Hudson River Estuary Program
Report on 15 Years of Progress
Helping people enjoy, protect and revitalize the Hudson River Estuary and its Valley

Clean Water * Habitat * River Access * Climate Change * Scenery

NYS Department of Environmental Conservation in partnership with:

NYS Department of State
NYS Office of Parks, Recreation and Historic Preservation
NYS Department of Health
NYS Office of General Services
Hudson River Valley Greenway
US Environmental Protection Agency
National Oceanic and Atmospheric Administration
US Department of Interior

Andrew M. Cuomo, Governor
Joseph Martens, Commissioner
March 2011
Dear Friend of the Hudson:

Since 1987, the Hudson River Estuary Program (HREP) has been changing the way New York State manages the river and the valley environment. Significant public participation guided the development of our first Action Agenda, adopted in 1996, which enabled a new, comprehensive approach. Now 15 years later, we are:

- Coordinating among local, state and federal agencies to achieve shared goals;
- Using science and technology to solve river problems;
- Building the capacity for local stewardship of natural resources;
- Helping people discover the river; and
- Building a network for regional cooperation.

This report is a snapshot of what the Estuary Program and its partners have been doing for the last 15 years. It shows how we are supporting the quality of life of people and improving the future health and vitality of the natural resources of the Hudson River and its valley.

The report begins with the four “Estuary Action Agendas” that have been issued and implemented since 1996. Built on sound science and extensive public input, these Action Agendas have set clear goals and targets for progress that can be objectively measured. They set a framework for local governments, state agencies and non-profits to work together to achieve a cleaner, greener Hudson River Valley. The Estuary Program and the Action Agendas emerged in response to horrible river conditions in the 1960s and ‘70s, when pollution had turned the river into an open sewer and industrial dump. In 1978, oxygen levels were so low that biologists in Albany found a dead zone in the river. They described a single living fish, floating on the surface and gasping for air. Since then, the river has made a dramatic recovery. Improvements to water quality are responsible for making the river more swimmable, bringing back bald eagles and for revitalizing urban waterfronts. Today, we take pride in the Hudson’s clean water and scenic beauty, and we enjoy renewed fascination with its historic past.

Our investments in river access, pollution cleanup, open space conservation and fisheries management have brought new stimulus to the regional economy and made the Hudson Valley an outstanding destination for tourism.

Our job is not done, however. Our most recent Action Agenda describes the work we need to do to continue this progress.

Sincerely,

Joe Martens, Commissioner
NYS Department of Environmental Conservation

Links:
Hudson River Estuary Program Action Agenda and accomplishments
www.dec.ny.gov/lands/4920.html

"Future generations will look back on this program as an innovative and resourceful model of ecosystem-based management. I’m happy to be part of the Estuary Program’s work and look forward to its continuing success."

Dennis Suszkowski, Science Director, Hudson River Foundation and Chairman of Hudson River Estuary Advisory Committee
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What is the Hudson River Estuary Program?

The Hudson River Estuary Program (HREP), working with its partners, protects and improves the natural and scenic Hudson River watershed for all its residents. The program was created in 1987 and extends from the Troy dam to upper New York Harbor. Its core mission is to:

• Ensure clean water;
• Protect and restore fish, wildlife and their habitats;
• Provide water recreation and river access;
• Adapt to climate change; and
• Conserve the watershed’s world-famous scenery.

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Photos: Hudson River Estuary Program Staff
Helping People Discover and Enjoy the Hudson

In 1996, few Hudson Valley residents knew the meaning of the word “estuary.” Many communities lacked public access to the river. State boat launching ramps were in disrepair, and public hand launches for canoes and kayaks were limited. The Hudson River Estuary Program (HREP) and its partners embarked on an ambitious program of grants and training to encourage education about the Hudson and enable people to get to the river and experience it first-hand. This is the best way we know to inspire people to become river stewards who care passionately about the water quality and the health of the Hudson.

Fishing, Boating, Swimming on the River

Fifteen years ago, the Estuary Program set its sights on improving public access to the Hudson. The program invested nearly $6.5 million to renovate six existing municipal trailered boat launches and build three new ones. In addition to these major boat launch improvements, the program has:

- Supported 76 access projects and 119 education facilities and programs through grants;
- Achieved the goal of new or improved access–parks, docks, fishing piers, trails and boat launches–in every shoreline community;
- Released a CD with maps showing boat launches and other access points for fishing; and
- Contributed to innovative regional projects such as the Walkway over the Hudson, River Pool at Beacon and the Hudson River Greenway Water Trail and Greenway Trail systems.

