshwater wetlands;
- coastal floodplains;
- coastal erosion hazard areas;
- significant coastal fish and wildlife habitats;
- wild and scenic rivers within the watershed of the State’s coastal and estuarine waters;
- lands suitable for providing coastal-based recreation and water-related access.

Protection of these types of lands will achieve the following goals of the New York Coastal Management Program: improving water quality in the State’s coastal and estuarine waters; protecting and restoring living resources such as endangered and threatened species and their habitats associated with those waters; expanding public use and enjoyment of coastal resources; and helping to grow the coastal-related economy.

FUNDING AND GRANTS

Together, the Department of State and its partners have allocated nearly \$42.5 million to protect and improve coastal habitats and natural resources. The Department of State through the Environmental Protection Fund Local Waterfront Revitalization Program, Clean Water/Clean Air Bond Act and the Great Lakes Coastal Restoration Program has provided **over \$21.2 million to municipalities to restore and improve critical habitat**, matched by communities.

Department of State Habitat & Resource Protection and Improvement Funding					
Region	Environmental Protection Fund	Clean water/Clean Air Bond Act	Great Lakes Coastal Restoration Program	Local Match	Total
South Shore Estuary Reserve	\$552,378	\$2,827,393		\$3,379,771	\$6,759,542
Long Island Sound	\$2,274,597	\$5,823,420		\$8,098,017	\$16,196,034
Peconic Estuary	\$98,050			\$98,050	\$196,100
Hudson River	\$3,229,057	\$4,017,197		\$7,246,254	\$14,492,508
Inland	\$17,000		\$2,399,522	\$2,416,522	\$4,833,044
Totals	\$6,171,082	\$12,668,010	\$2,399,522	\$21,238,614	\$42,477,228

In addition to the financial assistance summarized above, the Department provides expert technical assistance to communities and agencies for a wide range of projects to protect, improve, and restore habitats. Projects completed with the Department of State's assistance have included:

- Salt Marsh Erosion Trend Analysis
- Salt Marsh and Buffer Restoration
- Creation of a shoreline erosion monitoring program
- Fish Passage and Dam Removal Planning
- Hard Clam Restoration Studies
- Planning for and establishing Hard Clam Spawner Sanctuary
- Native Rare Plant Species Restoration Programs
- Analysis of jetty impacts at inlets and opportunities for correction

The following chart shows funding by project types through the Department of State, including Environmental Protection Fund, Clean Air/Clean Water Bond Act, and the Great Lakes Coastal Watershed Restoration Program.

Department of State Habitat Protection and Improvement Funding by Project Type			
Project Type	State Awarded Funds*	Total Project Costs**	Percent of Total Habitat Funds
Shellfish Restoration	\$666,434	\$1,332,868	3%
Freshwater Wetland Improvement/Restoration	\$8,247,953	\$16,495,906	39%
Beach Restoration	\$591,441	\$1,182,882	2.8%
Streambank Restoration	\$2,751,089	\$5,502,178	14%
Invasive Species Control	\$1,165,000	\$2,330,000	5%
Fish Passage/Barrier Mitigation	\$2,155,050	\$4,310,100	10%
Salt Marsh Restoration	\$3,548,148	\$7,096,296	17%
Terrestrial Habitat Restoration	\$2,067,883	\$4,135,766	10%
Dune Protection	\$45,616	\$91,232	0.2%
Total	\$21,238,614	\$42,477,228	
* Funds include Environmental Protection Fund, Clean Air/Clean Water Bond Act, and the Great Lakes Coastal Watershed Restoration Program			
** Total project costs include match contributions from municipalities.			

AT WORK IN NATURAL COMMUNITIES

The Department of State works closely with municipalities to provide them with the professional expertise needed to develop their natural resource goals. The Department:

- **Coordinates partners and stakeholders** to form advisory committees to oversee progress and implementation;
- **Provides hands on assistance** related to natural resource assessments, characterization, and prioritizing alternatives;
- **Manages the development of project materials** (including project designs) and provides critical feedback;
- **Conducts public meetings** and outreach sessions;
- **Oversees the preparation and refinement of strategies.**
- **Provides technical guidance** for implementation.



Spawner sanctuaries help protect areas for concentrated restoration and the re-establishment of hard clam populations.

