

Northeast/Mid-Atlantic Region

Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, West Virginia, Delaware, Maryland, Virginia



Asian Longhorned Beetle Eradication

Agencies and Citizens Team Up to Fight Tree-killing Insect

Location: New York City; Chicago; Jersey City, New Jersey

Project Summary: A coordinated effort among agencies and citizens to control the spread of the Asian Longhorned Beetle (ALB) and restore infested areas with tree plantings.



Forest Service smokejumpers have been instrumental in detecting Asian longhorned beetle in all of the current quarantine areas.

Resource Challenge

The Asian Longhorned Beetle (ALB), a native of China, entered the United States accidentally, probably in wood packing material. First found in New York City in 1996, the bug appeared in Chicago in 1998 and in Jersey City, New Jersey, in 2002. In 2003 a large ALB infestation was found near Toronto, Canada, and another was detected in Carteret, New Jersey, in August 2004.

The ALB kills certain species of trees by boring large holes in the wood. Without natural enemies, it could spread unchecked, devastating lumber, maple syrup, nursery, fruit, and tourism industries, causing \$41 billion in losses. The only known way to kill the beetle is to cut, chip, and burn infested trees. Researchers in the United States and Asia are cooperating to find other effective controls.

Early detection in high-risk areas, such as ports and adjacent cities, is the first line of defense. Homeowners and citizens are critical to finding and eliminating the beetle and were the first to identify several infested sites. The Animal and Plant Health Inspection Service (APHIS) enacted quarantines and placed some restrictions on importing solid wood packing material from China and Hong Kong.

Examples of Key Partners

USDA Forest Service, USDA Agricultural Research Service, USDA APHIS, Cities of Chicago, Jersey City, New Jersey, and New York, University of Vermont, New York ReLeaf, Trees New York; State Departments of Agriculture, State Foresters, tree care businesses, private citizens, and community groups.

Innovation/Highlight

A rapid response, multi-organizational project that relies on citizen initiative to fight a tree-killing insect.

Results and Accomplishments

State and federal agencies, cities, local groups, and volunteers formed rapidly in an intensive, coordinated response that continues today. Professional surveys, public awareness campaigns, technical assistance to communities and residents, and financial resources are dedicated to removing and destroying infested trees.

Agencies have found innovative ways to respond quickly: for example, the USDA Forest Service brought in smokejumpers to climb and inspect trees that could not be reached with bucket trucks. Volunteers search trees from the ground.

Specific actions taken include:

- 10,000 trees have been removed from infested areas.
- 150,000 trees around the perimeter of infested locations have been treated to prevent infestation.
- 8,000 trees have been replanted.
- Collectively, USDA and state agencies have invested more than \$30 million.
- An intensive, coordinated, nationwide public awareness campaign continues.

Today, there are signs that these measures are working: fewer infested trees were found in 2004 than in previous years, and two quarantines outside Chicago have been lifted.

Project Contact

Joseph McCarthy
Senior City Forester, Chicago
Bureau of Forestry
312-747-2098
jmccarthy@cityofchicago.org



Website: www.na.fs.fed.us/spfo/alb

Barren Island Shoreline Protection and Wetland Restoration

An Unlikely Marriage—Habitat Restoration and Dredging Spoils

Location: Chesapeake Bay

Project Summary: This multi-agency partnership addresses the issues of dredge material placement, island erosion, resource protection, and innovative shoreline protection in one tidal marsh/island restoration project.



Citizen volunteers unload and transfer wetlands plants for planting at Barren Island.

Resource Challenge

As part of the USDI Fish and Wildlife Service’s refuge system, Barren Island is an asset to the Chesapeake Bay and its inhabitants. It helps protect submerged vegetation, which in turn provides habitat for fish and shellfish. Isolated from the mainland, it offers prime wintering, breeding, and nesting habitat for migratory waterfowl and birds, including brown pelicans. It also harbors threatened and endangered species including bald eagles, least terns, and black skimmers.

The island was severely eroded from a combination of high wave energy, rising sea levels, land submersion, ship wakes, and the natural ebb and flow of barrier islands. In fact, it was eroding at the rate of 15 feet per year. Without the island, it’s likely that waves would eventually destroy the underwater vegetation and erode the shoreline of Southern Dorchester County, especially during storms.

The CORPS, NOAA, and FWS scientists were weighing restoration/protection options when they realized that coupling habitat restoration with the ongoing need for places to dispose of clean, locally dredged material could facilitate restoration while resolving the challenge of disposal.

Examples of Key Partners

The USDI Fish and Wildlife Service (FWS), National Oceanic and Atmospheric Administration (NOAA), Geodetic Survey, Center for Coastal Oceanographic Products and Services, Beaufort Laboratory, U.S. Army Corps of Engineers (CORPS), National Fish and Wildlife Foundation (NFWF), Fish America Foundation, National Aquarium in Baltimore, Friends of Blackwater National Wildlife Refuge, Maryland Conservation Corps, Chesapeake Bay Trust, local agencies, citizen volunteers.

Results and Accomplishments

The NOAA Community-based Restoration Program, NFWF, and the Fish America Foundation have been working on Barren Island restoration since 1997. About 1,300 feet of shoreline and 20 acres have been added to the island, reducing shoreline erosion and creating new low marsh wetlands. The project has also field tested several types of geotextile tubes for shoreline armoring. Partners are considering additional expansion to provide greater habitat enhancement and protection.

With assistance from the National Aquarium in Baltimore, Army Corps of Engineers, FWS, and other partners and community organizations, more than 1,000 volunteers have restored and replanted 22 acres of coastal wetland. More than 450 students raised and planted 20,000 tidal wetland plants at the restoration site. In October 2004, the Aquarium, NFWF, NOAA, and 22 partners received a Coastal America Special Recognition Award for the Schoolyard *Spartina* project.

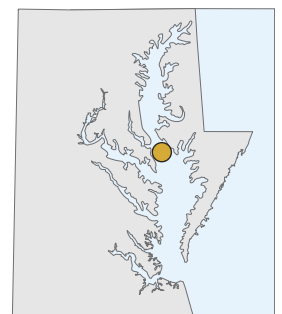
Innovation/Highlight

Re-use of dredged material avoided the need for costly transport and land placement while enhancing Barren Island’s conservation value.

Project Contact

Rich Takacs
 Mid-Atlantic Restoration Coordinator
 NOAA Restoration Center
 410-267-5672
 rich.takacs@noaa.gov

Website:
www.nmfs.noaa.gov/habitat/restoration



Boston Harbor Island National Park Area

A Model for Mixed-Ownership Parks

Location: Boston Harbor, Massachusetts

Project Summary: Owned and managed collaboratively by a broad range of public and private landowners, agencies, and partners, the National Park creates a new way to work.

PHOTO BY SHERMAN MORRIS, JR.



View of Boston from Snake Island.

Resource Challenge

The Boston Harbor Island National Park Area (NPA) was established in 1996 with strong local support. The driving forces were state, city, and community efforts to clean up Boston Harbor, to revitalize the economy around downtown Boston's Central Artery, and to realize more effective, coordinated conservation management for Boston Harbor's islands.

Boston Harbor Island NPA does not own any of the 34 islands within its boundaries, although sixteen of the islands were already part of a State and local regional park system. The Commonwealth of Massachusetts and the City of Boston co-own Spectacle Island, and were in the early stages of restoring it as a major green space and park centerpiece when the NPA was created.

Today, thirteen Congressionally-legislated members and a 28-member Advisory Council manage the Park collaboratively. The National Park Service facilitates voluntary, consensus-based, coordinated management among stakeholders. The nonprofit Island Alliance, a neutral non-landowning entity, works closely with the Park Service to generate private sector support to help enhance the park. Modeled after the Golden Gate Conservancy, it is the first non-profit legislated into a National Park's management structure.

Examples of Key Partners

Boston Harbor Island NPA, USDI National Park Service, City of Boston, Commonwealth of Massachusetts, US Coast Guard, Island Alliance, non-profits and local authorities.