Links
Hudson River Estuary Program public fishing and boating access maps CD [www.dec.ny.gov/lands/41728.html](http://www.dec.ny.gov/lands/41728.html)
NYS Dept. of State, Waterfront Revitalization Program [www.nyswaterfronts.com](http://www.nyswaterfronts.com)
Hudson River Valley Greenway [www.hudsongreenway.state.ny.us/home.aspx](http://www.hudsongreenway.state.ny.us/home.aspx)
Education

To help create the next generation of river stewards, in 1997, the Estuary Program began providing river education that now reaches more than 10,000 school children annually with teacher training and estuary-focused curriculum on our website. Estuary grants have funded new educational facilities at 22 locations, including many in underserved urban neighborhoods where students can get direct access to the waterfront in their communities. People young and old who spend time on the river share stories of what they see in the *Hudson River Almanac*, a weekly electronic newsletter that goes out to 2,500 participants.

For the past eight years, the Estuary Program has coordinated a Day in the Life of the Hudson River—one day in the fall when school groups and partner organizations sample the river from New York City to Troy. Data are posted online so that students can compare results from their locality to information other students have collected at other sites along the estuary. In 2010, more than 3,300 participants visited the river at more than 60 sites. Teacher training workshops throughout the year give teachers background on the estuary and prepare them to do the sampling.

"We have a great partnership due to the new public ramps. I’ve used the ones in Haverstraw and Athens. Boaters know they can get on the river, whereas years ago they didn’t have that access, so they didn’t try to enjoy the great river we have."

*John Dorritie, Penny Bridge Marina, Hudson Valley Marine Trades Association*

Links

Hudson River Lesson Plans [www.dec.ny.gov/education/25386.html](http://www.dec.ny.gov/education/25386.html)
*Hudson River Almanac* [www.dec.ny.gov/lands/25608.html](http://www.dec.ny.gov/lands/25608.html)

"Yonkers kids are now learning about the river due to training and grants provided by the Estuary Program. Their sustained support over a period of years is crucial to our success."

Cliff Schneider, Exec. Dir., Beczak Environmental Education Center
Solving River Problems with Science and Technology

Fisheries
The Hudson River’s history of commercial and recreational fishing is legendary. Yet today, key fisheries have been closed or limited. The Estuary Program helps the Hudson Fisheries Unit within the New York State Department of Environmental Conservation (DEC) develop the scientific information needed to pinpoint problems and identify the actions needed to improve these fish populations. Since 1996, research partners have been studying food webs, ocean mortality from commercial fisheries and the river habitats where fish congregate and where they spawn. In 2006, we began electronic tagging of two at-risk species—American shad and Atlantic sturgeon—to help us better understand the river habitats they use. In addition, research on predator/prey relationships is also underway. As a result, our shad and sturgeon recovery plans take a new, comprehensive ecosystem approach to restoring these key migratory fish. The science we have supported informs our management actions for striped bass, black bass, herring and eel as well.

Fifteen years ago, biologists documented the decline of Atlantic sturgeon. Their efforts resulted in a coast-wide fishing moratorium to help the stock recover. Data since the closure indicates an increase in the numbers of juvenile fish, a sign that the species may be recovering on the Hudson. Results won’t be known until 2016 when the first fully protected year class returns. Today, striped bass have increased more than ten-fold since the 1980s and lure anglers from all over the East Coast to fish on the Hudson River. Hudson Valley fisheries contribute an estimated $7.5 million annually to the region’s economy.

“New Protections for Ancient Ailing Fish” NY Times sturgeon video

“Mythic Creature”/ sound and story project of the Hudson
www.soundandstory.org/?site_id=550&id_sub=39198&page_id=60104&productgallery_id=1-story-scape-audio

“The reason I wanted to start my charter business was that fishing for stripers has consistently improved year after year. Renovations the state has made to the launch ramps make the river much more accessible to anglers. Also, the recovery of water quality has allowed the striped bass population to rebound significantly in the Hudson. Fishing on the river is easy, catching is a little bit harder, but the experience is priceless.”