Spawner Sanctuaries- Working in close cooperation with The Nature Conservancy, the Town of Brookhaven developed and is implementing a comprehensive hard clam (*Mercenaria mercenaria*) spawner sanctuary management plan for central and eastern Great South Bay to help restore hard clam populations. The development of the plan involved conducting a shellfish survey in un-surveyed and under-surveyed areas in eastern and central Great South Bay; identifying specific areas to be used as spawner sanctuaries; and designating and creating "no-take" areas. The cessation of intensive harvest of hard clams in much of the central portion of Great South Bay has made it possible, for the first time ever, to develop a system-wide plan to re-establish depleted hard clam populations and improve water quality, enhance ecosystem function, and revive public commercial and recreational opportunities throughout the South Shore estuarine ecosystem. The Department and its municipal partners have **invested over \$1,460,000 toward establishing the Spawner Sanctuary and associated research projects.**

Oyster and Clam Seeding and Reef Establishment- Shellfishing is an important commercial and recreational trade in Long Island. Long Island has a long cultural history of fishing in the bays, but with the reduction of water quality, overfishing, and the loss of critical habitat, shellfish beds declined rapidly. The Town of Hempstead, like other South Shore Estuary Reserve towns, is trying to focus on restoring critical habitat. The Department of State has joined the Town of Hempstead **to allocate \$166,000 to develop a pilot oyster seeding program** designed to assist in restoring shellfish beds and to study whether these shellfish beds can be used to help preserve salt marshes in Hempstead's south shore bays. By testing the growth and survival of oysters, researches will gain a greater understanding of how to successfully establish colonies. These

projects are in the beginning phases of development and will be crucial to developing future strategies for restoration.

Invasive Species Control- Nuisance and invasive species can cause serious harm to native plants and animals. Nuisance and invasive plants, fish, birds, and even algae continue to spread throughout New York. The Department of State, along with its municipal partners, has allocated over **\$2.4 million toward the eradication of aquatic and terrestrial invasive species.** In New York City, the Natural Resources Group of the NYC Parks Department is working with volunteers to restore forest areas by removing destructive invasives including Bittersweet Vine, Multiflora Rose, and Tree-of-Heaven. After removal, native species are planted including Pin Oaks, Northern Hackberry trees, and dogwoods shrubs which have benefits to wildlife and restore ecosystem values.

Native Plant Species Propagation- In 1998, New York City Department of Parks and Recreation's Natural Resources Group developed an inventory and map of its rare and endangered species, making it a pioneer in New York State. The Department of State awarded New York City **\$140,000 to assist in the development of the Native, Endangered, Threatened and Rare Species Propagation, Restoration and Education Project.** Seeds, root, and wood cuttings were collected from native, endangered, threatened and rare plants throughout New York City. These seeds and cuttings were then propagated at two New York City Parks facilities- Victory Nursery and The Native Plant Center to be used later during restoration projects. As the propagation of many of these species had never before been attempted, the results of the experimental plantings have been extremely useful to the botanical community. Records of success and failure of seed propagation and timing of flowering and seed production for each species were kept and published in the form of species specific recovery plans. The propagation of these native and rare species has provided New York City the ability to restore critical habitat using local seeds and plants which have led to increased restoration success rates.

Salt Marsh Restoration and Monitoring Guidance- Developed jointly by the Department and the Department of Environmental Conservation, the *New York State Salt Marsh Restoration and Monitoring Guidelines* provides technical assistance to local governments in developing and monitoring salt marsh restoration projects. The document addresses information gaps in restoration science and management and includes a standard monitoring protocol to help increase data collection and ensure the success of habitat restoration projects statewide. The *New York State Salt Marsh*



Saltmarsh habitats are critical for the protection of shorelines and life histories of fish and wildlife species, many of which have economic importance in NY.