Results and Accomplishments

Unlike traditional parks, the Boston Harbor Islands NPA is carved from state and locally-owned lands rather than federal ownership, creating a seamless system of protected lands for public enjoyment. Operating through committees, the Park has completed these projects:

- Opened the nation's first "light station" (Boston Light, est. 1716) to regular public access programs.
- Secured more than \$7 million for the park through the Island Alliance.
- Completed the first comprehensive study of the Park's economic potential in 2001.
- Secured commitments for a "Harbor Park Pavilion" on the Rose Kennedy Greenway above Boston's Big Dig to serve as a park gateway.
- Developed curriculum and youth programs that serve 5,000 public school students per year.
- Secured more than \$2 million for new public docks on three key islands.
- Teamed with Harvard University and Dr. Edward O. Wilson to conduct a complete inventory of invertebrates on the islands with more than \$200,000 in support pledged to date.
- Continuing to restore Spectacle Island—a core park Island—using volunteers.

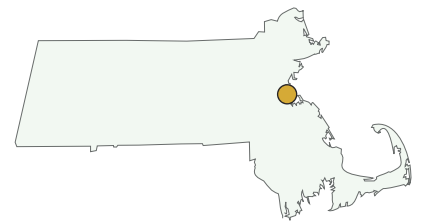
Innovation/Highlight

A Park with multiple owners is managed collaboratively to deliver a National Park experience.

Project Contact

Thomas B. Powers
President
Island Alliance
617-223-8530
tpowers@islandalliance.org

Website: www.nps.gov/bohal



Bridge Creek Salt Marsh Restoration Project

“Going With the Flow” to Improve Marsh Habitat

Location: Barnstable (Cape Cod), Massachusetts

Project Summary: This project restored tidal flows to a 40-acre degraded salt marsh, improving habitat for a variety of estuarine organisms by replacing undersized culverts with larger, properly sized culverts.

PHOTO BY: ANDREW ELDREDGE



Train about to cross the newly-installed railroad culvert at Bridge Creek.

Resource Challenge

Bridge Creek was altered nearly a century ago when a state highway and railroad line was constructed, cutting off much of the tidal flow and severely degrading the entire upstream aquatic ecosystem. The culprits were two undersized culverts that carried the creek beneath the road and the rail line. The project site, 40 acres of coastal wetlands, lies within the state-designated Sandy Neck/Barnstable Harbor Area of Critical Environmental Concern.

The Town of Barnstable initiated the project when they learned the rail line was slated for a temporary maintenance shut down. This short window was the only realistic opportunity to complete the project; to succeed, partners would need to adhere to a strict 18-month timeline from conception to completion. Without the hard work of many partners and important contributions from corporate partners, the project never could have been completed on time.

Examples of Key Partners

Town of Barnstable, National Oceanic and Atmospheric Administration (NOAA), USDA Natural Resources Conservation Service, USDI Fish and Wildlife Service (FWS), MA Wetlands Restoration Program, ten corporate partners via the MA Corporate Wetlands Restoration Partnership, Conservation Law Foundation, The Nature Conservancy, the Gulf Of Maine Council, and others.

Innovation/Highlight

The highlight of this project is the broad partnership of more than 80 individuals representing more than 30 different local, state, federal, public and private organizations.

Results and Accomplishments

The partnership rallied to meet the deadline imposed by scheduled maintenance and, in 2003, replaced the culvert beneath the railroad line, restoring tidal flow to 24 acres of degraded salt marsh. In April 2005, the culvert under the State road was replaced, restoring tidal flow to another 16 acres. Preliminary monitoring indicates that the project successfully restored full tidal exchange to 40 acres of degraded marsh, which will expand and improve habitat for estuarine life, including fish, wading birds, and the state-threatened northern diamondback terrapin.

Each of the project partners played a critical role:

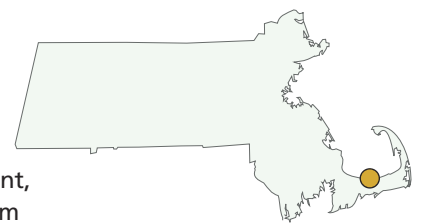
- the Town of Barnstable contributed guiding leadership.
- the railroad company cooperated in scheduling rail line maintenance.
- the corporate partners donated time and services.
- the Barnstable Land Trust allowed use of its land for storing construction supplies and equipment.

The total cost of the project was about \$1.5 million, of which NOAA contributed about \$343,000.

The Bridge Creek partnership model is currently being used in several community-based restoration projects in Massachusetts. The project received a Coastal America Partnership Award in 2004.

Project Contact

Georgeann Keer
Project Manager
MA Coastal Zone Management,
Wetlands Restoration Program
617-626-1246
georgeann.keer@state.ma.us



Buffalo Creek Riparian Buffer Restoration

Keeping Cows Out of the Water

Location: Pennsylvania and West Virginia

Project Summary: Agencies, universities, non-profits, and foundations offered cost share and technical assistance for riparian and instream habitat restoration.



Cooperators on the Buffalo Creek project appreciate all the wildlife that has returned to the restored wetlands.

Resource Challenge

Buffalo Creek Watershed, which arises in western Pennsylvania and empties into the Monongahela River in West Virginia, covers about 107,000 acres across the two states. About 50 percent forested and 50 percent agricultural, the creek has long suffered from non-point source pollution, especially from cattle wandering along riverbanks, degrading the riparian zone and damaging water quality.

The USDI Fish and Wildlife Service (FWS) Partners for Fish and Wildlife Program is encouraging farmers to fence stream banks to keep cattle out of streams, allowing trees and brush to regenerate and keeping excess sediment, nutrients, and bacteria out of the water. New vegetation shades the stream, making it more hospitable for fish, plants, and animals.

Examples of Key Partners

California University of Pennsylvania (Cal U), FWS Partners for Fish and Wildlife Program, USDA Natural Resources Conservation Service (NRCS), Washington County Conservation District, Pennsylvania Game Commission, Pheasants Forever, National Fish and Wildlife Foundation, the R.K. Mellon Foundation, Pennsylvania Department of Environmental Protection, J.K. Heinz Foundation, Pennsylvania Fish and Boat Commission, Ducks Unlimited, and Buffalo Creek Watershed landowners.

Results and Accomplishments

Washington County is doing more streamside fencing than any other eastern county: more than 60 miles of riparian fencing has been installed. Instream restoration, cattle crossings, plantings, and

alternate watering sources round out restoration activities. Farmers are planting native grasses on less productive areas, expanding forage for cows, and providing better wildlife habitat.

Crews from Cal U are acting as landowner agents, constructing projects using 75 percent USDA cost share funds, and 25 percent in-kind contributions from partners and foundation funds. Projects are being used as training for biology students from the University. The restoration effort, in turn, benefits by having a University Wildlife Conservation Specialist involved in project planning and design. Projects combine the latest habitat restoration techniques including in-stream restoration, an element often missing from agricultural restoration projects.

A number of partners, including the NRCS, the FWS, Ducks Unlimited, and the Pennsylvania Fish and Boat Commission, provide valuable technical assistance in the planning and design of projects. The Pennsylvania Game Commission, Pheasants Forever, and Ducks Unlimited provide in-kind assistance. The Washington County Conservation District helps secure funding.

About 50 landowners are participating in the program, producing measurable improvements in water quality. Researchers from Cal U are monitoring water quality over the long term.

Innovation/Highlight

Multiple agencies are helping farmers erect fences to keep livestock away from the water.

Project Contact

Jose Taracido
Wildlife Conservation Specialist
California University of Pennsylvania
724-938-5799
Taracido@cup.edu



Charles River

Swimmable by 2005

Location: Boston, MA

Project Summary: The Clean Charles effort brings together a variety of organizations and their diverse projects to clean the river for swimming by 2005.



A MassGIS image of the lower basin area of the Charles River.

Resource Challenge

To many New England residents, one has only to say “The Charles” to conjure up vivid scenes of what is arguably one of Boston’s premier assets. One of the world’s busiest recreational rivers, the lower Charles suffers pollution from sewer overflows, illegal sewer connections, and storm water runoff. The Clean Charles Coalition is a voluntary association of industries, academic and research institutions, public interest groups, and others who have joined together to develop and promote awareness of the Charles River as an urban resource and to create a sense of stewardship and responsibility.