Captain Bob Trenz,
http://offthecharters.com
Water Quality

Emerging technology allows us to understand changes in water quality in ways we could not have imagined 15 years ago. In 2008, with a host of academic and scientific partners, DEC initiated the Hudson River Environmental Conditions Observing System (HRECOS), a network of real-time monitoring stations from Albany to New York Harbor that web-broadcasts river conditions every quarter-hour around the clock. The HRECOS network is designed to take data from local sites and integrate it into a larger, river-wide perspective. A broad range of people use it for research, recreation, education, navigation, habitat management and river forecasting. Through investments in equipment and new stations, the HRECOS network is being upgraded to take samples of chemical contaminants and to record sediment movement. HRECOS helps us to:

- Establish environment baselines for the estuary to monitor change;
- Detect environmental responses to change, such as pollution or storms; and
- Webcast continuous, real-time information on tides, oxygen, weather and other variables.

“I was up in Albany today undocking and then docking a deep draft ship that had a draft of 30 ft., 4 inches, and there was about 30 ft. of water at the dock at high water. I referred to your elevation and current predictions. Alene Onion at HRECOS was able to tell me when the observed high water was occurring vs. the predicted time (a 40 min. difference) Importantly, I undocked the ship earlier than scheduled due to that information.”

Captain Scott Ireland, President, Hudson River Pilots Association

The graph produced with academic partners shows the movement of the storm surge during the 12:00 high tide at George Washington Bridge (blue line) and at Norrie Point (red line) four hours later on the same day, 11/11/10.

Link
HRECOS [www.hrecos.org](http://www.hrecos.org)
Aquatic Habitat

In the last 15 years, the Estuary Program has employed state-of-the-art science and mapping to learn more about aquatic habitats in the Hudson River. These new maps of the river bottom, tidal wetlands, submerged aquatic vegetation and shorelines of the Hudson have given us a deeper and more detailed understanding of these natural resources and their role in the ecosystem. In partnership with the Hudson River Research Reserve and DEC’s marine habitat bureau, we have established baseline maps, assessed trends and planned restoration programs.

“We used to know more about the surface of Mars than we did about the bottom of the Hudson River. Now, with Estuary Program support, we have mapped 76,000 acres of river bottom and discovered things we never imagined. These maps are being used to identify fish habitats, shipwrecks, and unusual features such as giant sand waves and ancient oyster reefs.”

Betsy Blair, Manager, Hudson River National Estuarine Research Reserve

www.dec.ny.gov/lands/4915.html

Links

Hudson River Estuary Program biodiversity program and mapping www.dec.ny.gov/lands/5094.html
Valley Habitat

In 1996, the Estuary Program began working with partners to create extensive maps of forests, wetlands, stream corridors, grasslands and other key habitats in the counties along the Hudson. Sprawling development tends to cut habitat into small fragments, which promotes the spread of pests and disrupts natural processes that sustain people and wildlife. As a result of our work and our partnerships, more than 40 Hudson Valley communities now have detailed maps of ecologically significant habitats to aid in protecting natural systems, plants and animals. In addition, local leaders are beginning to address sprawl and adopt measures such as cluster developments and municipal master plans that direct development away from sensitive habitats. Citizens have mapped 125,000 acres of locally important habitat that supports the biological diversity of the region.

The Estuary Program has provided extensive technical assistance including:

- Hosting roundtables, workshops and training;
- Producing maps, reports, webpages and handbooks that make scientific information available in a form that is useful and that planning boards and others can understand;
- Fostering regional partnerships; and
- Providing grants to implement local conservation projects.

“Connecting with the Estuary Program is one of the most important things we have done.”

Jim Bonesteel, President, Rensselaer Plateau Alliance

The Rensselaer Plateau Alliance (RPA) is a coalition of conservationists and land trust formed out of love for the outdoors and recreation on more than 100,000 acres of forested timberland mostly in private ownership east of Albany and Troy. The fifth-largest forested region in New York State, Rensselaer Plateau contains the headwaters of a public water supply for 100,000 people. RPA wants to develop a regional conservation plan that will preserve large forest blocks and wildlife habitat, while also increasing opportunities for recreation, tourism and the growth of forest products.