Restoration and Monitoring Guidelines, can be found at:

http://www.nyswaterfronts.com/communities_guidbooks.asp

Eastern Lake Ontario Dune Planning- In 1989, the Department helped to prepare *New York's Eastern Lake Ontario Sand Dunes - Resources, Problems and Management Guidelines*. This document increased awareness of the ecosystem, offered guidelines for resource management, and identified opportunities for implementing protection and restoration projects. The Department supported the recent update, entitled *New York's Eastern Lake Ontario Dune and Wetland System: Guidelines for Resource Management in the 21st Century*. The updated document calls for improved understanding of the larger ecological system of which the dunes are a part; promotes appropriate economic growth; and identifies the need to develop a mechanism to formally adopt more detailed resource management plans. The *Guidelines for Resource Management in the 21st Century* can be found at: <http://www.nyswaterfronts.com> under the News Story section.



The Eastern Lake Ontario Dune System is an important ecosystem which supports wildlife, protects shorelines, and provides opportunities for passive recreation.

THE FUTURE OF NATURAL RESOURCE PROTECTION

As the Department looks to the future of habitat and natural resource protection and restoration in New York there are a number of different areas that will be the focus of management initiatives:

Statewide-

Integrating Ecosystem-based Management – LWRPs will evolve to include a more extensive analysis of ecosystems within a municipality and coordinate protection and restoration efforts with neighboring municipalities that share ecosystems. This will allow LWRPs to better reflect the nature and extent of ecological and human interconnections, identify the threats to ecosystem health and human uses, and develop policies and projects to manage ecosystems.

Climate Change Adaptation- As climate change becomes a priority for New York State, the Department will continue to emphasize the need to develop management strategies to identify and prioritize coastal habitats and resources at risk and develop state and local strategies for their protection. The Department is developing a comprehensive approach for adaptation to sea level rise and other impacts resulting from climate change. This approach will include recommendations to support sustainable energy development and improved energy efficiency.

Collaboration and Outreach- The Department will continue to collaborate and work with the Department of Environmental Conservation, the Department of Health, and other State and local agencies. Collaboration will ensure that restoration and protection of natural resources is based on current data, and reflects complementary efforts.

Update of Habitat Policies- As the Department continues to review current Coastal Management Policies, a critical evaluation of the Habitat policies will identify gaps in protection to improve and broaden protection of ocean habitats.

Update Significant Coastal Fish and Wildlife Habitats- Habitats are constantly changing, and as a result the Department will continue to collaborate with the Department of Environmental Conservation to assess current and available data to update and revise existing Significant Coastal Fish and Wildlife Habitats in order to provide the best protection for New York's most critical habitats.

Flood and Erosion Protection- The Department will continue to emphasize flooding and erosion protection that is compatible with ecosystem-based management goals and ensures protection of life and property without compromising natural resources. Many of the approaches identified by the Department are lower cost than traditional engineering.

Ocean and Great Lakes-

Protecting Offshore Habitats- As New York's offshore areas face competing uses for limited space, the Department of State's Ocean and Great Lakes staff are developing integrated spatial plans to sustainably manage current and potential offshore uses. Planning efforts will identify, protect, and restore marine ecosystems, including critical habitats and biodiversity in addition to identifying area suitable for wind energy development and other emerging uses.

Renewable Offshore Energy- The Department will continue to reach out to a broader spectrum of partners and stakeholders to address the issues of offshore energy and pursue the development of an ocean use plan that addresses energy needs and protects offshore habitats. In the Great Lakes, this means reaching out to additional State environmental agencies (e.g. PA, OH, MI), federal agencies, and Canadian environmental agencies. In the Atlantic Ocean, the Department will continue to reach out to federal agencies to address offshore energy and habitat issues.

South Shore Estuary Reserve-

Community Based Restoration- The Department will continue to promote community based restoration, and will assist communities to integrate the principles of Ecosystem-based Management. Habitat and natural resource restoration, driven by the community, allows for broader understanding of the processes and decisions involved in restoration, and the value and importance of preserving habitats and natural resources.

Shellfish Restoration- The Department will continue to support the restoration of shellfish beds in order to restore recreation and commercial fishing. Currently, the Department and communities all along the South Shore Estuary Reserve are working to find the best methods and strategies to restore these beds through research and demonstration projects.

Water Quality Protection and Restoration- Protecting and restoring water quality is a priority within the South Shore Estuary Reserve and throughout Long Island. The Department will continue to work with the Council and its staff to develop intermunicipal watershed management plans, water quality improvement plans, and on-the-ground projects to improve and protect water quality.