The Clean Charles project relies on the cooperation and commitment of citizens, organizations, and businesses working with federal, state, and local agencies to reach clean water goals. The Charles River Watershed Association (CRWA) has conducted studies on bacteria, storm water management, and other topics, and they have developed nutrient management and rainwater recycling plans, a predictive model that uses weather data to predict in advance whether the river will meet standards, and a bacterial source tracking method that samples storm water for traces of pharmaceuticals or personal care products.

Examples of Key Partners

MA Department of Environmental Protection, CRWA, Friends of the Muddy River, Boston University, Polaroid, Pfizer, Urban Ecology Institute, United States Environmental Protection Agency (EPA), Cities/Towns of the lower Charles, Clean Charles Coalition, and others.

Results and Accomplishments

The Charles River’s overall health and water quality has improved significantly. Today, the lower Charles is lined with marinas, jogging paths, and sports fields used by thousands of city dwellers each year. This has opened the way for families to once again enjoy recreational activities on the Charles.

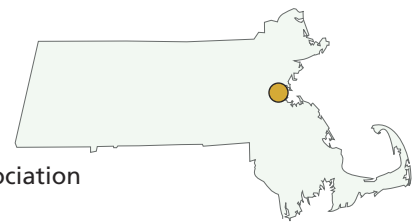
- The number of days when water quality meets state bacterial standards has risen from 19 to 54 percent for swimming and 39 to 96 percent for boating in the last ten years.
- Combined sewer flows into the river during heavy rains have been reduced from 1,742 million gallons a year to 182 million gallons a year.
- All storm water discharges were inspected for illegal connections, and removal of dry weather connections is almost complete, eliminating more than 1 million gallons of contaminated flow per day.
- More than 18 miles of leaking sewer lines were replaced in Waltham and Newton.
- The Urban Ecology Institute sponsors a program with 12 high schools to monitor water quality and bird and insect diversity near the river.
- Next high priority steps include separating additional storm water and sewer lines, addressing illicit discharges and monitoring in several area cities, and improving storm water management.

Innovation/Highlight

The CRWA is instituting a first-of-its-kind trading program, creating a market for increased river instream flows to decrease pollutants.

Project Contact

Robert Zimmerman, Jr.
Executive Director,
Charles River Watershed Association
781-788-0007
rzimmerman@crwa.org



Website: www.epa.gov/boston/charles2005

Chesapeake Bay Gateways Network

Connecting People with the Chesapeake Experience

Location: Maryland, Virginia, Pennsylvania, New York, West Virginia and Washington, DC

Project Summary: A partnership of more than 140 parks, refuges, museums, historic sites, and water trails builds citizen involvement in the Chesapeake region.



Visitors experience the Chesapeake's maritime heritage at many Chesapeake Bay Gateways.

Resource Challenge

Chesapeake Bay is North America's largest estuary, 2,500 square miles of water fed by a 64,000 square mile watershed. The Chesapeake suffers from centuries of human use and the impact of today's 16 million watershed residents. The Bay's health, focus of a long-standing state and federal conservation effort, depends on a citizenry that enjoys and understands the Chesapeake's resources and is committed to protecting them.

The watershed's size and diversity is a challenge to any coordinated effort. With its many natural, cultural, and recreational resources, traditional management models are not feasible at this scale. The Chesapeake Bay Gateways Network is a system of parks, refuges, museums, historic communities, and water trails throughout the Bay watershed that helps visitors find, enjoy, and understand the Chesapeake's many resources. Designated Gateways tell the Chesapeake's story, ultimately to foster involvement in Bay stewardship. More than ten million people visit these sites every year.

Initiated in 2000 in response to federal legislation, the Network is coordinated by the USDI National Park Service and a multi-organization Working Group. Gateways are nominated to join the Network; after joining, they become eligible for technical assistance and matching grants, and participate in guiding Network initiatives.

Examples of Key Partners

USDI National Park Service, States of Maryland, Virginia and Pennsylvania, Chesapeake Bay Program, Chesapeake Bay Foundation, Chesapeake Bay Trust, Alliance for the Chesapeake Bay, Chesapeake Bay Commission, Environmental Protection Agency, and more than 140 individually managed sites.

Results and Accomplishments

In just five years, the Gateways Network has grown to include thousands of miles of trails and tens of thousands of acres at sites in five states and Washington, DC. More than 140 sites across 64,000 square miles are linked to coordinate visitor experiences and communicate the Chesapeake's value.

Technical assistance and matching grants have helped Gateways Network members develop interpretive programs, complete hundreds of miles of new water trails complete with maps and guides, build kiosks at 45 trail access points, and develop educational curricula for students. Many more projects are underway. Regular workshops and conferences bring Gateways Network members together to share strategies.

Several network-wide products orient the public to the Chesapeake: a Map and Guide, exhibits at all Gateways, a website that attracts 2,000 unique visits daily, new theme-based guides to interpret Chesapeake sites, and a joint public awareness marketing partnership.

Innovation/Highlight

The Network brings public and private natural, cultural, and recreational sites together across several states in a single network.

Project Contact

Jonathan Doherty
Director
Chesapeake Bay Gateways Network
National Park Service
410-267-5725
jdohertry@chesapeakebay.net

Website: www.baygateways.net



Chesapeake Bay Program

America's Premiere Watershed Restoration Partnership

Location: The 64,000 square mile Chesapeake Bay Watershed

Project Summary: The Premiere Watershed Restoration Partnership is a regional effort aimed at restoring a system with abundant, diverse populations of living resources, fed by healthy streams and rivers.



Traditional sailing vessel near the Bay Bridge on Chesapeake Bay.

Resource Challenge

The Chesapeake Bay is North America's largest and most biologically diverse estuary, home to more than 3,600 species of plants, fish and animals. For more than 300 years, the Bay and its tributaries have sustained the region's economy and defined its traditions and culture. The region's estimated \$1 trillion economy is heavily linked to the Bay: tourism, fish and shellfish, even real estate. The watershed's historic and cultural resources are incalculable.

In a watershed that was once 95 percent forested, 16 million Americans now live, work, and recreate. Millions of acres of resource lands have been converted by development, degrading the watershed with nutrients and sediment. Today the Bay supports less than half the underwater grasses that were present in the 1950s, and the native oyster population has fallen to two percent of mid-20th century levels.

Starting in 1983, Virginia, Maryland, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission, and the U.S. Environmental Protection Agency (EPA), representing the Federal Government, have signed historic agreements establishing the Chesapeake Bay Program partnership. Since 2003 the "headwater" states of Delaware, New York, and West Virginia have also joined in a cooperative effort to restore water quality. Annually the chief executives of the jurisdictions and the EPA Administrator meet and

provide policy direction to the partnership. The Chesapeake 2000 agreement outlines 100 specific commitments in five policy areas:

1. Living Resources.
2. Vital Habitat.
3. Water Quality.
4. Sound Land Use.
5. Stewardship and Community Engagement.

Examples of Key Partners

The states of Virginia, Maryland, and Pennsylvania, the District of Columbia, Environmental Protection Agency (EPA), USDA Natural Resource Conservation Service (NRCS), National Oceanographic & Atmospheric Administration (NOAA), Army Corps of Engineers, non-profit organizations, local governments, citizen advisory groups, and business and agricultural interests, and others.

Results and Accomplishments

In just the last five years the Partners have:

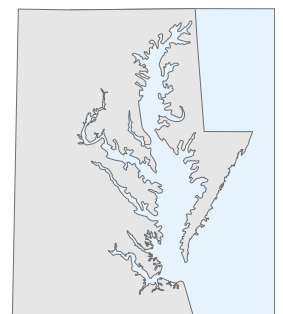
- Planted vegetation along 3,335 miles of riparian buffers.
- Opened 606 miles of fish passages.
- Stocked 153 million Shad in the Bay and tributaries.
- Preserved 527,000 acres of land.
- Enhanced and created 11,000 acres plus of wetlands.
- Placed 1.33 million new acres under nutrient management plans.

Innovation/Highlight

In June 2005, the EPA and the Bay's State partners completed a unified permitting strategy, requiring more than 400 wastewater treatment plants in six states and the District of Columbia to have enforceable limits on nutrient pollution. This strategy will yield a more than an 18.5 million pound annual reduction in the amount of nutrient pollution that fouls the Bay.