More than 5,000 community leaders have received training to achieve local conservation and land-use goals. Here, planners from Red Hook (Dutchess County) inspect a map of rare plants, rare animals and significant ecosystems at a workshop sponsored by the Hudson River Estuary Program. The maps are used in land-use planning and environmental review.
Building Capacity for Local Stewardship of Natural Resources

Water Resources

During the last 15 years, residents and municipalities have started to recognize the need to conserve their water resources and to manage them for the future. Much of our region is water-rich, but population growth and mismanagement in some areas threatens to exceed the supply of fresh water. Polluted runoff originates from many sources across our landscape, such as parking lots, lawn chemicals, eroding sediments and sewer overflows which end up in our streams and eventually the waters of the Hudson. Rain recharges the groundwater aquifers necessary for municipal water supplies, but sometimes, depending on land use and the amount of paved surfaces, this water flows into storm drains and directly to streams and bypasses the underground water recharge area. A deluge of rainwater in combined sewer systems can also overwhelm wastewater treatment plants and pollute the estuary. Protecting the Hudson River requires conserving the land, lakes and streams surrounding it.

Recognizing that water is critical to their future, communities are now thinking outside the boundaries of their own municipalities. In 2001, the Estuary Program began supporting the creation of new watershed alliances that recognize that each landowner, businessperson, town and city, upstream and downstream, is tied together by their dependence on clean water. These common needs are expressed in inter-municipal agreements that protect and conserve shared water resources critical for future prosperity and health. Working with DEC’s Division of Water and the NYS Department of State, the Estuary Program has helped develop such conservation plans for nine tributary streams flowing into the Hudson Estuary below Troy; this covers more than 1,100 square miles of the 5,300 square-

In October 2010 the Moodna Creek Watershed Inter-municipal Council, a coalition of a dozen municipalities, agreed at a historic signing ceremony to work together to protect the Moodna Creek watershed. Their agreement is a model for other watersheds.
mile lower Hudson estuary watershed. The Hudson River Watershed Alliance, with Estuary Program support, has formed a regional network of watershed planners in the Hudson Valley. “Trees for Tribs” is another watershed management project that the Estuary Program launched in 2007. Partnering with local communities, volunteers have planted more than 18,000 native trees and shrubs on creeks and streams that are tributaries to the Hudson River to:

- Improve water quality;
- Support fish and wildlife habitat and food chains;
- Reduce water temperatures with shade; and
- Help absorb floodwaters to protect human life and property.

Since 1996, to reduce pollution in the river, the Estuary Action Agenda has guided investments of more than $72 million in water quality improvement projects and contaminant track down from NY harbor to the Troy dam.

- $59.3 million in water quality improvement grants—including disinfection upgrades at 12 priority sewage treatment plants
- A $2 million project with the Capital District Regional Planning Commission is producing a long-term control plan for sewer overflows.
- Scientific models we funded are now being used to show where the investment of public dollars will have the biggest impact on reducing harmful bacteria that affect swimmers and boaters in the upper estuary.

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“The Hudson Valley could be called the Saudi Arabia of water. We have reliable rainfall, climate change predictions anticipating equal or greater future rainfall, and we have the Hudson River— one of the largest East Coast freshwater river systems. While world populations face water shortages, we have the opportunity to optimize, and a responsibility to protect, this resource in order to ensure economic, social and environmental well-being for future generations.”

Scott Cuppett and Russell Urban-Mead, Hudson Valley Water: Opportunities and Challenges, fall 2010, Center for Research, Regional Education and Outreach, SUNY New Paltz

Links to other watershed information:

- Hudson River Estuary Watersheds and Streams Program
  www.dec.ny.gov/lands/5098.html
- Hudson River Watershed Alliance
  www.hudsonwatershed.org/
- Projects we have supported:
  www.fishkillcreekwatershed.org/
  www.dutchesswatersheds.org/
  www.sawmillrivercoalition.org/
Climate Change

Climate change is happening in the Hudson Valley and around the globe. Sea level in the Hudson River has increased 4-6 inches since 1960 and will continue to rise. The increased intensity of heavy rain storms brings the risk of flooding in waterfront cities, towns and villages. Winters are trending warmer, and plants and animals are moving northward. Reducing the impacts of climate change and preparing our region for its effects will take solid information, collective action and fresh ideas about how to develop new economies that take advantage of these changes.