Project Contact

Chris Conner
Communications Director
Chesapeake Bay Program Office
410-267-5758
cconner@chesapeakebay.net



Website: www.chesapeakebay.net

Chesapeake Bay Program

Tracking Nutrients and Sediment to Target Restoration Activities

Location: Maryland, Delaware, Pennsylvania, New York, Virginia, and West Virginia

Project Summary: The Chesapeake Bay Program (CBP) is a multi-state, multi-agency effort to restore water quality in the Chesapeake Bay through sound land-use decisions.



USGS scientist collecting water quality samples to help partners assess the effectiveness of restoration actions.

Resource Challenge

The Chesapeake Bay, the Nation’s largest estuary, suffers from water quality problems, loss of habitat, and over-harvesting of natural resources. The Bay is listed under the Federal Clean Water Act as an “impaired water body” because of excess nutrients and sediment. Because of this listing, the Bay’s water quality must be improved by 2010. To respond to the problem, the Chesapeake Bay Program (CBP), a Federal-State partnership, completed the Chesapeake 2000 Agreement, establishing restoration goals for the Bay and its watershed for the next ten years. Their goals focus on making sound land use decisions to improve water quality, protect vital habitat, and support healthy populations of plants and animals in the Bay and its watershed. The U.S. Geological Survey (USGS), an original CBP Federal partner, is providing scientific information to help the Partnership formulate, implement, and assess the effectiveness of their restoration goals.

Examples of Key Partners

U.S. Environmental Protection Agency (EPA), USDA Farm Services Agency, USDA Natural Resources Conservation Service, National Oceanic and Atmospheric Administration (NOAA), U.S. Army Corps of Engineers, U.S. Geological Survey (USGS), USDI Fish and Wildlife Service, USDI National Park Service, Department of Defense, States of Maryland, Virginia, Delaware, Pennsylvania, New York, and West Virginia, the District of Columbia, Chesapeake Bay Commission, universities, and non-government organizations.

Results and Accomplishments

The CBP has established a unique approach to developing and achieving water quality restoration goals. USGS studies show how nutrients and sediment through the watershed; almost half of the nutrients move slowly through the ground water. This phenomenon causes a lag between the time some nutrient reduction practices are implemented and the time when improvements in water quality become apparent. The CBP used the findings to accelerate sewage treatment plant improvements and to better target agricultural practices to reduce nitrogen. Partners are also using USGS data to target restoration activities to the specific locations where they will be most effective.

CBP is establishing a water quality monitoring network in the Bay watershed to document improvements as nutrient reduction strategies are implemented. The network design was led by the USGS and is being implemented by ten Federal and state partners. Results will help CBP track water quality changes watershed-wide and determine if new practices need to be adopted.

Innovation/Highlight

The CBP uses the science of watershed function to better target water-quality improvements.

Project Contact

Ann Swanson
Executive Director
Chesapeake Bay Commission
410-263-3420
annswanson@covad.net



Website: www.chesapeake.usgs.gov

Chesapeake Bay Watershed Conservation

Agricultural Incentives Help Program Exceed Restoration Goal

Location: Delaware, Maryland, New York, Pennsylvania, Virginia

Project Summary: The regional partnership works with farmers to improve agricultural practices and improve water quality within the Chesapeake Bay Watershed.



Farm owner, Dr. Sears, and Farm Manager, Evan Miles, discuss the successes of their older Conservation Reserve Program plantings.

Resource Challenge

The Chesapeake Bay is the nation's largest estuary, one of the most productive and diverse in the world. Its watershed spans 15 million acres across five states and is home to 16 million residents. Population density, development, and agricultural runoff are key contributors to excess nutrients, sediment, and temperature changes that are polluting the Bay and destroying habitat.

The Federal Conservation Reserve Enhancement Program (CREP), part of the Conservation Reserve Program (CRP), combines with state programs to meet specific state and national goals by targeting highly erodible land along streams and riverbanks. Farmers agree to voluntarily convert cropland to natural vegetation in return for rental payments and other incentives.

Each State organizes and develops its unique CREP proposal, consulting with local interests, including environmental groups, agricultural interests, farmers, and others. Most designate a full-time CREP coordinator and set up a CREP Team to assess the program, resolve issues, and conduct public awareness programs. Some states share planting costs, provide technical support to applicants, or purchase permanent conservation easements to protect riparian areas.

Examples of Key Partners

USDA Farm Service Agency, USDA Natural Resources Conservation Service, USDA Forest Service, State Department of Natural Resources and Department of Agriculture, Ducks Unlimited, The Chesapeake Bay Foundation, The National Fish and Wildlife Foundation, The Nature Conservancy, Future Harvest CASA, Quail Unlimited, USDI Fish and Wildlife Service, Partners for Fish and Wildlife Program, County Soil Conservation Districts, and land trusts.

Results and Accomplishments

Partners are promoting CREP and field staffs are helping farmers with practices. Local land trusts are developing and executing the State easement component of certain CREP agreements.

More than 200,000 acres of riparian buffers, wetlands, and erodible cropped fields have been enrolled in the six States. Because of this and other programs, the Chesapeake Bay Partnership reached its goal—to plant 600 stream miles of trees and other vegetation in Maryland by 2010—ten years ahead of schedule. Besides enhancing water quality, the new vegetation offers shelter, nesting areas, and food for many species of wildlife.

Innovation/Highlight

A multi-state program in the Chesapeake Bay watershed that encourages farmers to convert highly erodible cropland to natural vegetation helped the Chesapeake Bay Program in Maryland meet streamside restoration goals 10 years early.

Project Contact

Charles K. Chadwell
CREP Program Manager
Farm Services Agency
202-720-7674
charles.chadwell@wdc.usda.gov



Website:
www.fsa.usda.gov/dafp/cepd/state_updates.htm

Downeast Lakes Forestry Partnership

Community Conserves Economy and Nature

Location: Washington County, Maine

Project Summary: The Downeast Lakes Forestry Partnership secured a 27,000-acre community forest and a 312,000-acre conservation easement to sustain a rural economy.

PHOTO BY FRED KNAPP



Aerial shot of Grand Falls Flowage in the heart of the project area.

Resource Challenge

In 1999, Georgia Pacific, one of the largest manufacturers of wood and paper products, sold 446,000 acres in Downeast Maine to Typhoon, LLC. The citizens of Grand Lake Stream, a small community in Washington County, had long relied on these lands for their natural resource-based economy, and were worried about losing jobs, a budding eco-tourism industry, and their quality of life. In response, the Registered Maine Guides, lodge owners, and Grand Lake Stream citizens formed the Downeast Lakes Land Trust. Their goal was to conserve enough land to save their local economy.

They knew that development would soon subdivide the Grand Lake Stream area into “kingdom lots” and lakefront parcels, fragmenting the forest and damaging their industry. After meeting with Typhoon, LLC, the Trust approached the New England Forestry Foundation (NEFF) for help. Together, they formed the Downeast Lakes Forestry Partnership.

Examples of Key Partners

Downeast Lakes Land Trust (DLLT), NEFF, Typhoon LLC, Wagner Forest Management, National Fish and Wildlife Foundation, The Nature Conservancy, The North American Wetlands Conservation Fund, USDI Fish and Wildlife Service, Wildlife Forever, National Wildlife Federation, Maine Sporting Camp Owners, Maine Professional Guides Association, and numerous financial contributors.

Innovation/Highlight

Using mostly private funds, DLLT acquired and now manages a “community forest”, providing access to easement lands that secure the natural resource base needed to sustain eco-tourism and the local economy.

Results and Accomplishments

The Partnership negotiated with Typhoon, LCC to protect 342,000 acres of working forestland. In 2005 they purchased 50 miles of shoreline, about 3,000 acres, later transferred to the State of Maine. The Downeast Lakes Land Trust purchased a 27,080-acre “community forest,” forming the natural resource base for a growing ecotourism economy. The NEFF purchased a 312,000-acre conservation easement over lands owned by Typhoon, LLC that will also continue to support ecotourism around Grand Lake Stream. The NEFF will monitor the conservation easement, and the easement over the Trust land, using endowments totaling \$2 million. The fee and easement lands will remain open to the public for traditional recreational activities including hunting, fishing, hiking, bird watching, and snowmobiling.

The fee simple lands and the conservation easement lands, covering 25 percent of Washington County, Maine, protect:

- 1,500 miles of stream and river shoreline.
- 60 lakes and ponds with 445 miles of shoreline.
- 54,000 acres of wetlands.
- 5 percent of the common loons of northern Maine.
- Breeding habitat for more than 130 bird species including 23 species of warblers.
- More than 8 active bald eagle nests.

Project Contact

Amos Eno
Executive Director
New England Forestry Foundation
207-847-9313
aeno@newenglandforestry.org

Website:
www.newenglandforestry.org/projects/dlfp.asp



Glen Cove Waterfront Revitalization Initiative

A Balance of Economy, Ecology, and Culture

Location: Glen Cove, New York

Project Summary: The Initiative is a diverse partnership that restored more than 200 acres of contaminated property to ecology-conscious and innovative urban use.

PHOTO BY DAVID ROMAINE



Glen Cove waterfront--Geoprobe operations on Li Tungsten site.

Resource Challenge

Located on the north shore of Long Island, the City of Glen Cove is a small community, approximately 7 square miles in size. Easy access to Long Island Sound and proximity to New York City has made Glen Cove's waterfront district an industrial and commercial center for the past two centuries. However, by the 1980s, the city's manufacturing sector had permanently declined, leaving more than 213 acres of abandoned and contaminated industrial sites along a waterway that had not been dredged for commercial use in 30 years. These properties have negatively impacted the city's overall economy, property values, and tax base.

Since 1995, the Partners to Revitalize Glen Cove's Waterfront have used a two-part process: 1) area-wide redevelopment planning, resulting in the Glen Cove Waterfront Revitalization Plan, and 2) six *Commitments to Action* workshops involving the public and private sectors. The workshops brought together local, state, and federal partners; provided a roadmap for the community's vision; identified technical expertise and additional funding resources; and assisted in establishing long-term partnerships. As a result, Glen Cove has leveraged close to \$40 million in public and private investment that is dramatically transforming the community's waterfront.

Examples of Key Partners

City of Glen Cove, New York Department of State, New York Department of Environmental Conservation, Empire State Development Corporation, National Oceanic & Atmospheric Administration (NOAA), U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (CORPS), Economic Development Administration, and others.

Innovation/Highlight

Glen Cove Initiative created a partnership that developed a collaborative revitalization vision and identified the resources to make it happen.

Results and Accomplishments

- Using a community-based approach, the City engaged a diverse range of public and private partners to help clean up contaminated property, dredge Glen Cove Creek to restore commercial access, and begin to restore more than a mile of waterfront to productive use through environmental, economic, infrastructure, and recreational improvements. Creative transportation solutions such as pedestrian and bicycle pathways, and initiatives to preserve open space, will enhance the surrounding environment.
- This approach has inspired ongoing cooperation and partnership with many organizations and has been critical to the continued success of the revitalization. Waterfront development plans for Glen Cove will generate approximately \$200 million in annual sales and \$10 million in taxes, and will create more than 1,700 new full-time jobs. The Northern Type site is the first of the brownfields to be developed and is now home to an Environmental consulting firm. The Glen Cove Waterfront Revitalization Initiative demonstrates how multi-agency partnerships can leverage assistance, leading to better area-wide redevelopment planning.

Project Contact

Maxine Collins,
Brownfields Coordinator
Glen Cove Community
Development Agency
516-676-1625
mcollins@glencovecda.org



Website: www.epa.gov/brownfields/cities/glencove.htm

Great Bay Partnership Land and Waterfowl Conservation

Base Closure Proves to be a Boon to Communities and Wildlife

Location: New Hampshire Seacoast

Project Summary: Nearly 7,000 acres of wetlands and uplands adjoining New Hampshire's Great Bay estuary have been protected by a partnership-developed conservation plan.



Local High School teacher, Mark Pederson, helps with biological monitoring in preparation for a wetland restoration.

Resource Challenge

When Pease Air Force Base on New Hampshire's seacoast closed under the military's Base Closure process, it erased millions of dollars from the local economy and left fear and confusion in its wake. What would happen to the surrounding communities, and what would happen to the 1,050 acres along Great Bay and the nearly 4,000 acres once occupied by the base—the largest undeveloped tract in the Great Bay estuary?

Conservationists worried that valuable waterfront property would be developed, altering increasingly scarce coastal wetlands needed by migratory waterfowl and other wildlife and fish. Communities, despite their economic concerns, were also troubled by the loss of open space in the state's seacoast region, threatening the small-town atmosphere and culture they enjoyed.

Examples of Key Partners

New Hampshire Department of Fish and Game, The National Oceanic and Atmospheric Administration (NOAA), National Estuarine Research Reserve System, USDI Fish and Wildlife Service (FWS), USDA Natural Resources Conservation Service, U.S. Environmental Protection Agency (EPA), The Nature Conservancy, Ducks Unlimited, Society for the Protection of New Hampshire Forests, Audubon Society of New Hampshire, Seacoast Land Trust, Rockingham Land Trust, Strafford Rivers Conservancy, and 13 municipalities bordering Great Bay.

Innovation/Highlight

Non-profit organizations, state and federal agencies, and communities are working together from the ground up to identify conservation priorities and preserve open space.

Results and Accomplishments

With the help of U.S. Senator Judd Gregg, then the State's Governor, the former air base shoreline was designated a federal Fish and Wildlife Service National Wildlife Refuge and included within the Great Bay National Estuarine Research Reserve (NERR) boundary. The establishment and timing of the designation served as a core area to build upon Great Bay conservation efforts.

A partnership of federal, state, local, and private interests developed a conservation plan with input from communities and numerous partners that identified 26 project areas in the watershed. To date, they have protected nearly 7,000 additional acres of wetlands and uplands acquired either by donation or from willing sellers, through conservation easements or outright purchase. Many towns surrounding Great Bay have passed bonds totaling almost \$40 million for land acquisition to further preserve their community character and open spaces. In many instances, the value of these lands has then been used as a match to obtain additional federal funds.

Congress has appropriated more than 50 million dollars to protect the Great Bay Estuary during the past ten years, supporting a number of Coastal and Estuarine Land Protection (CELP) projects in the watershed.

The base's remaining 4,000 acres are now a thriving industrial park, airport, and educational center.

Project Contact

Peter Wellenberger
Manager Great Bay NERR
NH Fish and Game Department
603-868-1095
pwellenberger@nhfgd.org



Website: www.nature.org/wherewework/fieldguide/projectprofiles/gbe.html and www.greatbay.org

Lower Bronx River—A Community-Led Restoration Initiative

Reclaimed Concrete Plant Becomes a Community Resource

Location: Lower Bronx River, New York

Project Summary: With many partners, the Bronx River Alliance re-established salt marshes and created parkland at the site of an abandoned concrete plant.



Salt marsh restoration work at the Concrete Plant on the Bronx River.

Resource Challenge

The lower Bronx River shows little of the lush vegetation that once dominated its shores. Centuries of channel dredging and bank fortification destroyed much of the fish and shellfish habitat. Filling and dumping in tidal wetlands raised elevations and contaminated soils. Nonetheless, the river offers residents of the South Bronx, who suffer from some of the highest asthma rates in the nation, vital open space and rare contact with nature.

In 1997, the New York City Partnerships for Parks brought together community organizations, public agencies, and businesses for the common goal of restoring the river and improving access along its length. A focal point of their efforts was an abandoned concrete plant, now in city hands. Visionary residents saw the site's potential as a park and as a critical link in a greenway that could stretch the length of the river. They fought to save it from auction and prevent it from becoming a truck route. Technical specialists joined with community organizations to begin restoring the site, removing concrete and tires, re-grading the banks, installing mats loaded with cordgrass, and replacing invasive plants with native species. The coalition, which has grown to more than 80 groups, eventually formed the nonprofit Bronx River Alliance to coordinate the riverwide restoration effort.

Examples of Key Partners

Bronx River Alliance, City of New York Parks and Recreation, Congressman José E. Serrano, Fannie Lou Hamer Freedom High School, Partnerships for Parks, The Point CDC, Pratt Institute Center for Community and Environmental Development, Rocking the Boat, Sustainable South Bronx, Youth Ministries for Peace and Justice, and other partners.