In 2006, the Estuary Program started the Hudson Valley Climate Change Network, a regional association of more than 100 community leaders working together to give local governments the information they need to cope with climate change. Researchers are developing models to predict sea-level rise and storm surge in the Hudson. The Estuary Program and its partners now assist vulnerable communities on the tidal Hudson by providing the most current information and are planning to map flood-prone areas.

The Estuary Program also helped roll out the “Climate Smart Communities” initiative, which helps municipalities combat climate change by reducing harmful carbon emissions, promoting energy efficiency and adopting plans to reduce vulnerability to climate impacts like flooding. To date, we have enlisted dozens of Hudson Valley communities to sign on.

Links
Climate Change Program for the Hudson River Estuary www.dec.ny.gov/lands/39786.html
Sea Level Rise Task Force www.dec.ny.gov/energy/45202.html

“I have partnered with Hudson River Estuary Program in a number of ways. One that comes most to mind is the wonderful 2006 Climate Change Conference, followed by establishment of a network that brought together stakeholders, agencies, non-profits, local governments and communities to talk about climate change and share information. The Estuary Program facilitated understanding of climate change in the valley. I salute the Estuary Program for that.”

Nicola Coddington, former Mayor of Irvington
Storm King, an iconic scenic treasure in the historic Hudson Highlands

**World-famous Scenery**

The Hudson Valley’s scenery is as renowned as that of Yosemite and the Grand Teton. Its stunning beauty attracts visitors from around the world. Preservation of our scenic resources requires regional awareness and appreciation of the effect that local land-use decisions have on our shared scenery. The Estuary Program has initiated a joint project with the Hudson River Valley National Heritage Area to assist local conservation of favorite vistas, beginning with maps and inventories.

Since 1996, open space conservation by agency partners, including DEC, the Office of Parks, Recreation and Historic Preservation, the Office of General Services, and the Department of Agriculture and Markets has protected more than 46,000 acres of scenic vistas, habitats and farmland. The Estuary Program has directed funds toward conservation of more than 3,500 acres of land along or in sight of the Hudson through land acquisition and easements. Estuary grants to partner organizations have supported nine scenic vista projects that range from a viewshed analysis at Olana to removal of derelict utility poles along Metro-North’s Hudson Line railroad tracks.

**Waterfront Revitalization**

For 150 years, the Hudson was a leading industrial river in America, but as transportation shifted from boats to rail and trucks, river commerce declined leaving abandoned waterfronts. In the last 15 years with improvements in water quality, interest in waterfronts has renewed. A multi-agency initiative to revitalize Hudson River cities, towns and villages has been instrumental in returning these waterfronts to
productive uses, enriching both the economic health of urban areas and recreational activities along the Hudson River. The Estuary Program works hand in hand with the Department of State’s Local Waterfront Revitalization Program and the Hudson River Valley Greenway to assist with planning and development. The Department of State has invested more than $83 million in 300 Hudson River projects. In addition, funding has helped clean up “brownfields,” contaminated industrial sites, and redevelop them for new uses.

Connecting the Dots to Build a Network for Regional Cooperation

Leveraging Time and Talent
Since 2001, the Hudson River Estuary Grants Program has awarded more than 300 grants worth nearly $12 million to local municipalities and non-profits for education, open space, conservation and river access. Many of these grants benefit underserved environmental justice communities by establishing new recreational activities, educational facilities and programs, and creating new open space in urban areas.

The start-up money available for key projects through the Estuary Grants Program is multiplied many times. For example, this program has helped launch self-sustaining river education programs at nature centers in Yonkers, Poughkeepsie, Cornwall and Ossining. Since 1999, the program has leveraged more than $20 million in private funds for partner projects that help meet the Action Agenda.

Interagency Cooperation
During the last 15 years, the Estuary Program has become a hub for river users, political leaders, community organizations and local, state and federal government officials to address issues affecting the region and to guide us in working together to:

- Sustain the Hudson River’s world class port;
- Revitalize river cities; and
- Conserve the region’s clean water, habitat, river access and scenery.

Getting people interested and engaged in stewardship of the Hudson River estuary and its valley protects the natural resources that sustain our communities, creates opportunities for economic development and helps to ensure a brighter future for our children.

“Funding from the Estuary Program supported data collection that has become the foundation for additional research, funded from other sources such as the National Science Foundation, NOAA and Hudson River Foundation. The aquatic vegetation and wetlands mapping, as well as our shoreline habitat inventories have all been expanded with money from other sources.”

Stuart Findlay, Cary Institute of Ecosystem Studies
By the Numbers – Hudson River Estuary Program and Partner-Supported Project Metrics 1996-2010

1. Ensure Clean Water

Improving Estuary Water Quality

- $109.3 million for water quality and aquatic restoration projects (CW/CA Bond Act and WQIP)
- On track to meet Capital region dry-weather swimmable goal by 2014, including disinfection of pathogen discharges at 12 sewage treatment plants and revised permits for 44 dischargers.
- NY-NJ Port Agreement partnership to track down chemical contaminants and develop a model (CARP) to assess the most effective remediation actions – Phase 1 completed- $13 million.
- Successfully petitioned EPA to expand Hudson River vessel no-discharge zone to include entire estuary and worked with EPA to assure that GE continues the dredging of the Hudson’s PCBs
- Initiated the Hudson River Environmental Conditions Observing System (HRECOS.org) in 2008.

Conserving Streams that Flow to the Hudson

- Seven local watershed management plans cover more than 1,100 square miles of the 5,300 square-mile lower Hudson estuary watershed.
- Hudson Basin River Watch trained 500 citizen scientists how to monitor and protect streams at more than 300 sites in the estuary watershed.
- Trees for Tribs – 130 vegetative stream buffers projects planted 18,000 trees with more than 1,500 volunteers and more than 100 project partners.

2. Protect and Restore Fish, Wildlife and their Habitats

Managing Fish Populations

- Broadened scope of fisheries management to include ecosystem considerations;
- Significantly improved understanding of fish habitat use with resulting improvements in accuracy of guidance to protect and manage resources.
- Adopted Atlantic sturgeon and American shad recovery plans and launched implementation programs; sustained striped bass populations.

Creating Maps and Baselines to Measure Change

- Mapped 125 miles of submerged aquatic plant habitat from Yonkers to Troy; identified types of plants in these beds, which are primarily water chestnut and water celery (1997, 2002, 2007)
- Mapped 76,000 acres of river bottom habitat using side-scan sonar and 127 miles of shoreline habitat types
- Mapped 125,000 acres of Hudson Valley forests, wetlands, stream corridors, grasslands and shrub land and the plants and animals that depend on them for habitat
Helping Local Decision-makers with Stewardship

- Trained 5,000 community leaders to achieve local conservation and land-use goals
- Published two handbooks to assist community leaders in managing natural resources locally

3. Provide Water Recreation and River Access

Enhancing River Access (partnerships with NYSDEC, NYSOGS, NYSDOS, NYSOPRHP)

- Invested more than $6 million to renovate six municipal trailered boat launches and build three new ones; created three new or improved fishing access points across the railroad tracks; goal of one new or improved river access point per shoreline community nearly achieved

Educating Families, Students and Concerned Citizens

- Teaching about the river to 16,000 people annually, including 10,500 schoolchildren
- Hudson River lesson plans on the web are downloaded hundreds of times weekly
- “Day in the Life of the River“ - More than 3,300 participants at 60 sites and growing
- Hudson River Almanac e-mailed to 2,500 subscribers
- Education exhibits installed and facilities improved at 25 non-profit, municipal and state park facilities
- Website establishes the program as a trusted source of river and estuary information

Revitalizing Waterfronts

- Continued a coordinated approach to the economic revitalization of waterfronts through state grant programs
- Local waterfront revitalization – more than 300 Hudson River projects ($83 million, NYSDOS)
- Clean Air/Clean Water brownfield clean-up grants - 32 contaminated sites @ $15 million
- Hudson River Valley Greenway has invested $7 million for planning and trail projects

4. Adapt to Climate Change

- Climate Smart Pledge – As of December 2010, 35 Hudson Valley communities have signed on
- Studies of storm surge impact area completed; Sea Level Rise Task Force report released (with DEC Office of Climate Change)

5. Conserve World-Famous Scenery

- Open Space conservation of 46,000 acres of scenic vistas, habitats and farmlands (DEC, OGS, DOA, OPRHP); Open Space planning - More than 20 towns adopted open space plans; 10 more are in the process of drafting plans.

Estuary Grants to Support Local Projects that Meet Action Agenda Targets

1999-2010: 346 Estuary grants totaling $11,706,360 from the NYS Environmental Protection Fund