Results and Accomplishments

Nearly an acre of salt marsh and upland plants now flourish at the concrete plant, and the Parks Department operates a nursery there for other river projects. Partner groups host festivals, launch boats built by high school students, and use the three-acre site as an outdoor classroom and research station. Hundreds of people visit the site by canoe and on bike tours.

Construction of the park begins this year. The park design implements plans developed in community visioning sessions—including further salt marsh restoration—and creates a key link in the greenway that will soon run the full length of the river.

Innovation/Highlight

The Initiative brings together natural resource restoration with community revitalization and social justice.

Project Contact

Linda R. Cox
Executive Director
Bronx River Alliance
718-430-4668
Linda.Cox@parks.nyc.gov

Website: www.bronxriver.org



NYC Conservation Reserve Enhancement Program

Rural Conservation Protects the City's Drinking Water

Location: New York City and its watersheds

Project Summary: New York City, U.S. Department of Agriculture (USDA), agricultural producers, and others address non-point source pollution through voluntary programs that protect stream corridors and working lands.

PHOTO COURTESY NYC DEP



Fencing and riparian buffer plantings protect a watercourse on a farm in a typical Catskill's landscape.

Resource Challenge

The Delaware and Catskill watersheds are heavily forested, dotted with farms and woodlands that are primarily in private ownership. These watersheds supply more than a billion gallons of water daily, representing 90 percent of the drinking water to New York City's nine million consumers. The watershed is a "working landscape" that has supported agriculture, recreation, and forest-based economies for generations.

In 1990, in an effort to avoid building a filtration plant—with construction costs of more than \$2 billion and annual operating costs of \$300 million—the City adopted a voluntary pollution control project. In 1991 the City initiated a Watershed Agricultural Program administered by the farmer-led Watershed Agricultural Council (WAC), representing all stakeholders. A complimentary Watershed Forestry Program was created in 1997 to promote best management practices (BMP) to control erosion, runoff, and sediment from logging operations.

Examples of Key Partners

New York City Department of Environmental Protection and WAC, USDA Farm Service Agency, USDA Natural Resources Conservation Service, USDA Forest Service, County Soil and Water Conservation Districts, Cornell Cooperative Extension, New York Department of Environmental Conservation, farm and forestry organizations, landowners, and environmental organizations.

Innovation/Highlight

Voluntary attainment of water quality standards using existing, innovative programs and technical assistance is helping to protect drinking water for millions of consumers in the New York City metropolitan area.

Results and Accomplishments

The Conservation Reserve Enhancement Program (CREP), part of the Conservation Reserve Program (CRP), was initiated in 1998 by the city and various federal, state, and local agencies to provide incentives for installing conservation practices such as vegetated streamside buffers, fences, animal crossings, and watering systems. Through tours and other outreach efforts in the community, more than 130 farmers enrolled in CREP. These participants collectively installed 150 linear miles of streamside buffers. New York City has committed \$100 million to support CREP and other programs since 1992.

The Forestry Program has assisted private forest landowners with forest stewardship practices that protect and enhance water quality and provided training and assistance on best management practices for landowners and loggers.

It is difficult to link specific improvements to site-specific efforts; however, extensive sampling in 2002 and 2003 showed that average concentrations of potential disease-causing organisms remained well below federal limits.

Five years of monitoring water quality at one farm post-BMP implementation showed that annual phosphorous loads dropped by 30 percent. CREP-specific studies show that phosphorus loads drop by an average of 32 percent after cattle are excluded from stream banks.

Project Contact

Larry Beckhardt
Program Director
NYC Department of
Environmental Protection
718-595-4139
lbeckhardt@dep.nyc.gov

Website: www.nycwatershed.org



North Fork Potomac Watershed

Control Nutrient Runoff

Location: West Virginia

Project Summary: The landowners, environmentalists, universities, and government agencies worked together to restore Potomac River water quality by reducing polluted runoff from beef and poultry farms.



Roofed feeding area and manure storage facility.

Resource Challenge

Between 1993 and 1996, the region's number of beef and poultry farms doubled. Following common practice, farmers stored poultry litter and animal manure or applied it to their soils as fertilizer, but crops could not absorb the excess nutrients. Runoff from rain and snow melt carried the excess manure into streams, where it fed algae blooms and raised the level of fecal coliform bacteria. By 1996, algae blooms and bacterial levels were unacceptably high; West Virginia Department of Environmental Protection officials identified several streams of the North Fork of the South Branch of the Potomac River watershed as impaired. A Total Maximum Daily Load was developed for the North Branch in 1998 to set reductions in fecal coliform.

Examples of Key Partners

Farmers and Landowners, North Fork Watershed Association, Potomac Headwaters Resource Conservation and Development Council, Potomac Valley Conservation District, Trout Unlimited, West Virginia Department of Environmental Protection and Department of Agriculture, USDA Natural Resources Conservation Service (NRCS), United States Environmental Protection Agency (EPA), United States Geological Survey (USGS), and others.

Results and Accomplishments

Farmers and other landowners, environmental organizations, universities, and government agencies worked together to implement best management practices (BMPs) and improve water quality. Because of the extensive partnerships developed to implement BMPs and to address complex water quality challenges, the stream no longer exceeds listing criteria for impaired or polluted surface waters in West Virginia.

Innovation/Highlight

Extensive partnerships were the key to successfully implementing agricultural management practices that improved water quality.

In 1998, the NRCS began working with the North Fork Watershed Association, a local citizen's group concerned about recurring flooding. A watershed management plan was developed which recommended practices to lessen flood damage and improve water quality. The group also developed and proposed an Environmental Quality Incentives Program to put sections of the plan into action, which they later implemented as a 319 non-point source watershed project.

The project coordinator does public outreach and coordinates meetings between landowners and the North Fork Watershed Association and its many partners.

A range of BMPs have been established to control runoff from feedlots and eliminate or reduce cattle access to the streams, including:

- Fencing along stream.
- Relocating feedlots away from streams.
- Stabilizing feeding areas and cattle access areas.
- Constructing roofs over feeding areas.
- Planting vegetation along stream banks.
- Constructing animal waste storage facilities.
- Establishing riparian buffers.
- Stabilizing critically eroding areas.
- Developing alternative livestock watering facilities.
- Implementing rotational grazing systems.
- Constructing poultry litter storage sheds, and composting facilities for waste and for dead chickens.

Project Contact

John Wagoner
Chairman Potomac Valley
Conservation District
304-822-5174

Website: www.wvca.us



Norwalk River Watershed Initiative

Community Involvement in Watershed Restoration

Location: Norwalk River Watershed, Connecticut and New York

Project Summary: The Norwalk River Watershed Initiative is restoring the Norwalk watershed by improving water quality, habitat, and flood management through local decision making.



Volunteers plant trees, shrubs and grasses on the banks of the Norwalk River in Wilton.

Resource Challenge

The Norwalk River Watershed is a coastal basin, draining 40,000 acres along a 20-mile stretch through Connecticut and New York, entering Long Island Sound just 40 miles northeast of Manhattan. Once, the river was lined with grist mills, iron processors, and lumber mills. All are gone, but seven dams remain, impeding migration for Atlantic salmon, alewives, blueback herring, and trout.

The Norwalk watershed is heavily populated; urban near the mouth of the Norwalk River, forested and suburban in the upper reaches. Many of its water quality problems stem from stormwater runoff, loss of riparian vegetation, and direct discharges. Several stretches of the river do not meet water quality standards for swimming or migratory fish. Paved surfaces reduce water infiltration and influence the river's water level, making it unnaturally high when the weather is wet and unnaturally low during dry periods.

The USDA Natural Resources Conservation Service (NRCS) and the U.S. Environmental Protection Agency (EPA) proposed this project to the Connecticut Department of Environmental Protection (DEP) to test approaches that might work in the Long Island Sound's watershed communities. Discussions with municipalities, local groups, and individuals revealed interest in protecting the Norwalk River Watershed, leading to the new partnership.

Examples of Key Partners

Connecticut and New York communities: Norwalk, Wilton, New Canaan, Weston, Redding, Ridgefield and Lewisboro; Trout Unlimited, Norwalk River Watershed Association, New York

Innovation/Highlight

The Norwalk River Watershed initiative designed three programs to assist communities with watershed-based land use planning and decision-making: a volunteer streamside monitoring program, a Municipal regulations review process, and training in collaborative watershed planning.

Department of Environmental Protection, U.S. Environmental Protection Agency (EPA), and USDA Natural Resources Conservation Service (NRCS).

Results and Accomplishments

Norwalk River Watershed Initiative partners created three programs: 1) Streamwalks, which uses trained volunteers to assess stream conditions, 2) the Municipal Regulations Review, and 3) training in collaborative watershed planning. These tools help communities with resource assessments, watershed land use planning, and decision-making. All are now statewide programs. The Norwalk partnership has:

- Rehabilitated more than 6,000 linear feet of stream corridor.
- Increased juvenile wild trout populations by 137 percent; one river section was upgraded from a "Put and Take" fishery to a Category 3 Wild Trout Management Area.
- Completed more than 14 acres of invasive species control.
- Completed designs and secured funding for restoring fish passage at the first of three planned sites.
- Installed an automated early flood warning system.
- Established a citizen water quality monitoring program

Project Contact

Walter Smith
Water Quality Coordinator
USDA, Natural Resources
Conservation Service
860-871-4040
walter.smith@ct.usda.gov

Website: www.norwalkriver.org



Penobscot River Restoration Project

Collaborative Solutions Within Federal Energy Regulatory Process

Location: Penobscot County, Maine

Project Summary: The project removed barriers to the migration of Atlantic salmon and other fish on Maine's Penobscot River while maintaining energy generating capacity.

BANGOR DAILY NEWS, USED WITH PERMISSION, ©2003



James Neptune of the Penobscot Indian Nation watches an eagle as the Penobscot River Restoration Project is announced.

Resource Challenge

The Penobscot River, New England's second largest river system, drains 8,570 square miles. The river's rich traditions date back to the Penobscot Indians, who first fished the area thousands of years ago.

Dam construction began as early as 1834, and continued with the construction of modern power dams. The effect on sea-run fisheries was drastic, severely limiting the spawning of anadromous fish. When PPL Corporation-owned dams came up for Federal Energy Regulatory Commission (FERC) re-licensing, federal and state agencies, tribes, conservation organizations, and PPL formed the Penobscot River Restoration Project to collaborate on how best to restore sea-run fisheries.

In 2004, the partnership filed its agreement with FERC, laying out its roadmap for the river and its fisheries. By removing, bypassing, or improving passage at three dams, the agreement would eliminate major barriers to fish migration, increasing annual Atlantic salmon and American shad runs. The proposed roadmap would:

- Restore viable populations of native sea-run fish, improving access to more than 500 miles of historic habitat.
- Renew opportunities for the Penobscot Indian Nation to exercise sustenance fishing rights.
- Create new opportunities for tourism, business, and communities.
- Resolve longstanding disputes and avoid future uncertainties about river and hydropower regulation.

The USDI Fish and Wildlife Service (FWS) Tribal Incentive Program gave \$200,000 to the Penobscot Indian Nation to help support the Tribe's role in the Penobscot partnership. Congress appropriated approximately \$1 million in fiscal year 2005 through the National Oceanic and Atmospheric Administration (NOAA) for the project.

Examples of Key Partners

FWS, NOAA, USDI National Park Service, USDI Bureau of Indian Affairs, PPL Corporation, State of Maine, Penobscot River Restoration Trust, Penobscot Indian Nation, American Rivers, Atlantic Salmon Federation, Maine Audubon, Natural Resources Council of Maine, Trout Unlimited.

Results and Accomplishments

FERC approved the initial phase of the proposed Penobscot project in April 2005. Phase one agreements include:

- The Penobscot River Restoration Trust (PRRT) was granted an option to purchase three dams from PPL Corporation and to remove the two dams closest to the sea; PPL will transfer licenses to PRRT upon purchase.
- The PRRT, after FWS approval, will decommission the third dam and construct a fish bypass around it.
- PPL Corporation will increase generation at six existing dams, maintaining more than 90 percent of current generating capacity.
- PPL Corporation will improve fish passage at four additional dams.

Innovation/Highlight

The Penobscot River Restoration Project is restoring Atlantic salmon runs while maintaining renewable energy resources and community needs.

Project Contact

Laura Rose Day
 Penobscot River Restoration Trust
 207-232-5976
 lrose_day@penobscotriver.org

Website: www.penobscotriver.org



Performance Based Cleanup Initiative

Contaminated Soil and Groundwater Remediation by Expedited Interagency Cooperation

Location: Andrews Air Force Base (AFB), Washington, DC

Project Summary: Andrews AFB and state and local agencies use a performance-based strategy to reduce costs and expedite cleanup of contaminated areas on and near the base.

PHOTO BY ANDREWS AFB



Contractor personnel inject HRC into the ground to enhance the breakdown of carbon tetrachloride.

Resource Challenge

In 2004 Andrews AFB was chosen as the site of an Air Force pilot study whose purpose was to re-examine processes and evaluate the results from its Base Environmental Restoration Program (ERP). The goal was to develop and implement a more streamlined, performance-based cleanup strategy using innovative management, contracting, and engineering tools, including private sector concepts. The result was the Andrews AFB Environmental Restoration Performance Enhanced Plan (APEP), a strategy driven by specific goals and objectives set at the beginning.

At the heart of APEP is a partnership among federal, state, and local governments that enhances interagency cooperation, expediting cleanup of contaminated soil and groundwater on or adjacent to the base. In 2004 senior agency leaders signed a Memorandum of Understanding, committing to cleanups that would protect human health and the environment, restore the installation's natural resource infrastructure, and support the Andrews AFB mission. Features of the new cleanup program include:

- Streamlined investigations using dynamic field site characterization tools.
- A holistic strategy to manage contaminated groundwater.
- Alternative cleanup approaches via Air Force-issued performance-based contracts.
- Reduced duplication of effort among agencies.
- Agreed-upon performance standards in decision documents, where possible.
- Current and reasonable future land use scenarios used to set cleanup goals.

Innovation/Highlight

The first time a road map for the entire cleanup and restoration process has been established at the beginning.

Examples of Key Partners

U.S. Air Force: Andrews AFB, Air Mobility Command, USAF Headquarters, Air Force Center for Environmental Excellence, the United States Environmental Protection Agency (EPA), Maryland Department of the Environment (MDE), and the Prince George's County Health Department (PGCHD).

Results and Accomplishments

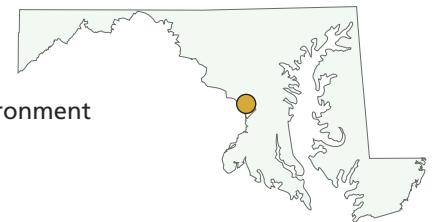
By developing a coordinated cleanup process for every site, the project has reduced cleanup time by 50 percent and total cost by 40 percent. Other results include:

- All site cleanup remedies expected to be in place by 2009, five years earlier than projected.
- Restoration costs under the new process estimated to fall by \$35 million over the life of the cleanup.
- Land at Andrews AFB will be available to support current and future Air Force missions, and/or needs of other federal, state, and local agencies.
- EPA's *One Cleanup Program* vision and Maryland's efforts to support economic redevelopment are advanced.
- Results-oriented program implements the President's Management Agenda.

Project Contacts

Mr. Rick Grills
 Maryland Dept. of the Environment
 410-537-3398
rgrills@mde.state.md.us

Mr. Brian J. Dolan
 Chief, Restoration Branch
 Andrews AFB, Maryland
 301-981-7121
brian.dolan@andrews.af.mil



Philadelphia Vacant Land Management & Reclamation

From Derelict Lot to Urban Oasis

Location: Philadelphia, PA

Project Summary: A “clean and green” approach to remove blight, attract new residents, and attract investment to urban vacant land in Philadelphia.



Before and after conditions on a lot in Philadelphia treated under the Vacant Land Stabilization program.

Resource Challenge

Philadelphia, once the colonial capital and an industrial hub, has been buffeted by 50 years of economic downturns. As the jobs left, so did the people. Once a city of 2 million, it now has fewer than 1.5 million.

Although the Center City is undergoing a renaissance, urban flight over several generations has left 40,000 abandoned and derelict parcels of lands where thriving factories, businesses, and homes once stood. Vacant lots attract dumping, harbor toxic chemicals, depress property values, and attract criminal activity, contributing to a downward spiral in the quality of life.

In 1995, the Pennsylvania Horticultural Society (PHS), best known for the Philadelphia Flower Show, decided to form a partnership with the City through its Philadelphia Green program to address urban decay. The city’s Office of Housing and Urban Development supported the project with federal Community Development Block Grant funds. Restoration focused on “clean and green”, using a simple combination of grass, trees, and wood fencing. In 2003, the City adopted the Philadelphia Green Program’s Green City Strategy and invested \$4 million to launch a full scale effort, directing city agencies to provide additional support. The PHS garnered private foundation and corporate funds to support the massive greening effort by improving community parks, gardens, and public spaces.

Examples of Key Partners

Pennsylvania Horticultural Society, Mayor’s Neighborhood Transformation Initiative, Philadelphia Water Department, community groups, and interested citizens.

Results and Accomplishments

Ten years after the project began, more than \$10 million has been invested and more than 70 acres of vacant land have been restored. Nearly 2,000 trees have been planted, nine community groups are helping to maintain the sites, and more than 75 community residents have been hired to support maintenance activities.

A Wharton School of the University of Pennsylvania study concluded that residential real estate values in the New Kensington neighborhood increased by 30 percent solely because of the project. Wharton is conducting a city-wide study and expects similar results.

The project has generated new thinking about using vacant land to manage storm water. The City and its citizens will be creating a vision and a strategy for a “new” Philadelphia, a place where once-vacant land becomes an asset and a treasured resource.

Innovation/Highlight

A large-scale urban rehabilitation and “re-greening” project on vacant lots in the heart of Philadelphia, fueled by the hard work and creativity of citizens, private organizations, and local government, has restored 70 acres of vacant lots, turning back economic decline and improving the quality of life for many of the City’s residents.

Project Contact

Mike Groman
Senior Director of Philadelphia Green
The Pennsylvania Horticultural Society
215-988-8891
mgroman@pennhort.org
Website: www.pennsylvaniahorticulturalsociety.org/phlgreen/ui_reclaimvacantlots.html



Pingree Forest Partnership

Conserving Maine's North Woods

Location: Northern Maine

Project Summary: A landscape level conservation easement created to sustain working forests while protecting forest resources for wildlife, fisheries, migratory birds, and local economies.



A fisherman samples some of the more than 2,000 miles of streams and rivers protected by a conservation easement.

Resource Challenge

Maine's North Woods are under increasing subdivision and development pressure, which is fragmenting important ecosystems. In some areas the sale price of lakefront lots has increased tenfold over the last two years. Larger tracts have sold for significantly more than their purchase price just four years ago as urbanites seek the solitude and "wilderness."

Rising land values and forest land ownership changes are bringing hundreds of thousands of acres of land to the real estate market. Timber investment organizations and real estate investment trusts, groups interested in maximizing the "bottom line," are responding to the demand.

This presents a challenge to landscape-scale conservation—the level needed for large mammals, cold water fisheries, and migratory birds. The challenge is to conserve land to meet the needs of fish and wildlife, local economies that rely on working forests, and landowners seeking returns on their investments.

The Pingree family and the New England Forestry Foundation (NEFF) reached a deal that permanently protects more than three-quarters of the approximately 1,000,000 acres of family-owned land. The Pingree Forest Partnership provides long term protection to privately-owned working forests at a landscape scale, promotes sustainable forestry, and protects lakes and wetlands critical to the North Woods ecosystem.

Innovation/Highlight

The Pingree Forest Partnership established a landscape-scale easement held in private ownership and a \$1 million endowment to monitor it.

Examples of Key Partners

NEFF, Pingree Family (more than 100 members), Seven Islands Land Company, Sportsmen's Alliance of Maine, Maine Forest Products Council, Maine Professional Guides, Rangeley Lakes Heritage Trust, Ducks Unlimited, The Nature Conservancy, Maine Snowmobile Association, Maine Sporting Camp Association, National Fish and Wildlife Foundation, The North American Wetlands Conservation Fund, USDI Fish and Wildlife Service, and private foundations.

Results and Accomplishments

The NEFF purchased a 762,000 acre conservation easement on the Pingree Forest from the Pingree family at fair market value—the largest forestland easement in U.S. history—at a cost of \$37.10 per acre. The NEFF is responsible for monitoring the easement forever to assure compliance with its terms.

The easement, which covers three percent of Maine's land, will help protect:

- 2,000 miles of stream and river shoreline.
- 100 lakes and ponds with 215 miles of shoreline.
- 72,000 acres of wetlands.
- 24,800 acres of managed deer yards.
- 12,624 acres of high mountain habitat above 2,700 feet.

The easement also includes sites for five endangered plants and 67 state-listed rare or endangered plants, five bald eagle nests, peregrine falcon nesting sites, common loon nesting sites, and numerous other animals and plants.

Project Contact

Frank Reed
Sr. Project Specialist
New England Forestry Foundation
802-728-3163
phurter@sover.net

Website:
www.newenglandforestry.org/projects/pingree.asp



Shoreline Stabilization in Chesapeake Bay Area

Navy Partnership Helps Partners Meet Restoration Goals

Location: Naval Air Station Patuxent River, Maryland, Webster Field Annex

Project Summary: A partnership to stop shoreline erosion at Patuxent River Naval Air Station is meeting Navy facility needs while advancing the restoration of Chesapeake Bay.



PHOTO BY THOMAS A. WRIGHT

Stone breakwater structures help stabilize beach material for future planting of wetland beach grasses.

Resource Challenge

The severe shoreline erosion at the Patuxent River Maryland Naval Air Station, Webster Field Annex, was threatening facilities, destroying marine habitat, and allowing sediment to flow into the Chesapeake Bay, further degrading its already-fragile ecosystem. Because of the scale and complexity of the problem, the Navy sought partners who were committed to restoring Chesapeake Bay. A partnership called the Southern Maryland Coastal and Aquatic Resource Team was formed under a Sikes Act Cooperative Agreement. Each partner agreed to build upon the stabilization project's basic design by bringing specialized expertise in shoreline design, habitat restoration, archaeological resources and other aspects of Chesapeake Bay ecology. Cooperation reduced overall costs and advanced each partners' goals.

Examples of Key Partners

Naval Facilities Engineering Command, Washington, NAS Patuxent River, National Oceanic & Atmospheric Administration (NOAA), Southern Maryland Resource Conservation and Development Board, St. Mary's Soil Conservation District, National Aquarium in Baltimore, Alliance for Chesapeake Bay, Chesapeake Biological Lab, National Fish and Wildlife Foundation, and the Oyster Recovery Partnership.

Results and Accomplishments

The National Aquarium staff and members of the Aquarium Conservation Team led a group of trained volunteers from local schools and community groups strongly committed to restoring habitats in the Chesapeake Bay and its watershed. All told, volunteers stabilized more than 3,500 feet of shoreline, created 1.5 acres of

wetlands, planted 5,000 submerged aquatic plants, installed 2 oyster reefs, and planted 30,500 units of marsh grass. By using the Sikes Act Cooperative Agreement, and relying on an informal process with open communication and common goals, the Navy estimates it saved 22 percent in project costs.

The Alliance for the Chesapeake Bay obtained the funding for its submerged vegetation planting project as part of their overall Chesapeake Bay goals. The Oyster Recovery Partnership provided more than 100,000 oyster spat for the Navy project, fostering development of artificial oyster reefs and contributing to the protection of Navy shore facilities.

The shoreline stabilization project protected Navy facilities while meeting several Chesapeake Bay 2000 Multi-state Agreement goals: (1) increasing oyster production and submerged aquatic vegetation; (2) promoting education and outreach about the health of the Bay; (3) providing public access to the Bay; and (4) reducing levels of nutrients and sediments entering the Bay. The Navy was also able to use the design as a demonstration project for shoreline protection at other military facilities.

In 2004, the project received a Coastal America Presidential Award for Partnerships.

Innovation/Highlight

The Navy created a collaborative project that allowed each contributor to meet some of their organization's individual goals.

Project Contact

Mark Rose, Coordinator
 Southern Maryland Resource Conservation
 and Development Board
 443-482-2910
 somdrcd@verizon.net

